Use these links to rapidly review the document
Table of Contents
Index to Financial Statements

Table of Contents

As filed with the Securities and Exchange Commission on June 10, 2014

Registration No. 333-195169

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

AMENDMENT NO. 1
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Minerva Neurosciences, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**2834**	**26-0784194**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

245 First Street
Suite 1800
Cambridge, MA 02142
(617) 444-8444
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Rogerio Vivaldi Coelho
Chief Executive Officer
245 First Street
Suite 1800
Cambridge, MA 02142
(617) 444-8444
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

David W. Pollak **Denis Segota** **Morgan Lewis & Bockius LLP** **101 Park Avenue** **New York, NY 10178** **(212) 309-6000**	**Nicole Brookshire** **Darren K. DeStefano** **Charles S. Kim** **Cooley LLP** **500 Boylston Street, 14th Floor** **Boston, MA 02116** **(617) 937-2300**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities

Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☒ (Do not check if a smaller reporting company)	Smaller reporting company ☐

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JUNE 10, 2014.

PRELIMINARY PROSPECTUS

5,454,545 Shares

Common Stock

We are offering 5,454,545 shares of our common stock. This is our initial public offering and no public market currently exists for our common stock. We expect the initial public offering price to be between $10.00 and $12.00 per share.

We have applied to list our common stock on The NASDAQ Global Market under the symbol "NERV." We are an "emerging growth company" as defined by the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. Please see "Prospectus Summary — Implications of Being an Emerging Growth Company."

Investing in our common stock involves a high degree of risk. Please read "Risk Factors" beginning on page 10 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	PER SHARE	TOTAL
Public Offering Price	$	$
Underwriting Discounts and Commissions[1]		
Proceeds to Minerva Neurosciences, Inc. Before Expenses		

(1) The underwriters will also be reimbursed for certain expenses incurred in this offering. The table does not reflect additional fees of approximately $560,000 that we will pay the underwriters at the closing of this offering in connection with their advisory services relating to private placements that will be completed concurrently with this offering. See the section of this prospectus titled "Underwriting" for details.

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering. The underwriters will receive the same underwriting discounts and commissions on any shares purchased by these stockholders as they will on any other shares sold to the public in this offering.

Delivery of the shares of common stock is expected to be made on or about , 2014. We have granted the underwriters an option for a period of 30 days to purchase an additional 818,182 shares of our common stock. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $, and the total proceeds to us, before expenses, will be $.

Sole Book-Running Manager

Jefferies

Co-Managers

Baird **JMP Securities**

Prospectus dated , 2014.

Table of Contents

Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

Through and including , 2014 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Persons who come into possession of this prospectus and any such free writing prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus and any such free writing prospectus applicable to that jurisdiction.

PROSPECTUS SUMMARY

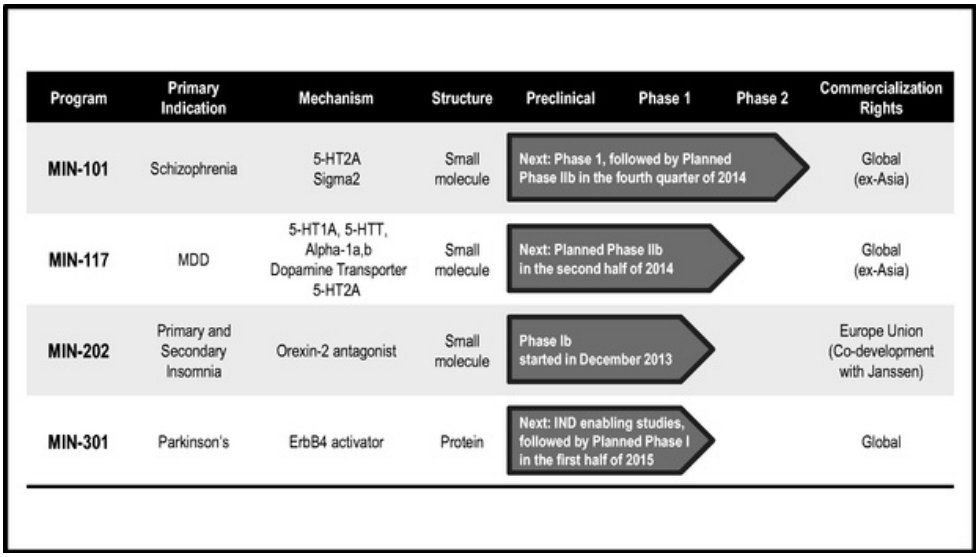
The following summary highlights information contained elsewhere in this prospectus and is qualified in its entirety by the more detailed information and financial statements included elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. Before you decide to invest in our common stock, you should read and carefully consider the following summary together with the entire prospectus, including the financial statements and the related notes thereto appearing elsewhere in this prospectus and the matters discussed in the sections in this prospectus entitled "Risk Factors," "Selected Historical Financial Data," "Unaudited Pro Forma Condensed Combined Financial Statements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Some of the statements in this prospectus constitute forward-looking statements that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements." Our actual results could differ materially from those anticipated in such forward-looking statements as a result of certain factors, including those discussed in the "Risk Factors" and other sections of this prospectus.

Company Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of a portfolio of product candidates to treat patients suffering from central nervous system, or CNS, diseases. Leveraging our domain expertise, we have acquired or in-licensed four development-stage proprietary compounds that we believe have innovative mechanisms of action with potentially positive therapeutic profiles. Our lead product candidates are MIN-101, a compound we are developing for the treatment of patients with schizophrenia, and MIN-117, a compound we are developing for the treatment of patients suffering from major depressive disorder, or MDD. In addition, our portfolio includes MIN-202, a compound we are co-developing for the treatment of patients suffering from primary and secondary insomnia, and MIN-301, a compound we are developing for the treatment of patients suffering from Parkinson's disease. We believe our innovative product candidates have significant potential to transform the lives of a large number of affected patients and their families who are currently not well-served by available therapies in each of their respective indications.

We plan to develop and, if approved by the applicable regulatory authorities, commercialize our product candidates for the neuropsychiatric pharmaceutical market, which represents a significant portion of the broader CNS therapeutic area. Neuropsychiatry is a medical subspecialty devoted to understanding and treating cognitive, emotional, behavioral and perceptual symptoms resulting from circuit-specific brain dysfunction and includes the study of the diseases we are presently targeting, namely schizophrenia, MDD, insomnia and Parkinson's disease. These neuropsychiatric diseases affect large numbers of individuals with family members also bearing significant burdens. According to Datamonitor, an independent market research firm, 4.7 million people suffer from schizophrenia, 32 million suffer from MDD, 53 million suffer from insomnia and more than 2.4 million suffer from Parkinson's disease in the United States, Japan and the five major European Union markets of France, Germany, Italy, Spain and the United Kingdom.

While there are numerous available therapies in the market for the treatment of the neuropsychiatric diseases we are targeting, each of these therapies has significant limitations in addressing the needs of patients. We have pursued the development of our product candidates based on our deep knowledge of the pathophysiology of neuropsychiatric diseases, the pharmacology of our portfolio of compounds and the limitations of current therapies. We believe our product candidates each represent a differentiated treatment option that could overcome the limitations of current therapies and address the unmet needs of patients and their families.



Our product candidates include:

- ***MIN-101***, an innovative molecule behaving as an antagonist of 5-HT2A and sigma2 receptors, which we are developing for the treatment of patients with schizophrenia. Most current therapies are geared primarily towards treating positive symptoms, such as hallucinations, delusions, and thought and movement disorders. However, positive symptoms are often experienced only periodically in an individual with schizophrenia while negative symptoms, such as mood flatness, lack of pleasure in daily life, or decreased ability to initiate and maintain social interaction, persist chronically throughout an individual's lifetime and increase with severity over time. According to Datamonitor, in 2012 within the United States and the five major European Union markets, 4.2 million patients suffered from schizophrenia, leading to a $3.9 billion drug market, with 48% of patients predominantly suffering from negative symptoms. Unlike current therapies, we believe, at its anticipated dose and dosing schedule, MIN-101, due to its particular pharmacological profile, has the potential to address negative symptoms as well as the positive and cognitive symptoms of the disease, sleep disorders, and overall psychopathology, without many of the typical side effects associated with existing therapies. If approved, we believe MIN-101 would be a first-in-class compound for the treatment of negative symptoms. We intend to seek approval for MIN-101 initially as a first line monotherapy and also plan to study its use as an adjunctive therapy. We believe that MIN-101 could address the existing treated population and those who are not being treated successfully with the currently available therapies. In a Phase IIa clinical trial, a statistically significant improvement of negative symptoms and a non-statistically significant trend toward the improvement of positive and cognitive symptoms and overall psychopathology was observed after three months of administration of MIN-101 in a twice-a-day formulation. The trial also showed that MIN-101 could have sleep promoting effects in contrast to currently available therapies and had no negative impact on sleep as measured by polysomnography. We plan to initiate a small clinical trial in the second quarter of 2014 to confirm prior Phase I results, using a once a day formulation, in preparation for conducting a Phase IIb clinical trial of MIN-101 in Europe in the fourth quarter of 2014.

- ***MIN-117***, an innovative molecule behaving mainly as an antagonist on 5-HT1A receptors and as an inhibitor of both serotonin and dopamine reuptake, which we are developing for the treatment of patients with MDD. MDD is the most prominent subtype and a severe form of depression, with 6% of MDD patients committing suicide. According to Datamonitor, it is estimated that up to 30% of

people will experience an episode of MDD at some point in their life, and there are currently 30 million cases in the United States and the five major European Union markets. Datamonitor estimated that sales of drugs for depression totaled $5.2 billion across the United States and the five major European Union markets in 2012. We believe that existing therapies do not address all of the needs of the MDD patient population and a large number of patients fail to respond or only partially respond to existing treatment options. Due to their mechanisms of action, some current treatment options take up to four weeks to have a noticeable effect, which can expose patients to a period of vulnerability during which they are at most risk of committing suicide. In addition, currently available therapies have several side effects, including cognitive impairment, sexual dysfunction and sleep disorders, that lead many patients to discontinue therapy. We believe that the results of two Phase I clinical trials of MIN-117 in healthy subjects that explored doses higher than the anticipated therapeutic dose, and pre-clinical studies suggest that many of the typical side effects commonly experienced by patients taking existing pharmaceutical treatments for MDD may not be associated with MIN-117 at therapeutic dose levels. Based on a Phase I clinical trial, MIN-117 may have a positive effect on sleep, a potential biomarker for drug efficacy for MDD, suggesting the utility of further study for the treatment of MDD. We plan to examine the effect of the intended therapeutic doses of MIN-117 in future studies with a Phase IIb clinical trial in Europe in approximately 450 subjects, examining two doses of MIN-117, in the second half of 2014. Assuming favorable results, we plan to explore the potential for a collaboration for the future clinical development and commercialization of MIN-117 for the treatment of MDD.

- ***MIN-202,*** an innovative molecule acting as a selective orexin 2 receptor antagonist, which we are co-developing for the treatment of patients with insomnia. Insomnia can be the primary condition for patients or a secondary symptom of another medical or psychiatric condition, such as MDD or schizophrenia. Datamonitor estimated sales of drugs for insomnia totaled $2.7 billion across the United States, Japan and five major European Union markets in 2012. We intend to evaluate MIN-202 as a treatment in primary insomnia as well as secondary insomnia as an adjunctive therapy with an antidepressant for the treatment of mood disorders. Unlike many current therapies that activate sleep-promoting neurotransmitters, MIN-202 is specifically targeted towards inhibiting the activity of the neurons that promote wakefulness. We believe this approach is likely to result in better preservation of physiological and restorative sleep with improved safety and tolerability than currently available therapies that can cause daytime sedation and cognitive impairment. The results of a Phase I single ascending dose trial for MIN-202 suggested a relationship which supports a rapid induction and promotion of sleepiness. We are co-developing MIN-202 with Janssen Pharmaceutica N.V., a Johnson & Johnson company, or Janssen. Pursuant to our agreement with Janssen, upon the completion of this offering, we will own the exclusive rights to develop and commercialize the compound in the European Union, subject to royalty payments to Janssen, and have royalty rights for any sales outside the European Union. In conjunction with Janssen, we plan to conduct two Phase Ib clinical trials of MIN-202 in 2014 in Europe, the first of which has been submitted to the necessary regulatory and ethical approval authorities in the European Union so that subject enrollment may begin.

- ***MIN-301***, a soluble recombinant form of the Neuregulin-1β1, or NRG-1β1, protein, which we are developing for the treatment of patients with Parkinson's disease. We believe MIN-301 has the potential to slow the onset of, and restore the brain functions damaged by, Parkinson's disease. According to Datamonitor, there were nearly 800,000 cases in the United States, and Parkinson's disease was identified as the 14th leading cause of death by the Centers for Disease Control and Prevention in 2011. According to Decision Resources, approximately $2.3 billion of drug sales were related to Parkinson's disease in the United States, Japan and the five major European Union markets in 2012. Current treatments for Parkinson's disease improve the symptoms of patients, but none have been proven to delay the onset of the disease, slow or prevent the progression of the disease or reverse its effects. Due to MIN-301's novel mechanism of action that targets the cause of neurological deficits, we believe it has the potential to address these unmet needs of patients and, if approved for marketing, may be used as an early-stage monotherapy as well as a complementary therapy to existing treatments. Currently, we are conducting material scale-up for Investigational New Drug (IND)-enabling studies and are planning to initiate the first Phase I human trials during the first half of 2015 in Europe.

Our Strategy

Our strategy is to develop and, if approved by the applicable regulatory authorities, commercialize products with transformative potential addressing critical unmet medical needs in the neuropsychiatric therapeutic area. Pursuing our strategy will be based on the following principles: unwavering commitment to neuropsychiatric patients and community; scientific rigor applied to drug development and the clinical trial process; leveraging patient and caregiver insights to drive scientific advancements; and integrity. Key elements of our strategy are:

- Advance the clinical development and obtain regulatory approval of our current product candidates.
- Selectively explore collaborations with leading pharmaceutical companies to maximize the value of our current product candidate portfolio.
- Serve the patient community with a cost-effective commercial infrastructure upon any approval of a product candidate.
- Leverage our management team's expertise and current intellectual property portfolio to identify and explore additional indications relating to our current portfolio of compounds and to acquire additional product candidates.

Risks Associated with our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus. These risks include the following:

- We have incurred significant losses since our inception. We expect to continue to incur losses over the next several years and may never achieve or maintain profitability, which, among other things, raises doubt about our ability to continue as a going concern.
- We will require additional capital to finance our operations, which may not be available to us on acceptable terms, or at all. As a result, we may not complete the development and commercialization of our product candidates or develop new product candidates.
- We are heavily dependent on the success of our two lead product candidates and we cannot give any assurance that any of our product candidates will receive regulatory approval in a timely manner or at all, which is necessary before they can be commercialized.
- Our clinical trials may fail to demonstrate adequately the safety and efficacy of our product candidates, which could prevent or delay regulatory approval and commercialization, and also increase costs.
- Results of earlier clinical trials may not be predictive of the results of later-stage clinical trials.
- If we experience delays in clinical testing, we will be delayed in commercializing our product candidates, our costs may increase and our business may be harmed.
- If we are unable to enroll subjects in clinical trials, we will be unable to complete these trials on a timely basis or at all.
- We are in the process of combining several corporate entities and assets into our company, which will increase our infrastructure and reporting burden.
- We have no experience in advancing product candidates beyond Phase IIa, which makes it difficult to assess our ability to develop and commercialize our product candidates.
- We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.
- We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.

- If the market opportunities for any product that we or our collaborators develop are smaller than we believe they are, our revenue may be adversely affected and our business may suffer.

- We have identified material weaknesses and significant deficiencies in our internal control over financial reporting, which increases the risk of material misstatements in our future financial statements.

Corporate Information

We were incorporated under the name Cyrenaic Pharmaceuticals, Inc. under the laws of the State of Delaware on April 23, 2007. In November 2013, we merged with Sonkei Pharmaceuticals, Inc. and the combined company was renamed Minerva Neurosciences, Inc. As a result of the merger, or the Sonkei Merger, we have the rights to develop, sell and import MIN-101 and MIN-117 globally, excluding most of Asia, pursuant to license agreements with Mitsubishi Tanabe Pharma Corporation. We further expanded our product candidate portfolio in February 2014 by acquiring the shares of Mind-NRG SA, or Mind-NRG, which has exclusive rights to develop and commercialize MIN-301, or the Mind-NRG Acquisition. In addition, in February 2014, we entered into a co-development and license agreement with Janssen for European Union development and commercialization rights to MIN-202, which is subject to the completion of this offering.

Our principal executive offices are located at 245 First Street, Suite 1800, Cambridge, MA 02142 and our phone number is (617) 444-8444. Our website address is www.minervaneurosciences.com. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

Implications of Being an Emerging Growth Company

As a company with less than $1 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- Being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

- Not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

- Not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

- Reduced disclosure obligations regarding executive compensation; and

- Exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We may take advantage of these provisions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than $1 billion in annual revenue, have more than $700 million in market value of our capital stock held by non-affiliates or issue more than $1 billion of non-convertible debt over a three-year period. We may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of some reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

The Offering

Common stock offered by us	5,454,545 shares
Common stock to be outstanding after this offering	16,894,529 shares
Option to purchase additional shares	We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase up to 818,182 additional shares of our common stock.
Use of proceeds	We estimate that our net proceeds from this offering will be approximately $52.2 million, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We expect to use the net proceeds from this offering to fund part of the continued clinical development of MIN-101, MIN-117, MIN-202 and MIN-301. We intend to use the remaining net proceeds from this offering to satisfy certain contractual obligations and for working capital and other general corporate purposes. See "Use of Proceeds" for additional information.
Risk factors	See "Risk Factors" beginning on page 10 and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Proposed NASDAQ Global Market symbol	"NERV"
Directed share program	At our request, the underwriters have reserved up to 272,727 shares of our common stock offered by this prospectus for sale, at the initial public offering price, to our directors and officers and certain other parties related to us. Shares purchased by our directors and officers will be subject to the 180-day lock-up restriction described in the "Underwriting" section of this prospectus. The number of shares of common stock available for sale to the general public will be reduced to the extent these individuals purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered by this prospectus. Separate from the directed share program, certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering.

The number of shares of our common stock outstanding immediately after this offering is based on (i) 8,520,925 shares of common stock outstanding as of June 10, 2014, (ii) the shares to be issued in this offering and (iii) an estimated 2,919,059 shares to be issued in a series of transactions that we expect to occur concurrently with and/or upon completion of this offering, but excludes:

- 646,759 shares of common stock issuable upon the exercise of options outstanding as of June 10, 2014, with an exercise price of $9.49 per share; and
- 2,896,995 shares of common stock reserved for future issuance under our Amended and Restated 2013 Equity Incentive Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the plan.

Unless otherwise indicated, all information in this prospectus:

- assumes no exercise by the underwriters of their option to purchase up to 818,182 shares of our common stock in this offering;
- reflects the conversion of outstanding convertible promissory notes in principal amounts of $1.3 million issued in November 2013 and €0.5 million (or $0.7 million, as converted) assumed in connection with the Sonkei Merger in November 2013, collectively referred to as the 2013 Notes, including accrued interest thereon, into an aggregate of 191,787 shares of common stock upon the closing of this offering, at the initial public offering price; for purposes of this prospectus, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and a closing date of June 30, 2014;
- assumes the sale of $26.0 million of our common stock to Johnson & Johnson Development Corporation, or JJDC, an affiliate of Janssen, or 2,363,636 shares, in a private placement concurrent with the closing of this offering at the initial public offering price; for purposes of this prospectus, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and our subsequent upfront payment of $22.0 million to Janssen in connection with the co-development and license agreement that will become effective upon the closing of this offering, collectively referred to as the Janssen Transactions;
- assumes the sale of $4.0 million of our common stock to certain former shareholders of Mind-NRG, or 363,636 shares, in a private placement concurrent with the closing of this offering, at the initial public offering price; for purposes of this prospectus, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus;
- assumes no exercise of outstanding options after June 10, 2014;
- except where otherwise noted, reflects the acquisition of the license to intellectual property rights to MIN-202 under the co-development and license agreement with Janssen, which will become effective upon the closing of this offering; and
- gives effect to the 1-for-3.5 reverse stock split of our common stock effected on June 9, 2014.

Except as otherwise noted, all amounts referred to in this prospectus as "$, as converted" shall mean the U.S. dollar amount applying the conversion rate from the Euro as of March 31, 2014 which was 1.3652.

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering.

Summary Historical Financial Data

The following tables summarize our historical financial data and our pro forma condensed combined financial information and should be read together with "Selected Historical Financial Data," Unaudited Pro Forma Condensed Combined Financial Statements," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the historical financial statements and related notes, each of which are included elsewhere in this prospectus.

We have derived our statements of operations data for the two years ended December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived our statements of operations data for the three months ended March 31, 2013 and 2014 and the summary balance sheet data as of March 31, 2014 from our unaudited interim financial statements included elsewhere in this prospectus. The summary historical results set forth below are not necessarily indicative of results to be expected for any future period.

The unaudited pro forma condensed combined statements of operations data for the year ended December 31, 2013 includes our historical results of operations, after giving pro forma effect to the Sonkei Merger and the Mind-NRG Acquisition, as if they occurred on January 1, 2013. The unaudited pro forma condensed combined statements of operations data for the three months ended March 31, 2014 includes our historical results of operations, after giving pro forma effect to the Mind-NRG Acquisition, as if it occurred on January 1, 2013. The unaudited supplemental pro forma condensed balance sheet data as of March 31, 2014 gives pro forma effect to (i) the repayment of $0.5 million of debt incurred in connection with the Mind-NRG Acquisition, plus all accrued interest thereon payable to certain stockholders in April 2014, (ii) the incurrence of a $0.6 million loan payable to certain of our stockholders and their affiliates in April, or the April Bridge Loan, and (iii) the incurrence of a $1.0 million loan payable to certain of our stockholders and their affiliates in May, or the May Bridge Loan. As of June 10, 2014, we have drawn down $0.5 million under the May Bridge Loan, however, we expect to draw down the remaining $0.5 million prior to the closing of this offering.

The summary unaudited pro forma as adjusted condensed combined balance sheet data gives pro forma effect to (i) the conversion of the 2013 Notes, including accrued interest thereon, into an aggregate of 191,787 shares of common stock upon the closing of this offering at an assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, (ii) the repayment of the April Bridge Loan plus all accrued interest thereon, in connection with the closing of this offering, assuming a closing date of June 30, 2014, (iii) the repayment of $1.0 million relating to the May Bridge Loan plus all accrued interest, in connection with the closing of this offering, assuming a closing date of June 30, 2014, (iv) the payment of a €0.5 million (or $0.7 million, as converted) license payment with respect to MIN-301 to ProteoSys SA, or ProteoSys, that is payable in connection with the closing of this offering, or the ProteoSys License Fee, (v) the purchase of 2,363,636 shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, for an aggregate of $26.0 million, and our subsequent payment of $22.0 million to Janssen, pursuant to the co-development and license agreement with Janssen, (vi) the purchase of 363,636 shares of our common stock by certain former stockholders of Mind-NRG in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, for an aggregate of $4.0 million, and (vii) the sale of 5,454,545 shares of common stock in this offering at an assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses.

The summary unaudited pro forma condensed combined financial data is for informational purposes only and does not purport to represent what our results of operations would have been if the Sonkei Merger or Mind-NRG Acquisition had occurred as of those dates or what those results will be for future periods. We cannot assure you that the assumptions used by our management, which they believe are reasonable, for preparation of the summary unaudited pro forma condensed combined financial data will prove to be correct.

	YEARS ENDED DECEMBER 31,		PRO FORMA FOR YEAR ENDED DECEMBER 31,	THREE MONTHS ENDED MARCH 31,		PRO FORMA FOR THREE MONTHS ENDED MARCH 31,
	2012	2013	2013	2013	2014	2014
	(in thousands, except share and per share data)					
Statement of Operations Data:						
Expenses:						
Research and development	$ 550	$ 708	$ 2,297	$ 104	$ 586	$ 737
General and administrative	1,031	2,467	3,179	167	2,037	2,339
Total expenses	1,581	3,175	5,476	271	2,623	3,076
Foreign exchange (gains)/losses and other, net	1	29	(7)	—	7	7
Interest expense (income), net	—	58	72	—	308	308
Net loss	$ (1,582)	$ (3,262)	$ (5,541)	$ (271)	$ (2,938)	$ (3,391)
Per Share Data:(1)						
Net loss per share — basic and diluted	$ (0.47)	$ (0.78)	$ (0.75)	$ (0.08)	$ (0.43)	$ (0.45)
Weighted average shares outstanding — basic and diluted	3,386,914	4,186,104	7,396,760	3,562,454	6,902,910	7,594,321

(1) Per share data excludes 926,604 shares of common stock held by one of our stockholders that are not considered outstanding for accounting purposes for the periods presented. See "Management's Discussion and Analysis — Share Repurchase in Settlement of Nonrecourse Notes."

	MARCH 31, 2014		
	ACTUAL	SUPPLEMENTAL PRO FORMA	PRO FORMA AS ADJUSTED
	(in thousands)		
Balance Sheet Data:			
Cash and cash equivalents	$ 2,141	$ 3,234	$ 61,165(1)
In-process research and development	34,200	34,200	34,200
Goodwill	15,104	15,104	15,104
Other current and long-term assets	1,693	1,693	77
Total assets	53,138	54,231	110,546
Accounts payable, accrued expenses and other liabilities	4,551	4,551	2,180
Convertible promissory notes, net of discount	333	333	—
Loans payable	500	1,600	—
Deferred tax liability	13,669	13,669	13,669
Total liabilities	19,053	20,153	15,849
Total stockholders' equity	34,085	34,078	94,697
Total liabilities and stockholders' equity	$ 53,138	$ 54,231	$ 110,546

(1) Pro forma as adjusted cash and cash equivalents includes the net proceeds of $52.2 million from the sale of shares in this offering, plus proceeds from the concurrent private placement transactions of $30 million, less the $22 million payment to Janssen pursuant to the co-development and license agreement with Janssen, the payment of the ProteoSys License fee of approximately $0.7 million and the repayment of $1.6 million in loans, assuming $0.5 million to be drawn down prior to the closing of this offering.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before you invest in our common stock, you should carefully consider the following risks, as well as general economic and business risks, and all of the other information contained in this prospectus. Any of the following risks could have a material adverse effect on our business, operating results and financial condition and cause the trading price of our common stock to decline, which would cause you to lose all or part of your investment. When determining whether to invest, you should also refer to the other information contained in this prospectus, including our financial statements and the related notes thereto.

Risks Related to Our Financial Position and Capital Requirements

We have incurred significant losses since our inception. We expect to continue to incur losses over the next several years and may never achieve or maintain profitability.

We are a clinical development-stage biopharmaceutical company. In November 2013, we merged with Sonkei Pharmaceuticals, Inc., or Sonkei, and, in February 2014, we acquired Mind-NRG, which were also clinical development-stage biopharmaceutical companies. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval or become commercially viable. As an early stage company, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly the biopharmaceutical area. We have no products approved for commercial sale and have not generated any revenue from product sales to date, and we continue to incur significant research and development and other expenses related to our ongoing operations.

We are not profitable and have incurred losses in each period since our inception in 2007. For the year ended December 31, 2013, we reported a net loss of $3.3 million and a combined pro forma net loss of $5.5 million, after giving effect to the Sonkei Merger and the Mind-NRG Acquisition as if such transactions occurred on January 1, 2013. For the three months ended March 31, 2014, we reported a net loss of $2.9 million and a combined pro forma net loss of $3.4 million after giving effect to the Mind-NRG Acquisition as if it occurred on January 1, 2013. For a description of the combined pro forma adjustments described above, see "Unaudited Pro Forma Condensed Combined Financial Statements." As of March 31, 2014, we had an accumulated deficit of $20.8 million.

We expect to continue to incur significant losses for the foreseeable future, and we expect these losses to increase as we continue our research and development of, and seek regulatory approvals for, our product candidates. If any of our product candidates fail in clinical trials or do not gain regulatory approval, or if any of our product candidates, if approved, fail to achieve market acceptance, we may never generate revenue or become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenues. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

We will require additional capital to finance our operations, which may not be available to us on acceptable terms, or at all. As a result, we may not complete the development and commercialization of our product candidates or develop new product candidates.

Our operations and the historic operations of Sonkei and Mind-NRG have consumed substantial amounts of cash since inception. We expect our research and development expenses to increase substantially in connection with our ongoing activities, particularly as we advance our product candidates into clinical trials.

As of March 31, 2014, we had cash and cash equivalents of $2.1 million. We believe that the net proceeds from this offering, the Janssen Transactions, the concurrent private placement to the former Mind-NRG shareholders and our existing cash and cash equivalents, will fund our projected operating requirements through 2015. In particular, we expect these funds will allow us to complete our planned Phase II clinical development for our two lead product candidates, MIN-101 and MIN-117, as well as to complete the planned Phase II clinical development of MIN-202 with Janssen and our Phase I clinical development of MIN-301. However, circumstances may cause us to consume capital more rapidly than we currently anticipate. We will require significant additional capital to fund Phase III clinical trials of our lead product candidates, and to obtain regulatory approval for, and to commercialize, our product candidates.

Our future funding requirements, both short and long-term, will depend on many factors, including:

- the initiation, progress, timing, costs and results of pre-clinical and clinical studies for our product candidates and future product candidates we may develop;
- the outcome, timing and cost of seeking and obtaining regulatory approvals from the EMA, FDA and comparable foreign regulatory authorities, including the potential for such authorities to require that we perform more studies than those that we currently expect;
- the cost to establish, maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with licensing, preparing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- the effect of competing technological and market developments;
- market acceptance of any approved product candidates;
- the costs of acquiring, licensing or investing in additional businesses, products, product candidates and technologies; and
- the cost of establishing sales, marketing and distribution capabilities for our product candidates for which we may receive regulatory approval and that we determine to commercialize ourselves or in collaboration with our partners.

When we need to secure additional financing, such additional fundraising efforts may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Further, the evolving and volatile global economic climate and global financial market conditions could limit our ability to raise funding and otherwise adversely impact our business or those of our collaborators and providers. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates. Any of these events could significantly harm our business, financial condition and prospects.

Our recurring losses from operations have raised substantial doubt regarding our ability to continue as a going concern.

Our recurring losses from operations raise substantial doubt about our ability to continue as a going concern, and as a result, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as of and for the year ended December 31, 2013 with respect to this uncertainty. Our ability to continue as a going concern could materially limit our ability to raise additional funds through the issuance of new debt or equity securities or otherwise. Future reports on our financial statements may include an explanatory paragraph with respect to our ability to continue as a going concern. We are a development stage company and have not generated revenues or been profitable since inception, and it is possible we will never achieve profitability. None of our product candidates can be marketed until governmental approvals have been obtained. Accordingly, there is no current source of revenues much less profits, to sustain our present activities, and no revenues will likely be available until, and unless, our product candidates are approved by the EMA, FDA or comparable regulatory agencies in other countries and successfully marketed, either by us or a partner, an outcome which may not occur. If we

successfully complete this offering, based upon our currently expected level of operating expenditures, we expect to be able to fund our operations to 2015. This period could be shortened if there are any significant increases in planned spending on development programs or more rapid progress of development programs than anticipated. There is no assurance that other financing will be available when needed to allow us to continue as a going concern. The perception that we may not be able to continue as a going concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations.

We plan to use potential future operating losses and our federal and state net operating loss, or NOL, carryforwards to offset taxable income from revenue generated from operations or corporate collaborations. However, our ability to use existing NOL carryforwards would likely be limited as a result of issuance of equity securities.

As of December 31, 2013, we had approximately $16.0 million of federal net operating carryforwards. These federal NOL carryforwards will begin to expire at various dates beginning in 2027, if not utilized. We plan to use our operating losses to offset any potential future taxable income generated from operations or collaborations. To the extent we generate taxable income, we plan to use our existing NOL carryforwards and future losses to offset income that would otherwise be taxable. However, under the Tax Reform Act of 1986, the amount of benefits from our NOL carryforwards may be impaired or limited if we incur a cumulative ownership change of more than 50%, as interpreted by the U.S. Internal Revenue Service, over a three year period. We have not performed a detailed analysis to determine whether an ownership change occurred upon consummation of the merger between us and Sonkei or upon the acquisition of Mind-NRG or will occur in connection with this offering or in connection with the shares to be issued to JJDC or shareholders of Mind-NRG in concurrent private placements in connection with this offering. However, as a result of these three transactions and this offering, it is likely that an ownership change would occur or has occurred, and such ownership change could also be triggered by subsequent sales of securities by us or our stockholders. Therefore, it is likely that some or all of our existing NOL carryforwards would be limited by the provisions of Section 382 of the U.S. Internal Revenue Code of 1986, as amended. Further, state NOL carryforwards may be similarly limited. We had approximately $11.0 million of state net operating carryforwards at December 31, 2013. It is also possible that future changes in ownership could similarly limit our ability to utilize NOL carryforwards. It is possible that all of our existing NOL carryforwards would be disallowed. Any such disallowances may result in greater tax liabilities than we would incur in the absence of such a limitation and any increased liabilities could adversely affect our business, results of operations, financial condition and cash flow.

Risks Related to Our Business and Industry

We are heavily dependent on the success of our two lead product candidates and we cannot give any assurance that any of our product candidates will receive regulatory approval in a timely manner or at all, which is necessary before they can be commercialized.

We have invested a significant portion of our efforts and financial resources in the licensing and development of our two lead product candidates: (i) MIN-101 for the treatment of schizophrenia and (ii) MIN-117 for the treatment of major depressive disorder, or MDD. We plan to use the substantial majority of our net proceeds from this offering to fund a Phase IIb clinical trial of MIN-101 and a Phase IIb clinical trial of MIN-117 in Europe, but may never successfully develop, obtain regulatory approval for, and then successfully commercialize MIN-101 or MIN-117.

The regulatory approval process is expensive and the time required to obtain approval from the EMA, FDA or other regulatory authorities in other jurisdictions to sell any product is uncertain and may take years. See the section entitled "Business — Government Regulation and Product Approval" for a discussion of the process for regulatory approval from the EMA and FDA.

We currently hold no Investigational New Drug, or IND, approvals in the United States, and as a result do not intend to initiate human clinical trials of our product candidates (with the exception of MIN-301) in the

United States until 2015 or later. Whether regulatory approval will be granted is unpredictable and depends upon numerous factors, including the substantial discretion of the regulatory authorities. Moreover, the filing of a marketing application, including a New Drug Application, or NDA, requires a payment of a significant user fee upon submission. The filing of marketing applications for our product candidates may be delayed due to our lack of financial resources to pay such user fee.

Initially, we plan to conduct clinical trials in Europe. Applications to commence clinical trials in the European Union are to member state regulatory authorities. Good Clinical Practice (in the EU under ICH 1997), or GCP, as incorporated into the EU Clinical Trials Directive 2001/20 and national implementing regulations sets out most issues in the conduct of trials but national divergences exist especially in relation to insurance and compensation, which will require a thorough understanding of the specific procedures and requirements for the specific member states in which we chose to conduct the clinical trials. Clinical trials in the European Union also require an ethics committee or institutional review board opinion, and there is often inconsistency as to ethics committee decisions. The ethics committee may ask questions, may require re-writing or amending the protocol, any and all of which would require more time and expense. Even after re-submission to the relevant ethics committee, the application may still ultimately be rejected. After clinical trial authorization, we may be inspected for compliance with GCP by inspectors from the national regulatory authorities. If the inspections provide warnings or require changes this will incur further delays and cost and we may be restricted from completing the trials.

If, following submission, our NDA or marketing authorization application is not accepted for substantive review or approval, the EMA, FDA or other comparable foreign regulatory authorities may require that we conduct additional clinical or pre-clinical trials, provide additional data, manufacture additional validation batches or develop additional analytical tests methods before they will reconsider our application. If the EMA, FDA or other comparable foreign regulatory authorities requires additional studies or data, we would incur increased costs and delays in the marketing approval process, which may require us to expend more resources than we have available. In addition, the EMA, FDA or other comparable foreign regulatory authorities may not consider sufficient any additional required trials, data or information that we perform and complete or generate, or we may decide to abandon the program.

Moreover, policies, regulations, or the type and amount of pre-clinical and clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. It is possible that none of our existing product candidates or any of our future product candidates will ever obtain regulatory approval, even if we expend substantial time and resources seeking such approval.

Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the EMA, FDA or other regulatory authorities may disagree with the design or implementation of our clinical trials. We have not yet consulted with the EMA or the FDA on the design and conduct of the clinical trials that have already been conducted and which we intend to conduct. Thus, the EMA, FDA and other comparable foreign authorities may not agree with the design or implementation of these trials. We intend to seek guidance from the EMA in relation to the EU clinical trial program and the FDA on the design and conduct of clinical trials of our compounds when we initiate a clinical program in the United States in the future;
- we may be unable to demonstrate to the satisfaction of the EMA, FDA or other regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required by the EMA, FDA or other regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the EMA, FDA or other regulatory authorities may disagree with our interpretation of data from pre-clinical studies or clinical trials;

- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere;
- the EMA, FDA or other regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the EMA, FDA or other regulatory authorities outside of the United States may significantly change in a manner rendering our clinical data insufficient for approval.

Even if we obtain approval for a particular product, regulatory authorities may approve any of our product candidates for fewer or more limited indications, including more limited patient populations, than we request, may require that contraindications, warnings, or precautions be included in the product labeling, including a black box warning, may grant approval contingent on the performance of costly post-marketing clinical trials or other post-market requirements, including risk evaluation and mitigation strategies, or REMS, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Results of earlier clinical trials may not be predictive of the results of later-stage clinical trials.

The clinical trials related to our product candidates have been limited to six Phase I trials completed between 2002 and 2004 for MIN-101, a Phase IIa trial for MIN-101 completed in 2009, two Phase I trials for MIN-117 completed between 2005 and 2009, and a Phase I trial for MIN-202 in 2011. Each of our product candidates has also undergone pre-clinical studies. The results of pre-clinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. Interpretation of results from early, usually smaller, studies that suggest positive trends in some subjects, requires caution. Results from later stages of clinical trials enrolling more subjects may fail to show the desired safety and efficacy results or otherwise fail to be consistent with the results of earlier trials of the same product candidates. Later clinical trial results may not replicate earlier clinical trials for a variety of reasons, including differences in trial design, different trial endpoints (or lack of trial endpoints in exploratory studies), subject population, number of subjects, subject selection criteria, trial duration, drug dosage and formulation and lack of statistical power in the earlier studies. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety profiles, notwithstanding promising results in earlier trials.

The results of clinical trials conducted at sites outside the United States may not be accepted by the FDA and the results of clinical trials conducted at sites in the United States may not be accepted by international regulatory authorities.

We plan to conduct our clinical trials outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well-designed and conducted and performed by qualified investigators in accordance with ethical principles such as institutional review board, or IRB, or ethics committee approval and informed consent. The study population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the subject population for any clinical trials conducted outside of the United States must be representative of the U.S. population. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials were conducted consistent with all applicable U.S. laws and regulations. There can be no assurance the FDA will accept data from trials conducted outside of the United States as adequate support of a marketing application and it is not unusual for the FDA to require some Phase III clinical trial data to be generated in the United States. If the FDA does not accept the data from our international clinical trials, it would likely result in the need for additional trials in the United States, which would be costly and time-consuming and could delay or permanently halt the development of one or more of our product candidates.

If we experience delays in clinical testing, we will be delayed in commercializing our product candidates, our costs may increase and our business may be harmed.

We do not know whether our clinical trials will need to be restructured or will be completed on schedule, or at all. Our product development costs will increase if we experience delays in clinical testing. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which would impair our ability to successfully commercialize our product candidates and may harm our business, results of operations and prospects.

The commencement and completion of clinical development can be delayed or halted for a number of reasons, including:

- difficulties obtaining regulatory approval to commence a clinical trial or complying with conditions imposed by a regulatory authority regarding the scope or term of a clinical trial;
- delays in reaching or failure to reach agreement on acceptable terms with prospective clinical research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- deviations from the trial protocol by clinical trial sites and investigators, or failing to conduct the trial in accordance with regulatory requirements;
- failure of our third parties, such as CROs, to satisfy their contractual duties or meet expected deadlines;
- insufficient or inadequate supply or quantity of product material for use in trials due to delays in the importation and manufacture of clinical supply, including delays in the testing, validation, and delivery of the clinical supply of the investigational drug to the clinical trial sites;
- delays in identification and auditing of central or other laboratories and the transfer and validation of assays or tests to be used;
- delays in having subjects complete participation in a trial or return for post-treatment follow-up;
- difficulties obtaining IRB or ethics committee approval to conduct a trial at a prospective site, or complying with conditions imposed by IRBs or ethics committees;
- challenges recruiting and enrolling subjects to participate in clinical trials for a variety of reasons, including competition from other programs for the treatment of similar conditions;
- severe or unexpected drug-related adverse events experienced by subjects in a clinical trial;
- difficulty retaining subjects who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of efficacy or personal issues, which are common among schizophrenia and MDD subjects who we require for our clinical trials of our two lead product candidates, MIN-101 and MIN-117. For instance, 66 out of 96 subjects ceased to participate in the Phase IIa clinical trial of MIN-101;
- delays in adding new investigators and clinical sites;
- withdrawal of clinical trial sites from clinical trials;
- lack of adequate funding; and
- clinical holds or termination imposed by the EU national regulatory authorities or the FDA or IRBs or ethics committees.

Clinical trials may also be delayed as a result of ambiguous or negative interim results. In addition, clinical trials may be suspended or terminated by us, an IRB or ethics committee overseeing the clinical trial at a trial site (with respect to that site), the EU national regulatory authorities or the FDA due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or the trial protocols;
- observations during inspection of the clinical trial operations or trial sites by the EMA, FDA or other comparable foreign regulatory authorities that ultimately result in the imposition of a clinical hold;

- unforeseen safety issues; or
- lack of adequate funding to continue the clinical trial.

Failure to conduct the clinical trial in accordance with regulatory requirements or the trial protocols may also result in the inability to use the data to support product approval. Additionally, changes in regulatory requirements and guidance may occur, and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to the EMA, FDA, IRBs or ethics committees for reexamination, which may impact the costs, timing and successful completion of a clinical trial. Many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates. If we experience delays in completion of, or if we terminate any of our clinical trials, our ability to obtain regulatory approval for our product candidates may be materially harmed, and our commercial prospects and ability to generate product revenues will be diminished.

We have no experience in advancing product candidates beyond Phase IIa, which makes it difficult to assess our ability to develop and commercialize our product candidates.

We commenced operations in 2007 under the name Cyrenaic Pharmaceuticals, Inc., or Cyrenaic, and our operations to date and those of Sonkei and Mind-NRG have been limited to raising capital, identifying potential drug candidates, and undertaking pre-clinical and Phase I and IIa clinical trials. Neither we nor Sonkei have conducted any clinical trials of our two lead product candidates, MIN-101 and MIN-117, since 2009, resulting in our lead product candidates losing patent life without clinical advancement toward potential commercialization.

We have no experience in progressing clinical trials past Phase IIa, obtaining regulatory approvals or commercializing product candidates. We recently merged with Sonkei and acquired Mind-NRG and have limited operating history since the merger and acquisition. We may encounter unforeseen expense, difficulties, complications, delays and other known or unknown factors in pursuing our business objectives. We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

If we are unable to enroll subjects in clinical trials, we will be unable to complete these trials on a timely basis or at all.

The timely completion of clinical trials largely depends on subject enrollment. Many factors affect subject enrollment, including:

- the size and nature of the subject population;
- the number and location of clinical sites we enroll;
- competition with other companies for clinical sites or subjects;
- the eligibility and exclusion criteria for the trial;
- the design of the clinical trial;
- inability to obtain and maintain subject consents;
- risk that enrolled subjects will drop out before completion; and
- competing clinical trials and clinicians' and subjects' perceptions as to the potential advantages or disadvantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating.

We rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials in Europe and eventually in the United States and, while we have agreements governing their committed activities, we have limited influence over their actual performance. We may also experience difficulties enrolling subjects for our clinical trials relating to MIN-101 and MIN-117 due to the mental health of the

subjects that we will need to enroll. For instance, according to Datamonitor, roughly one-third of purported schizophrenia patients may not receive an accurate diagnosis, with negative symptoms more difficult to recognize. The patient discontinuation rate for current schizophrenia drugs is also high. For instance, a significant number of subjects ceased to participate in our prior Phase IIa trial of MIN-101. As a result, the process of finding, diagnosing and retaining subjects throughout a clinical trial targeting the negative symptoms of schizophrenia or MDD may prove difficult and costly.

Our clinical trials may fail to demonstrate adequately the safety and efficacy of our product candidates, which could prevent or delay regulatory approval and commercialization, and also increase costs.

Before obtaining regulatory approvals for the commercial sale of our product candidates, we must demonstrate through lengthy, complex and expensive pre-clinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication, and failures can occur at any stage of testing. Clinical trials often fail to demonstrate safety and efficacy of the product candidate studied for the target indication. For instance, our clinical studies of MIN-101 and MIN-117 did not show statistically significant differences favorable to the investigational products between the treatment and comparator groups on all the studies' primary, secondary and/or exploratory endpoints. While these studies were not powered for statistical significance, regulatory authorities may find that the studies do not support, in combination with other studies, approval of the target indication. In addition, our product candidates may be associated with undesirable side effects or have characteristics that are unexpected, which may result in abandoning their development or regulatory authorities restricting or denying marketing approval. For instance, prior clinical studies indicated that MIN-101 and MIN-117 may cause adverse events, including, but not limited to, dizziness, vital sign changes, central nervous system events, cardiac events, including prolongation of the QT/QTc interval, and gastrointestinal events. Most product candidates that commence clinical trials are never approved by the applicable regulatory authorities.

In the case of our lead product candidates, MIN-101 and MIN-117, we are seeking to develop treatments for schizophrenia and MDD, which adds a layer of complexity to our clinical trials and may delay regulatory approval. We do not fully understand the cause and pathophysiology of schizophrenia and MDD, and our results will rely on subjective subject feedback, which is inherently difficult to evaluate. It can also be influenced by factors outside of our control, and can vary widely from day to day for a particular subject, and from subject to subject and site to site within a clinical study. The placebo effect may also have a more significant impact on our clinical trials.

If our product candidates are not shown to be both safe and effective in clinical trials, we will not be able to obtain regulatory approval or commercialize our product candidates.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and management resources, we focus on a limited number of research programs and product candidates. For instance, we are prioritizing the clinical trials and development of our two lead product candidates, MIN-101 and MIN-117. As a result, we may forego or delay pursuit of opportunities with other product candidates, including MIN-202 and MIN-301, or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights.

Even if we complete the necessary clinical trials, we cannot predict when or if we will obtain marketing approval to commercialize a product candidate or the approval may be for a more narrow indication than we expect.

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if our product candidates demonstrate safety and efficacy in clinical trials, the regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain marketing approval from the relevant regulatory agencies. Additional delays may result if the EMA, FDA, an FDA Advisory Committee, or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory agency policy during the period of product development, clinical trials and the review process.

Even if our product candidates receive regulatory approval, they may still face future development and regulatory difficulties, including ongoing regulatory obligations and continued regulatory review. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to administrative sanctions or penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

Even if we obtain regulatory approval for a product candidate, product candidates may be subject to fewer or more limited indications, including more limited subject populations, than we request, and regulatory authorities may require that contraindications, warnings, or precautions be included in the product labeling, including a black box warning, may grant approval contingent on the performance of costly post-marketing clinical trials or other post-market requirements, such as REMS, may require post-marketing surveillance, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. For instance, in 2007, the FDA requested that makers of all antidepressant medications update existing black box warnings about increased risk of suicidal thought and behavior in young adults, ages 18 to 24, during initial treatment. If approved for marketing, our drugs may be required to carry warnings similar to this and other class-wide warnings.

Any approved products would further be subject to ongoing requirements imposed by the EMA, FDA, and other comparable foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, safety surveillance, import, export, advertising, promotion, marketing, recordkeeping and reporting of safety and other post-market information. If there are any modifications to the drug, including changes in indications, labeling, manufacturing processes or facilities, or new safety issues arise, a new or supplemental NDA, a post-implementation notification or other reporting may be required or requested depending on the change, which may require additional data or additional pre-clinical studies and clinical trials.

The EMA, FDA and other comparable foreign regulatory authorities will continue to closely monitor the safety profile of any product even after approval. If the EMA, FDA or other comparable foreign regulatory authorities become aware of new safety information after approval of any of our product candidates, a number of potentially significant negative consequences could result, including:

- we may suspend marketing of, or withdraw or recall, such product;
- regulatory authorities may withdraw approvals of such product;
- regulatory authorities may require additional warnings or otherwise restrict the product's indicated use, label, or marketing;
- the EMA, FDA or other comparable foreign regulatory bodies may issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings about such product;
- the FDA may require the establishment or modification of a REMS or the EMA or a comparable foreign regulatory authority may require the establishment or modification of a similar strategy that may, for instance, require us to issue a medication guide outlining the risks of such side effects for

distribution to subjects or restrict distribution of our products and impose burdensome implementation requirements on us;

- regulatory authorities may require that we conduct post-marketing studies or surveillance;
- we could be sued and held liable for harm caused to subjects or patients; and
- our reputation may suffer.

In addition, manufacturers of drug products and their facilities, including contracted facilities, are subject to continual review and periodic inspections by national regulatory authorities in the European Union, the FDA and other regulatory authorities for compliance with current Good Manufacturing Practices, or cGMP, regulations and standards. The EU cGMP guidelines are as set down in Commission Directive 2003/94/EC of October 8, 2003 laying down the principles and guidelines of good manufacturing practice. If we or a regulatory agency or authority discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, the product's stability (changes in levels of impurities or dissolution profile) or problems with the facility where the product is manufactured, we may be subject to reporting obligations, additional testing, additional sampling and a regulatory agency or authority may impose restrictions on that product, the manufacturing facility, our suppliers, or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates, the manufacturing facilities for our product candidates, our CROs, or other persons or entities working on our behalf fail to comply with applicable regulatory requirements either before or after marketing approval, a regulatory agency may, depending on the stage of product development and approval:

- issue adverse inspectional findings;
- issue Warning Letters, Cyber Letters or Untitled Letters;
- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;
- amend and update labels or package inserts;
- require us to enter into a consent decree, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- seek an injunction or impose civil, criminal and/or administrative penalties, damages or monetary fines or imprisonment;
- suspend or withdraw regulatory approval;
- suspend or terminate any ongoing clinical studies;
- debar us;
- refuse to approve pending applications or supplements to applications filed by us;
- refuse to allow us to enter into government contracts;
- suspend or impose restrictions on operations, including restrictions on marketing or manufacturing of the product, or the imposition of costly new manufacturing requirements or use of alternative suppliers; or
- seize or detain products, refuse to permit the import or export of products, or require us to initiate a product recall.

The occurrence of any event or penalty described above may inhibit our ability to commercialize our products and generate revenue.

Our product candidates and the activities associated with their development and commercialization in the United States, including, but not limited to, their advertising and promotion, will further be heavily scrutinized by the FDA, the U.S. Department of Justice, the U.S. Department of Health and Human Services' Office of Inspector General, state attorneys general, members of Congress and the public. Violations of applicable law, including advertising, marketing and promotion of our products for unapproved (or off-label) uses, are subject to enforcement letters, inquiries and investigations, and civil, criminal and/or administrative sanctions by regulatory agencies. Additionally, comparable foreign regulatory authorities will heavily scrutinize advertising

and promotion of any product candidate that obtains approval outside of the United States. In this regard, advertising and promotion of medicines in the European Union is governed by Directive 2001/83 EC, as amended, and any such activities which we may undertake in the European Union will have to be in strict compliance with the same. Any advertising of a prescription medicinal product to the public and any promotion of a medicinal product which does not have marketing authorization or promotion not in accordance with that marketing authorization (e.g. off-label) is prohibited. Advertisements and promotions of medicinal products are monitored nationally in the European Union, and each country will have its own additional advertising laws and industry bodies, whose obligations may go further than those set out in Directive 2001/83. For instance in the United Kingdom the code or practice of the Association of the British Pharmaceutical Industry (the lead United Kingdom trade association) is considerably stricter than legislation. Any violations and sanctions will similarly be decided and handled by the self regulatory body the relevant country's national authority.

In the United States, engaging in the impermissible promotion of our products for off-label uses can also subject us to false claims litigation under federal and state statutes, which can lead to civil, criminal and/or administrative penalties, damages, monetary fines, disgorgement, exclusion from participation in Medicare, Medicaid and other federal healthcare programs, curtailment or restructuring of our operations and agreements that materially restrict the manner in which a company promotes or distributes drug products. These false claims statutes include, but are not limited to, the federal civil False Claims Act, which allows any individual to bring a lawsuit against an individual or entity, including a pharmaceutical company, on behalf of the federal government alleging the knowing submission of false or fraudulent claims, or causing to present such false or fraudulent claims, for payment or approval by a federal program such as Medicare or Medicaid. If the government decides to intervene and prevails in the lawsuit, the individual initiating the lawsuit will share in any fines or settlement funds. If the government does not intervene, the individual may still proceed with the suit on his or her own. These False Claims Act lawsuits against pharmaceutical companies have increased significantly in volume and breadth, leading to substantial civil and criminal settlements regarding certain sales practices, including promoting off-label drug uses. This growth in litigation has increased the risk that a pharmaceutical company will have to defend a false claims action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and/or be excluded from Medicare, Medicaid and other federal and state healthcare programs. If we do not lawfully promote our products, we may become subject to such litigation which may have a material adverse effect on our business, financial condition and results of operations. While no definition of "off-label use" exists at the European Union level, promotion of a medicinal product for a purpose that has not been approved is strictly prohibited. Such promotion also gives rise to criminal prosecution in the European Union, and national healthcare supervisory authorities may impose administrative fines. Engaging in such promotions in the European Union could also lead to product liability claims, in accordance with EU product liability regime under Directive 85/374.

The EMA's, FDA's, and other applicable government agencies' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval and marketing authorization, and the sale and promotion of our product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, and be subject to civil, criminal and administrative enforcement, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

The regulatory pathway for our product candidate, MIN-301, has not yet been determined. Depending on the pathway, we may be subject to different regulatory requirements.

MIN-301 is a protein, and, as a protein, may be subject to the Public Health Service Act, or PHSA, and the Food, Drug, and Cosmetic Act, or FDCA. We have yet to meet with the FDA regarding the approval pathway for this product candidate. Based on the definition of a biologic in the PHSA, we believe that MIN-301 meets the definition of a biologic and, thus, we will need to submit a Biologics License Application, or BLA,

for product approval. Moreover, based on an FDA intercenter agreement, we believe that MIN-301 will be regulated by the FDA's Center for Drug Evaluation and Research. However, we intend to discuss jurisdiction with the FDA to determine the appropriate regulatory pathway and corresponding requirements. Depending on the pathway, we may be subject to different regulatory requirements, including different regulatory and testing requirements, shorter or longer periods of market exclusivity, and different approval processes for generic drug and biosimilar competitors.

If the market opportunities for any product that we or our collaborators develop are smaller than we believe they are, our revenue may be adversely affected and our business may suffer.

Our product candidates are intended for the treatment of schizophrenia, MDD, insomnia and Parkinson's disease. Our projections of both the number of people who have these disorders or disease, as well as the subset of people who have the potential to benefit from treatment with our product candidates and who will pursue such treatment, are based on our beliefs and estimates that may prove to be inaccurate. For instance, with respect to schizophrenia and MDD, our estimates are based on patients that suffer from schizophrenia and MDD, but these disorders are difficult to accurately diagnose and higher rates of patients may not seek or continue treatments. Our estimates and beliefs are also based on the potential market of other drugs in development for schizophrenia and MDD, which may prove to be inaccurate and our advantages over such drugs may not be or may not be perceived to be as significant as we believe they are. If our estimates prove to be inaccurate, even if our products are approved, we may not be able to successfully commercialize them. In addition, the cause and pathophysiology of schizophrenia and MDD are not fully understood, and additional scientific understanding and future drug or non-drug therapies may make our product candidates obsolete.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates are developed through pre-clinical to late stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. Such changes may also require additional testing, EMA or FDA notification or EMA or FDA approval. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and/or jeopardize our ability to commence product sales and generate revenue.

Our failure to obtain regulatory approval in additional international jurisdictions would prevent us from marketing our product candidates outside the European Union and the United States.

We plan to seek regulatory approval to commercialize our product candidates in the European Union and, other than MIN-202, in the United States. We also expect to seek regulatory approval in additional foreign countries. To market and sell our products in other jurisdictions, we must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain EMA or FDA approval. The regulatory approval process outside the European Union and United States generally includes risks substantially similar to those associated with obtaining EMA or FDA approval. In addition, in many countries outside the United States, we must secure product price and reimbursement approvals before regulatory authorities will approve the product for sale in that country or within a short time after receiving such marketing approval. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries and

regulatory approval in one country does not ensure approval in any other country, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. Also, regulatory approval for any of our product candidates may be withdrawn. If we fail to comply with the regulatory requirements in international markets and do not receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed and our business will be adversely affected. We may not obtain foreign regulatory approvals on a timely basis, if at all. In some foreign jurisdictions, approval by the domestic regulatory agency is required for approval in another jurisdiction. Our failure to obtain approval of any of our product candidates by regulatory authorities in another country may significantly diminish the commercial prospects of that product candidate and our business prospects could decline.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.

The biopharmaceutical industry is intensely competitive and subject to rapid and significant technological change. We face competition with respect to our current product candidates and will face competition with respect to any future product candidates from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Many of our competitors have significantly greater financial, technical and human resources. Smaller and early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Our competitors may obtain regulatory approval of their products more rapidly than we may or may obtain patent protection or other intellectual property rights that limit our ability to develop or commercialize our product candidates. Our competitors may also develop drugs that are more effective, more convenient, more widely used and less costly or have a better safety profile than our products and these competitors may also be more successful than us in manufacturing and marketing their products.

Our competitors will also compete with us in recruiting and retaining qualified scientific, management and commercial personnel, establishing clinical trial sites and subject registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

There are numerous currently approved therapies for treating the same diseases or indications for which our product candidates may be useful and many of these currently approved therapies act through mechanisms similar to our product candidates. Many of these approved drugs are well-established therapies or products and are widely accepted by physicians, patients and third-party payors. Some of these drugs are branded and subject to patent protection and regulatory exclusivity, and others are available on a generic basis. Insurers and other third-party payors may also encourage the use of generic products or specific branded products. Moreover, it is difficult to predict the effect that introduction of biosimilars into the market will have on sales of the reference biologic product, as it will depend on the FDA's standards for interchangeability, the structure of government and commercial managed care formularies, and state laws on substitution of biosimilars. We expect that if our product candidates are approved, they will be priced at a significant premium over competitive generic, including branded generic, products, and biosimilars. This may make it difficult for us to differentiate our products from currently approved therapies, which may adversely impact our business strategy. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability, and safety in order to overcome price competition and to be commercially successful. If we are not able to compete effectively against our current and future competitors, our business will not grow and our financial condition and operations will suffer. Moreover, many companies are developing new therapeutics, and we cannot predict what the standard of care will be as our product candidates progress through clinical development. For additional information on the primary and significant competition we expect each of our product candidates to face, if approved, please see the section of this prospectus titled "Business — Competition."

Even if any of our drug candidates receives marketing approval, they may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our drug candidates receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. If our drug candidates do not achieve an adequate level of acceptance, we may not generate significant revenue from drug sales and we may not become profitable. Our commercial success also depends on coverage and adequate reimbursement of our product candidates by third-party payors, including government payors, generally, which may be difficult or time-consuming to obtain, may be limited in scope or may not be obtained in all jurisdictions in which we may seek to market our products. The degree of market acceptance of our drug candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and perceived and potential advantages compared to alternative treatments, including any similar generics, and biosimilars;
- the timing of market introduction as well as alternative treatment;
- our ability to offer our drugs for sale at competitive prices;
- the clinical indications for which the product candidate is approved;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the cost of treatment in relation to alternative treatments;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement and the willingness of patients to pay out-of-pocket in the absence of coverage by third-party payors;
- unfavorable publicity relating to the product candidate;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our drugs together with other medications.

Our focus on neuropsychiatric disorders, in particular, places us at increased risk of serious side effects and disease events during use of our product candidates, including suicide. Most approved neuropsychiatric medicines carry boxed warnings for clinically significant adverse events, and we may categorically have to carry such warnings as well.

We currently have no marketing and sales organization. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to effectively market and sell our product candidates, if approved, or generate product revenues.

We currently do not have a marketing or sales organization for the marketing, sales and distribution of pharmaceutical products. In order to commercialize any product candidates, we must build our marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. If our product candidates receive regulatory approval, we intend to establish our sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize our product candidates, which will be expensive and time consuming. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products.

To develop internal sales, distribution and marketing capabilities, we will have to invest significant amounts of financial and management resources, some of which will be committed prior to any confirmation that our product candidates will be approved. For product candidates for which we decide to perform sales, marketing and distribution functions ourselves, we could face a number of additional risks, including:

- our inability to recruit and retain adequate numbers of effective sales and marketing personnel;

- the inability of sales personnel to obtain access to physicians or educate adequate numbers of physicians on the clinical benefits of our products to achieve market acceptance;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines;
- the costs associated with training sales personnel on legal compliance matters and monitoring their actions;
- liability for sales personnel failing to comply with the applicable legal requirements; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

We may choose to collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems. If we enter into arrangements with third parties to perform sales, marketing and distribution services for our products, the resulting revenues or the profitability from these revenues to us are likely to be lower than if we had sold, marketed and distributed our products ourselves. If we are unable to enter into such arrangements on acceptable terms or at all, we may not be able to successfully commercialize any of our product candidates that receive regulatory approval. Depending on the nature of the third party relationship, we may have little control over such third parties, and any of these third parties may fail to devote the necessary resources and attention to sell, market and distribute our products effectively. If we are not successful in commercializing our product candidates, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

Even if we commercialize any of our product candidates, these products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which could harm our business.

The laws that govern marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. In many countries, the pricing review period begins after marketing or product licensing approval is granted. Some countries require approval of the sale price of a drug before it can be marketed or soon thereafter. Additionally, in some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, which could negatively impact the revenues we generate from the sale of the product in that particular country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates even if our product candidates obtain marketing approval.

In the European Union, the pricing and reimbursement of prescription drugs is controlled by each member state. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures in the current economic climate in Europe. There is very limited harmonization on member state pricing and reimbursement practices in the European Union.

Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. In particular, Germany, Portugal and Spain have all introduced a number of short-term measures to lower healthcare spending, including mandatory discounts, clawbacks and price referencing rules, which could have a material adverse effect on our business.

Our ability to commercialize any products successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, determine which medications they will cover and establish reimbursement levels. Assuming we obtain coverage for a given product by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. Patients who are prescribed medications for the treatment of their conditions, and their prescribing physicians, generally rely on third-party payors to reimburse all or part of the costs associated with their prescription drugs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover all or a significant portion of the cost of our products. Therefore, coverage and adequate reimbursement is critical to new product acceptance. Coverage decisions may depend upon clinical and economic standards that disfavor new drug products when more established or lower cost therapeutic alternatives are already available or subsequently become available.

Government authorities and other third-party payors are developing increasingly sophisticated methods of controlling healthcare costs, such as by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices as a condition of coverage, are using restrictive formularies and preferred drug lists to leverage greater discounts in competitive classes, and are challenging the prices charged for medical products. In addition, in the United States, federal programs impose penalties on drug manufacturers in the form of mandatory additional rebates and/or discounts if commercial prices increase at a rate greater than the Consumer Price Index-Urban, and these rebates and/or discounts, which can be substantial, may impact our ability to raise commercial prices. Further, no uniform policy requirement for coverage and reimbursement for drug products exists among third-party payors in the United States. Therefore, coverage and reimbursement for drug products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If coverage and reimbursement are not available or reimbursement is available only to limited levels, we may not successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the EMA, FDA or comparable foreign regulatory authorities. Moreover, eligibility for coverage and reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may only be temporary. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Prices paid for a drug also vary depending on the class of trade. Prices charged to government customers and certain customers that receive federal funds are subject to price controls, and private institutions may obtain discounts through group purchasing organizations or use formularies to leverage discounts. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Our inability to promptly obtain coverage and profitable reimbursement rates from both government-funded and

private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Recently enacted and future legislation may increase the difficulty and cost for us to commercialize our product candidates and affect the prices we may obtain.

In the United States and many foreign jurisdictions, the legislative landscape continues to evolve. There have been a number of enacted or proposed legislative and regulatory changes affecting the healthcare system and pharmaceutical industry that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidate for which we obtain marketing approval.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or MMA, changed the way Medicare covers and pays for certain pharmaceutical products. The legislation expanded Medicare coverage for outpatient prescription drugs dispensed to the elderly by establishing Medicare Part D and also introduced a new reimbursement methodology based on average sales prices for physician-administered drugs under Medicare Part B. In addition, this legislation provided authority for limiting the number of outpatient prescription drugs that Medicare will cover in any therapeutic class under the Medicare Part D program. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and reimbursement rate that we receive for any of our approved products. While the MMA applies only to pharmacy benefits for Medicare beneficiaries, private payors often follow Medicare and Medicaid coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

More recently, in March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or, collectively, the PPACA, a law intended to, among other things, broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against healthcare fraud and abuse, add new transparency requirements for healthcare and health insurance industries, impose new taxes and fees on pharmaceutical and medical device manufacturers and impose additional health policy reforms. Among other things, the PPACA expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate for single-source, multiple source innovator and non-innovator drugs, effective the first quarter of 2010 and revising the definition of "average manufacturer price," or AMP, for calculating and reporting Medicaid drug rebates on outpatient prescription drug prices. This could increase the amount of Medicaid drug rebates manufacturers are required to pay to states. The PPACA further created a separate AMP for certain categories of drugs generally provided in non-retail outpatient settings. The legislation also extended Medicaid drug rebates, previously due only on fee-for-service utilization, to Medicaid managed care utilization, and created an alternative rebate formula for certain new formulations of certain existing products that is intended to increase the amount of rebates due on those drugs. Also effective in 2010, the PPACA expanded the types of entities eligible to receive discounted 340B pricing, although, with the exception of children's hospitals, these newly eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs used in orphan indications. In addition, because 340B pricing is determined based on AMP and Medicaid drug rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discounts to increase. The PPACA also imposed a significant annual fee on companies that manufacture or import branded prescription drug products. Furthermore, as of 2011, the new law changed the Medicare Part D coverage gap discount program by requiring manufacturers to provide a 50% point-of-sale-discount off the negotiated price of applicable brand drugs to certain eligible beneficiaries during their coverage gap period as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D. The PPACA further created a new approval pathway for biosimilars intended to encourage competition and lower prices, and it amended Medicare Part B reimbursement rules for physician-administered biologic products by making the purchase of lower cost

biosimilars more attractive to providers reimbursed by Medicare Part B. As the FDA approves biosimilars, it is possible that similar rules will be adopted by commercial managed care organizations. Substantial new provisions affecting compliance have also been enacted, which may affect our business practices with healthcare practitioners. Notably, a significant number of provisions are not yet, or have only recently become, effective.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. For example, in August 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee on Deficit Reduction did not achieve a targeted deficit reduction of at least $1.2 trillion for fiscal years 2012 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, that went into effect beginning on April 1, 2013.

Moreover, the recently enacted Drug Quality and Security Act imposes new obligations on manufacturers of pharmaceutical products, among others, related to product tracking and tracing. Among the requirements of this new legislation, manufacturers will be required to provide certain information regarding the drug products they produce to individuals and entities to which product ownership is transferred, label drug products with a product identifier, and keep certain records regarding the drug products. The transfer of information to subsequent product owners by manufacturers will eventually be required to be done electronically. Manufacturers will also be required to verify that purchasers of the manufacturers' products are appropriately licensed. Further, under this new legislation, manufacturers will have drug product investigation, quarantine, disposition, and FDA and trading partner notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences or death. In the European Union the Falsified Medicines Directive imposes similar requirements which are expected to add materially to product costs.

We expect that the PPACA, as well as other federal and state healthcare reform measures that have and may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any approved product, and could seriously harm our future revenues. Any reduction in reimbursement from Medicare, Medicaid or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our products.

The full impact of these new laws, as well as laws and other reform measures that may be proposed and adopted in the future, remains uncertain, but may continue the downward pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs, which could have a material adverse effect on our business operations.

Governments outside the United States tend to impose strict price controls, which may adversely affect our revenue, if any.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some countries, particularly in the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain coverage and reimbursement or pricing approval in some countries, we may be required to conduct a health technology assessment that compares the cost-effectiveness of our drug candidate to other available therapies. There can be no assurance that our products will be considered cost-effective, that an adequate level of reimbursement will be available or that a foreign country's reimbursement policies will not adversely affect our ability to sell our products profitably.

If reimbursement of our drugs is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially.

Our international operations are subject to foreign currency and exchange rate risks.

Because we plan to conduct our clinical trials in Europe, we are exposed to currency fluctuations and exchange rate risks. The costs of our CROs may be incurred in Euros and we may pay them in Euros, however, we expect to keep the substantial portion of our cash and cash equivalents, including the net proceeds from this offering, in U.S. Dollars. Therefore, fluctuations in foreign currencies, especially the Euro, could significantly impact our costs of conducting clinical trials. In addition, we may have to seek additional funding earlier than expected, which may not be available on acceptable terms or at all. Changes in the applicable currency exchange rates might negatively affect the profitability and business prospects of the third parties conducting our future clinical trials. This might cause such third parties to demand higher fees or discontinue their operations. These situations could in turn increase our costs or delays our clinical development, which could have a material adverse effect on our business, financial condition and results of operations.

A variety of risks associated with international operations could materially adversely affect our business.

We expect to engage in significant cross-border activities, and we will be subject to risks related to international operations, including:

- different regulatory requirements for maintaining approval of drugs in foreign countries;
- reduced protection for contractual and intellectual property rights in certain countries;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in North America;
- tighter restrictions on privacy and the collection and use of patient data; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

If any of these issues were to occur, our business could be materially harmed.

If we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceuticals industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on our management, scientific and medical personnel, especially Dr. Rogerio Vivaldi and Dr. Remy Luthringer, whose services are critical to the successful implementation of our product candidate development and regulatory strategies. In order to induce valuable employees to continue their employment with us, we have provided stock options that vest over time. The value to employees of stock options that vest over time is significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies.

Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Pursuant to their employment arrangements, each of our executive officers may voluntarily terminate their employment at any time by providing as little as thirty days advance notice. Our employment arrangements, other than those with our

executive officers, provide for at-will employment, which means that any of our employees (other than our executive officers) could leave our employment at any time, with or without notice. The loss of the services of any of our executive officers or other key employees and our inability to find suitable replacements could potentially harm our business, financial condition and prospects. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level, and senior managers as well as junior, mid-level, and senior scientific and medical personnel.

We may not be able to attract or retain qualified management and scientific personnel in the future due to the intense competition for a limited number of qualified personnel among biopharmaceutical, biotechnology, pharmaceutical and other businesses. Many of the other pharmaceutical companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high quality candidates than what we have to offer. If we are unable to continue to attract and retain high quality personnel, the rate and success at which we can develop and commercialize product candidates will be limited.

We will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As of June 10, 2014, we had six full-time employees. As our development and commercialization plans and strategies develop, we expect to need additional managerial, operational, sales, marketing, financial and other resources. Future growth would impose significant added responsibilities on members of management, including:

- managing our clinical trials effectively;
- identifying, recruiting, maintaining, motivating and integrating additional employees;
- managing our internal development efforts effectively while complying with our contractual obligations to licensors, licensees, contractors and other third parties;
- improving our managerial, development, operational and finance systems; and
- developing our compliance infrastructure and processes to ensure compliance with complex regulations and industry standards regarding us and our product candidates.

As our operations expand, we expect that we will need to manage additional relationships with various strategic partners, suppliers and other third parties. Our future financial performance and our ability to commercialize our product candidates and to compete effectively will depend, in part, on our ability to manage any future growth effectively. To that end, we must be able to manage our development efforts and clinical trials effectively and hire, train and integrate additional management, administrative and sales and marketing personnel. We may not be able to accomplish these tasks, and our failure to accomplish any of them could prevent us from successfully growing our company.

We are in the process of combining several corporate entities and assets into our company, which will increase our infrastructure and reporting burden.

The integration of the businesses of Cyrenaic, Sonkei and Mind-NRG, our predecessor and acquired companies, is of critical importance to our future success. The success of the integration will depend, in a large part, on our ability to realize the anticipated benefits, including synergies, cost savings, innovation and operational efficiencies, from combining these businesses. To realize these anticipated benefits, these three businesses must be successfully integrated. The failure to integrate successfully and to manage successfully the challenges presented by the integration process may prevent us from achieving the anticipated benefits of these mergers. Any difficulties in successfully integrating these businesses, or any delays in the integration process, could adversely affect our business, financial results and financial condition.

Future acquisitions, mergers or joint ventures could disrupt our business and otherwise harm our business.

We actively evaluate various strategic transactions on an ongoing basis and may acquire other businesses, products or technologies as well as pursue strategic alliances, joint ventures or investments in complementary businesses. We merged with Sonkei in November 2013 and acquired Mind-NRG in February 2014. These transactions, as well as any future strategic transactions, expose us to many risks, including:

- disruption in our relationships with collaborators or suppliers as a result of such a transaction;
- unanticipated liabilities related to acquired companies;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- retention of key employees;
- diversion of management time and focus from operating our business to management of strategic alliances or joint ventures or acquisition integration challenges;
- increases in our expenses and reductions in our cash available for operations and other uses; and
- possible write-offs or impairment charges relating to acquired businesses.

Foreign acquisitions, including the acquisition of Mind-NRG, a Swiss company, involve unique risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the anticipated benefit of any strategic alliance, joint venture or acquisition may not materialize. Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, and a breach of warranties brought by subjects enrolled in our clinical trials, patients, healthcare providers or others using, administering or selling our products. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates, if approved. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates or products that we may develop;
- termination of clinical trial sites or entire trial programs;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;

- product recalls, withdrawals or labeling revisions, marketing or promotional restrictions;
- loss of revenues from product sales; and
- the inability to commercialize our product candidates.

Our inability to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop. We do not currently carry any product liability insurance. Although we anticipate obtaining and maintaining such insurance in line with our needs for our upcoming trials, such insurance may be more costly than we anticipate and any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by such insurance or that is in excess of the limits of such insurance coverage. We also expect our insurance policies will also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts.

Our business and operations would suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed.

We have identified material weaknesses and significant deficiencies in our internal control over financial reporting. If we do not remediate the material weaknesses in our internal control over financial reporting, we may not be able to accurately report our financial results or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in the market price of our stock.

Effective internal control over financial reporting is necessary for us to provide reliable financial reports in a timely manner. In connection with the preparation of our financial statements for the years ended December 31, 2012 and 2013, we concluded that there were material weaknesses and significant deficiencies in our internal control over financial reporting. A material weakness is a significant deficiency, or a combination of significant deficiencies, in internal control over financial reporting such that it is reasonably possible that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses that we identified related to (1) lack of segregation of duties, (2) lack of personnel competent to perform complex accounting, including stock-based compensation, the convertible promissory notes beneficial conversion features and income tax disclosures, (3) lack of financial statement disclosure controls, and (4) not performing a risk assessment. As of March 31, 2014, certain material weaknesses and significant deficiencies continued to exist, including (1) lack of segregation of duties, (2) lack of financial statement disclosure controls and (3) not performing a risk assessment.

While we have established certain procedures and control over our financial reporting processes, we cannot assure you that these efforts will remediate our material weaknesses and significant deficiencies in a timely manner, or at all, or prevent restatements of our financial statements in the future. If we are unable to

successfully remediate our material weaknesses, or identify any future significant deficiencies or material weaknesses, the accuracy and timing of our financial reporting may be adversely affected, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports, and the market price of our stock may decline as a result.

We are not currently required to comply with the SEC's rules that implement Section 404 of the Sarbanes-Oxley Act, and are therefore not yet required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. However, upon becoming a public company, we will be required to comply with certain of these rules, which will require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our second annual report. This assessment will need to include the disclosure of any material weaknesses or significant deficiencies in our internal control over financial reporting identified by our management or our independent registered public accounting firm.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure us that the information we disclose in reports we file in accordance with the Exchange Act is accurate, complete, reviewed by management and reported within the required time period. We believe that any disclosure controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

We have historically operated without full time employees, relying on the services of consultants to provide certain accounting and finance functions, including representatives of our affiliate, Care Capital LLC, as we have not previously had the need or resources to internally hire sufficient qualified personnel, and our disclosure controls are not effective. We will need to hire qualified personnel and continue to develop our disclosure control procedures. If we are unsuccessful in building an appropriate infrastructure, or unable to develop procedures and controls to ensure timely and accurate reporting, we may be unable to meet our disclosure requirements under the Exchange Act, which could adversely affect the market price of our common stock and impair our access to the capital markets.

Our employees, independent contractors, principal investigators, CROs, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees and independent contractors, such as principal investigators, CROs, manufacturers, consultants, commercial partners and vendors, could include failures to comply with EMA or FDA regulations, to provide accurate information to the FDA, to comply with manufacturing standards we have established, to comply with European, federal and state healthcare fraud and abuse laws, to report financial information or data accurately or to disclose unauthorized activities to us. In particular, sales, marketing and other business arrangements in the healthcare industry are subject to extensive laws intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws may restrict or prohibit a wide range of business activities, including, but not limited to certain activities related to research, manufacturing, distribution, pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other

business arrangements. Employee and independent contractor misconduct could also involve the improper use of individually identifiable information, including, without limitation, information obtained in the course of clinical trials, which could result in sanctions, monetary penalties, and serious harm to our reputation. In addition, federal procurement laws impose substantial penalties for misconduct in connection with government contracts and require certain contractors to maintain a code of business ethics and conduct.

Prior to the consummation of this offering, we will adopt a code of business ethics and conduct, but it is not always possible to identify and deter employee and independent contractor misconduct, and the precautions we take to detect and prevent improper activities may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate.

Any relationships with healthcare professionals, principal investigators, consultants, customers (actual and potential) and third-party payors in connection with our current and future business activities are and will continue to be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, marketing expenditure tracking and disclosure (or "sunshine") laws, government price reporting, and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face penalties, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations.

Our business operations and activities may be directly, or indirectly, subject to various federal, state and local fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act. These laws may impact, among other things, our current activities with principal investigators and research subjects, as well as proposed and future sales, marketing and education programs. In addition, we may be subject to patient privacy regulation by the federal government, state governments and foreign jurisdictions in which we conduct our business. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, the referral of an individual for the furnishing or arranging for the furnishing of any item or service, or the purchase, lease, order, arrangement for, or recommendation of the purchase, lease, or order of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs;

- the civil federal False Claims Act, which imposes civil penalties, including through civil whistleblower or *qui tam* actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent; knowingly making, using or causing to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the government; conspiring to defraud the government by getting a false or fraudulent claim paid or approved by the government; or knowingly making, using or causing to be made or used a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government;

- the criminal federal False Claims Act, which imposes criminal fines or imprisonment against individuals or entities who make or present a claim to the government knowing such claim to be false, fictitious or fraudulent;

- the civil monetary penalties statute, which imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent;

- the Veterans Health Care Act of 1992 that requires manufacturers of "covered drugs" to offer them for sale to certain federal agencies, including but not limited to, the Department of Veterans Affairs, on the Federal Supply Schedule, which requires compliance with applicable federal procurement laws and regulations and subjects manufacturers to contractual remedies as well as administrative, civil and criminal sanctions;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private), knowingly and willfully embezzling or stealing from a health care benefit program, willfully obstructing a criminal investigation of a health care offense and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose requirements on certain covered healthcare providers, health plans and healthcare clearinghouses as well as their respective business associates that perform services for them that involve individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization, including mandatory contractual terms as well as directly applicable privacy and security standards and requirements;

- the federal Physician Payment Sunshine Act, created under the PPACA, and its implementing regulations requires manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the United States Department of Health and Human Services, or HHS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members, with data collection required beginning August 1, 2013 and reporting to CMS required by March 31, 2014 and by the 90th day of each subsequent calendar year;

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;

- federal government price reporting laws, changed by the PPACA to, among other things, increase the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program and offer such rebates to additional populations, that require us to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts on our marketed drugs. Participation in these programs and compliance with the applicable requirements may subject us to potentially significant discounts on our products, increased infrastructure costs and potentially limit our ability to offer certain marketplace discounts and failure to report accurate pricing information exposes us to federal False Claims Act liability;

- the Foreign Corrupt Practices Act, a United States law which regulates certain financial relationships with foreign government officials (which could include, for example, certain medical professionals); and

- state law equivalents of each of the above federal laws, such as anti-kickback, false claims, consumer protection and unfair competition laws which may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims involving healthcare items or services reimbursed by any third-party payors, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers; state laws that require drug manufacturers to file reports with states regarding marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities (compliance with such requirements may require investment in infrastructure to ensure that tracking is performed properly, and some of these laws result in the public disclosure of various types of payments and relationships, which could potentially have a negative effect on our business and/or increase enforcement scrutiny of our activities); and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways, with differing effects.

Recent health care reform legislation has strengthened these laws. For example, the PPACA, among other things, amends the intent requirement of the federal anti-kickback and HIPAA criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it. Moreover, the PPACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal Civil False Claims Act.

In addition, any sales of our products or product candidates once commercialized outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws such as, for instance, the UK Bribery Act 2010 other national anti-corruption legislation made as a consequence of a member states' adherence to the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, the European Union data protection regime set out in Directive 95/46/EC as implemented nationally by the member states, and European Union consumer laws protecting against defective products including Directive 85/374/EEC. In addition there are national laws and codes which are comparable to the United States "sunshine laws" including certain provisions under the UK ABPI Code of Practice and French disclosure requirements on manufacturers to publicly disclose interactions with French health care professionals.

Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws. If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to, without limitation, civil, criminal and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate.

Risks Related to Our Dependence on Third Parties

We expect to rely on third parties to conduct our future clinical trials. The failure of these third parties to successfully carry out their contractual duties or meet expected deadlines could substantially harm our business because we may not obtain regulatory approval for or commercialize our product candidates in a timely manner or at all.

We plan to rely upon third-party CROs to monitor and manage data for our future clinical programs. We will rely on these parties for execution of our clinical trials, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with current GCP, which are regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for all of our products in clinical development. Regulatory authorities enforce these GCP through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs fail to comply with applicable GCP, the clinical data generated in our clinical trials may be deemed unreliable and the EMA, FDA or comparable regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP requirements. In addition, we must conduct our clinical trials with product produced under cGMP requirements. Failure to comply with these regulations may require us to repeat pre-clinical and clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical, nonclinical and pre-clinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities that could harm our competitive position. If necessary, switching or adding CROs involves substantial cost and requires extensive management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, prospects, financial condition and results of operations.

If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated, we may need to conduct additional trials, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed. To the extent we are unable to successfully identify and manage the performance of third-party service providers in the future, our business may be adversely affected.

We contract with third parties for the manufacturing of our product candidates for pre-clinical and clinical testing and expect to continue to do so for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or products, or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not have any manufacturing facilities. For our product candidates, we rely, and expect to continue to rely, on third parties for the manufacturing of our drug candidates for pre-clinical and clinical testing, as well as for commercial manufacture if any of our drug candidates receive marketing approval. This reliance on third parties increases the risk that we will not have sufficient quantities of our drug candidates or drugs, or such quantities at an acceptable cost or quality, which could delay, prevent or impair our ability to timely conduct our clinical trials or our other development or commercialization efforts.

We also expect to rely on third-party manufacturers or third-party collaborators for the manufacturing of commercial supply of any other drug candidates for which we or our collaborators obtain marketing approval. We may be unable to establish any agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how;
- disruption and costs associated with changing suppliers, including additional regulatory filings; and
- the possible termination or non-renewal of the agreement by the third party at a time that is costly or inconvenient for us.

Moreover, the facilities used by our contract manufacturers to manufacture our products must be approved by the FDA pursuant to inspections that will be conducted after we submit our marketing application to the FDA. Other national regulatory authorities have comparable powers. While we are ultimately responsible for the manufacture of our product candidates, other than through our contractual arrangements, we do not control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with cGMP requirements, for manufacture of both active drug substances and finished drug products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or other regulatory authorities, we will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, other than through our contractual agreements, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain marketing approval for or market our product candidates, if approved.

Further, our suppliers are subject to regulatory requirements, covering manufacturing, testing, quality control, and record keeping relating to our product candidates, and subject to ongoing inspections by the regulatory agencies. Failure by any of our suppliers to comply with applicable regulations may result in long delays and interruptions to our manufacturing capacity while we seek to secure another supplier that meets all regulatory requirements, as well as market disruption related to any necessary recalls or other corrective actions.

Third-party manufacturers may not be able to comply with cGMP, regulations or similar regulatory requirements outside the United States. Additionally, our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical hold or termination, fines, imprisonment, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures, refusal to allow product import or export, Warning Letters, Untitled Letters, or recalls of drug candidates or drugs, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our drugs.

Our drug candidates and any drugs that we may develop may compete with other drug candidates and drugs for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us. Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply or a second source for bulk drug substance. If our current contract manufacturers cannot perform as agreed, we may be required to replace such

manufacturers and we may incur added costs and delays in identifying and qualifying any such replacement.

Our current and anticipated future dependence upon others for the manufacturing of our drug candidates or drugs may adversely affect our future profit margins and our ability to commercialize any drugs that receive marketing approval on a timely and competitive basis.

If our third-party manufacturers use hazardous and biological materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials, by our third-party manufacturers. Our manufacturers are or will be subject to federal, state and local laws in the United States and in Europe governing the use, manufacture, storage, handling and disposal of medical, radioactive and hazardous materials. Although we believe that our manufacturers' procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, we cannot completely eliminate the risk of contamination or injury resulting from medical, radioactive or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state, federal authorities or other equivalent national authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical radioactive or hazardous materials. Compliance with applicable environmental laws is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

We may engage third party collaborators to market and commercialize our product candidates, who may fail to effectively commercialize our product candidates.

We may utilize strategic partners or contract sales forces, where appropriate, to assist in the commercialization of our product candidates, if approved. We currently possess limited resources and may not be successful in establishing collaborations or co-promotion arrangements on acceptable terms, if at all. We also face competition in our search for collaborators and co-promoters. By entering into strategic collaborations or similar arrangements, we will rely on third parties for financial resources and for development, commercialization, sales and marketing and regulatory expertise. Any collaborators may fail to develop or effectively commercialize our product candidates because they cannot obtain the necessary regulatory approvals, they lack adequate financial or other resources or they decide to focus on other initiatives. Any failure to enter into collaboration or co-promotion arrangements or the failure of our third party collaborators to successfully market and commercialize our product candidates would diminish our revenues and harm our results of operations.

We depend on our collaborations with Mitsubishi Tanabe Pharma Corporation, or MTPC, and Janssen and could be seriously harmed if our license agreements with MTPC and Janssen were terminated.

We exclusively license MIN-101 and MIN-117 from MTPC, with the rights to develop, sell and import MIN-101 and MIN-117 globally, excluding most of Asia. Under the MIN-101 license agreement, we have to achieve the commencement of a clinical pharmacology study containing MIN-101 by the end of April 2015. If we fail to reach this milestone, we may elect to extend the timeline to achieve the milestone by making extension payments. If we fail to achieve this milestone by April 2015, as it may be extended, MTPC may elect to terminate the MIN-101 license agreement. In addition, under the MIN-117 license agreement, we have to have the first subject enrolled in either a Phase IIa trial or a Phase IIb trial in MDD with a product containing MIN-117 by the end of April 2015. If we fail to achieve this milestone, we may elect to extend the timeline to achieve the milestone by making extension payments. If we fail to achieve this development

milestone by April 2015, as may be extended, MTPC may elect to terminate the MIN-117 license agreement. MTPC may also terminate the licenses following a material breach or certain insolvency events. If our license agreements with MTPC are terminated, our business would be seriously harmed.

Our co-development and license agreement with Janssen provides us with European commercialization rights for MIN-202 and the right to royalties on any sales of MIN-202 outside of the European Union. We are obligated to pay 40% of the development costs for MIN-202 and will only realize revenues from MIN-202, if approved, and provided the license agreement with Janssen is not terminated by Janssen for material breach or insolvency events, including if we are unable to fund our portion of the development costs. As a result, we may never realize any revenues from the commercialization of this product candidate, even if approved. In addition, at certain development milestones, including the completion of a single dose Phase I clinical trial in patients with MDD, Janssen has the right to opt out. Upon such opt out, Janssen will not have to fund further development of MIN-202 and we may be unable to fund such development without Janssen's financial support.

Even if we receive revenues on European Union sales or royalties on sales outside of the European Union under the Janssen license agreement, we may not receive revenues that equal or exceed to the amount we are obligated to invest in MIN-202's clinical development under the agreement. As a result, the license agreement for MIN-202 may never result in any profits to us and may have a material adverse effect on us or our business prospects.

We may not be successful in establishing new collaborations which could adversely affect our ability to develop future product candidates and commercialize future products.

We have a collaboration with Janssen for the development of MIN-202. We may also seek to enter into additional product collaborations in the future, including alliances with other biotechnology or pharmaceutical companies, to enhance and accelerate the development of our future product candidates and the commercialization of any resulting products. In particular, we plan to explore the potential for partnerships for the clinical development of MIN-117. We face significant competition in seeking appropriate collaborators and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish collaborations or other alternative arrangements for any future product candidates because our research and development pipeline may be insufficient, our product candidates may be deemed to be at too early of a stage of development for collaboration effort and/or third parties may view our product candidates as lacking the requisite potential to demonstrate safety and efficacy. As a result, we may have to delay the development of a product candidate and attempt to raise significant additional capital to fund development. Even if we are successful in our efforts to establish collaborations, the terms that we agree upon may not be favorable to us and we may not be able to maintain such collaborations if, for example, development or approval of a product candidate is delayed or sales of an approved product are disappointing.

Risks Related to Intellectual Property

If we are unable to obtain or protect intellectual property rights, we may not be able to compete effectively in our market.

Our success depends in significant part on our and our licensors', licensees' or collaborators' ability to establish, maintain and protect patents and other intellectual property rights and operate without infringing the intellectual property rights of others. We have filed numerous patent applications both in the United States and in foreign jurisdictions to obtain patent rights to inventions we have discovered. We have also licensed from third parties rights to patent portfolios. None of these licenses give us the right to prepare, file and prosecute patent applications and maintain patents we have licensed, although we may provide comments on prosecution matters which our licensors may or may not choose to follow. If our licensors

elect to discontinue prosecution or maintenance of our licensed patents, we have the right, at our expense, to pursue and maintain those patents and applications.

The patent prosecution process is expensive and time-consuming, and we and our current or future licensors, licensees or collaborators may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or our licensors, licensees or collaborators will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from or license to third parties and are reliant on our licensors, licensees or collaborators. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. If our current or future licensors, licensees or collaborators fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our licensors, licensees or collaborators are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. Because the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, issued patents that we own or have licensed from third parties may be challenged in the courts or patent offices in the U.S. and abroad. Such challenges may result in the loss of patent protection, the narrowing of claims in such patents or the invalidity or unenforceability of such patents, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection for our technology and products.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our and our current or future licensors', licensees' or collaborators' patent rights are highly uncertain. Our and our licensors', licensees' or collaborators' pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. The patent examination process may require us or our licensors, licensees or collaborators to narrow the scope of the claims of our or our licensors', licensees' or collaborators' pending and future patent applications, which may limit the scope of patent protection that may be obtained. Our and our licensors', licensees' or collaborators' patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications, and then only to the extent the issued claims cover the technology.

Furthermore, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. We expect to seek extensions of patent terms where these are available in any countries where we are pursuing patents. This includes in the United States under the Drug Price Competition and Patent Term Restoration Act of 1984, which permits a patent term extension of up to five years beyond the expiration of the patent. However the applicable authorities, including the FDA in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may take advantage of our investment in development and clinical trials by referencing our clinical and pre-clinical data and launch their product earlier than might otherwise be the case.

The expiration of composition of matter patent protection with respect to one or more of our product candidates may diminish our ability to maintain a proprietary position for our intended uses of a particular

product candidate. Moreover, we cannot be certain that we will be the first applicant to obtain an FDA approval for any indication of one or more of our product candidates and we cannot be certain that it will be entitled to NCE exclusivity. Such diminution of its proprietary position could have a material adverse effect on our business, results of operation and financial condition.

One or more of our owned or licensed patents directed to our proprietary products or technologies may expire or have limited commercial life before the proprietary product or technology is approved for marketing in a relevant jurisdiction.

Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting our product candidates might expire before or shortly after our product candidates obtain regulatory approval, which may subject us to increased competition and reduce or eliminate our ability to recover our development costs. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. For example, our in-licensed U.S. and European patents covering composition of matter and pharmaceutical compositions of MIN-101, respectively, are expected to expire as soon as 2021. In addition, our in-licensed U.S. and European patents relating to pharmaceutical compositions and uses of MIN-117 to treat depression are expected to expire as soon as 2020. Finally, certain of our U.S. patents relating to methods of diagnostic indication and methods of screening for agents for MIN-301 are expected to expire as early as 2021 and 2022, respectively. Although we expect to seek extensions of patent terms where these are available in any countries where we are prosecuting patents, we cannot be certain that an extension will be granted, or if granted, what the applicable time period or the scope of patent protection afforded during any extended period will be. Furthermore, the applicable authorities, including the EMA, FDA, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may take advantage of our investment in development and trials by referencing our clinical and pre-clinical data and launch their product earlier than might otherwise be the case. See the section of this prospectus titled "Business — Intellectual Property" for further discussion of the limited life of one or more of our patents.

We have in-licensed or acquired a portion of our intellectual property necessary to develop our product candidates, and if we fail to comply with our obligations under any of these arrangements, we could lose such intellectual property rights.

We are a party to and rely on several arrangements with third parties, which give us rights to intellectual property that is necessary for the development of our product candidates. In addition, we may enter into similar arrangements in the future. Our current arrangements impose various development, royalty and other obligations on us. If we materially breach these obligations or if our counterparts fail to adequately perform their respective obligations, these exclusive arrangements could be terminated, which would result in our inability to develop, manufacture and sell products that are covered by such intellectual property.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our issued patents or other intellectual property. In some cases, it may be difficult or impossible to detect third-party infringement or misappropriation of our intellectual property rights, even in relation to issued patent claims, and proving any such infringement may be even more difficult. Accordingly, for such undetectable infringement or misappropriation our ability to recover damages will be negligible and we could be at a market disadvantage. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time consuming. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents. In addition, in a patent infringement proceeding, a court may decide that a patent of

ours is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could harm our business.

Our commercial success depends upon our ability to develop, manufacture, market and sell our products, and to use our related proprietary technologies. We may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products, including interference or derivation proceedings before the U.S. Patent and Trademark Office, or the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future. If we are found to infringe a third party's intellectual property rights, we could be required to obtain a license from such third party to continue commercializing our products. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Under certain circumstances, we could be forced, including by court order, to cease commercializing our products. In addition, in any such proceeding or litigation, we could be found liable for monetary damages.

Restrictions on our patent rights relating to our product candidates may limit our ability to prevent third parties from competing against us.

Our success will depend, in part, on our ability to obtain and maintain patent protection for our product candidates, preserve our trade secrets, prevent third parties from infringing upon our proprietary rights and operate without infringing upon the proprietary rights of others. Composition-of-matter patents on the biological or chemical active pharmaceutical ingredient are generally considered to be the strongest form of intellectual property protection for pharmaceutical products, as such patents provide protection without regard to any method of use. We have filed composition-of-matter patent applications for all of our product candidates. However, we cannot be certain that the claims in our patent applications to inventions covering our product candidates will be considered patentable by the USPTO and courts in the United States or by the patent offices and courts in foreign countries.

In addition to composition-of-matter patents and patent applications, we also have filed method-of-use patent applications. This type of patent protects the use of the product only for the specified method. However, this type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if these competitors do not actively promote their product for our targeted indication, physicians may prescribe these products "off-label." Although off-label prescriptions may infringe or contribute to the infringement of method-of-use patents, the practice is common and such infringement is difficult to prevent or prosecute.

Patent applications in the United States and most other countries are confidential for a period of time until they are published, and publication of discoveries in scientific or patent literature typically lags actual discoveries by several months or more. As a result, we cannot be certain that we and the inventors of the issued patents and applications that we may in-license were the first to conceive of the inventions covered by such patents and pending patent applications or that we and those inventors were the first to file patent applications covering such inventions. Also, we have a number of issued patents and numerous patent applications pending before the USPTO and foreign patent offices and the patent protection may lapse before we manage to obtain commercial value from them, which might result in increased competition and materially affect our position in the market.

Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biotechnology and pharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involve technological and legal complexity, and obtaining and enforcing biopharmaceutical patents is costly, time-consuming, and inherently uncertain. The Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our and our licensors' or collaborators' ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our and our licensors' or collaborators' ability to obtain new patents or to enforce existing patents and patents we and our licensors or collaborators may obtain in the future.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our and our licensors' or collaborators' patent applications and the enforcement or defense of our or our licensors' or collaborators' issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' or collaborators' patent applications and the enforcement or defense of our or our licensors' or collaborators' issued patents, all of which could have a material adverse effect on our business and financial condition.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on all of our product candidates throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations

in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- Others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of the patents that we own or have exclusively licensed.
- We or our licensors or strategic partners might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed.
- We or our licensors or strategic partners might not have been the first to file patent applications covering certain of our inventions.
- Others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights.
- It is possible that our pending patent applications will not lead to issued patents.
- Issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors.
- Our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets.
- We may not develop additional proprietary technologies that are patentable.
- The patents of others may have an adverse effect on our business.

Should any of these events occur, they could significantly harm our business, results of operations and prospects.

We may be subject to claims that we or our employees or consultants have wrongfully used or disclosed alleged trade secrets of our employees' or consultants' former employers or their clients. These claims may be costly to defend and if we do not successfully do so, we may be required to pay monetary damages and may lose valuable intellectual property rights or personnel.

Many of our employees were previously employed at universities or biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper our ability to commercialize, or prevent us from commercializing our product candidates, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to seeking patents for some of our technology and product candidates, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants that obligate them to assign their inventions to us. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States, including in foreign jurisdictions, are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

Risks Related to Our Common Stock and This Offering

We do not know whether an active, liquid and orderly trading market will develop for our common stock or what the market price of our common stock will be and as a result it may be difficult for you to sell your shares of our common stock.

Prior to this offering there has been no market for shares of our common stock. Although we expect that our common stock will be approved for listing on The NASDAQ Global Market, an active trading market for our shares may never develop or be sustained following this offering. The initial public offering price for our common stock was determined through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of our common stock after this offering. This initial public offering price may vary from the market price of our common stock after the offering. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration.

The market price of our stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock following this offering is likely to be highly volatile and subject to wide fluctuations in response to various factors, some of which we cannot control. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the success of competitive products or technologies;
- regulatory actions with respect to our products or our competitors' products;
- actual or anticipated changes in our growth rate relative to our competitors;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations or capital commitments;
- results of clinical trials of our product candidates or those of our competitors;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the results of our efforts to in-license or acquire additional product candidates or products;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;

- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- changes in the structure of healthcare payment systems, including coverage and reimbursement;
- market conditions in the pharmaceutical and biotechnology sectors; and
- general economic, industry and market conditions.

In addition, companies listed on The NASDAQ Global Market, and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. The realization of any of the above risks or any of a broad range of other risks, including those described in this "Risk Factors" section, could have a dramatic and material adverse impact on the market price of our common stock.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Prior to this offering, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 95% of our voting stock on an as-converted basis and, upon completion of this offering, that same group will hold approximately 64% of our outstanding voting stock (assuming no exercise of the underwriters' option to purchase additional shares, no exercise of outstanding options and without giving effect to any purchases of shares in this offering by any of this group), in each case assuming the conversion of all of our convertible notes into shares of our common stock upon the completion of this offering, the purchase of common stock by certain former stockholders of Mind-NRG for an aggregate of $4.0 million and the Janssen Transactions. Assuming an initial public offering price of $11.00, the midpoint of the price range set forth on the cover page of this prospectus, if our 5% stockholders purchase all of the shares that they have indicated an interest in purchase in this offering, the ownership of this group will increase to 76%. After this offering, this group of stockholders will have the ability to control us through this ownership position even if they do not purchase any additional shares in this offering. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders. The interests of this group of stockholders may not always coincide with your interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price is substantially higher than the net tangible book value per share of our common stock. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing common stock in this offering will incur immediate dilution of $7.76 per share, based on an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus. Further, investors purchasing common stock in this offering will contribute approximately 40% of the total amount invested by stockholders since our inception, but will own only approximately 32% of the shares of common stock outstanding after giving effect to this offering.

This dilution is due to our investors who purchased shares prior to this offering having paid substantially less than the price offered to the public in this offering when they purchased their shares. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. Further, because we will

need to raise additional capital to fund our clinical development programs, we may in the future sell substantial amounts of common stock or securities convertible into or exchangeable for common stock. These future issuances of common stock or common stock-related securities, together with the exercise of outstanding options and any additional shares issued in connection with any acquisitions or other strategic transactions, may result in further dilution to investors. For a further description of the dilution that you will experience immediately after this offering, see the section of this prospectus titled "Dilution."

Sales of a substantial number of shares of our common stock by our existing stockholders in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or if the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market following this offering, the market price of our common stock could decline significantly.

Upon the completion of this offering, we will have outstanding 16,894,529 shares of common stock. The 5,454,545 shares sold in this offering will be freely tradable. The remaining 11,439,985 additional shares of common stock will be available for sale in the public market beginning 180 days after the date of this prospectus following the expiration of lock-up agreements between some of our stockholders and the representative of the underwriters, of which 1,099,919 shares are held by our directors, executive officers and other affiliates and will be subject to volume limitations under Rule 144 under the Securities Act of 1933, or the Securities Act. The representative of the underwriters may release these stockholders from their lock-up agreements with the underwriters at any time, which would allow for earlier sales of shares in the public market.

In addition, following the completion of this offering, we intend to file one or more registration statements on Form S-8 registering the issuance of approximately 3,543,754 shares of common stock subject to options or other equity awards issued or reserved for future issuance under our Amended and Restated 2013 Equity Incentive Plan. Shares registered under these registration statements on Form S-8 will be available for sale in the public market subject to vesting arrangements and exercise of options, the lock-up agreements described above and the restrictions of Rule 144 in the case of our affiliates.

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. Any such shares purchased by these stockholders could not be resold in the public market immediately following this offering as a result of restrictions under securities laws and lock-up agreements, but would be able to be sold following the expiration of these restrictions as described in "Shares Eligible for Future Sale." However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering.

Future sales and issuances of equity and debt securities could result in additional dilution to our stockholders and could place restrictions on our operations and assets, and such securities could have rights, preferences and privileges senior to those of our common stock.

We expect that significant additional capital will be needed in the future to fund our planned operations, including to complete potential Phase III clinical trials for our two lead product candidates, MIN-101 and MIN-117. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock, including shares of common stock sold in this offering.

Pursuant to our Amended and Restated 2013 Equity Incentive Plan, our management is authorized to grant up to 3,543,754 stock options to our employees, directors and consultants, and the number of shares of our common stock reserved for future issuance under the plan will be subject to automatic annual increases in accordance with the terms of the plan. To the extent that new options are granted and exercised or we issue additional shares of common stock in the future, our stockholders may experience additional dilution, which could cause our stock price to fall.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. You will not have the opportunity, as part of your investment decision, to assess whether we are using the proceeds appropriately. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years following the year in which we complete this offering, although circumstances could cause us to lose that status earlier, including if the market value of our common stock held by non-affiliates exceeds $700.0 million as of any June 30 before that time or if we have total annual gross revenue of $1.0 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following December 31 or, if we issue more than $1.0 billion in non-convertible debt during any three year period before that time, we would cease to be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which would allow us to take advantage of many of the same exemptions from disclosure requirements including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, Section 102 of the JOBS Act also provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. An "emerging growth company" can therefore delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We will incur increased costs and demands upon management as a result of being a public company.

As a public company listed in the United States, we will incur significant additional legal, accounting and other costs. We will be subject to the reporting requirements of the Securities Exchange Act of 1934, or the Exchange Act which will require, among other things, that we file with the Securities and Exchange

Commission, or the SEC, annual, quarterly and current reports with respect to our business and financial condition. In addition, changing laws, regulations and standards relating to corporate governance and public disclosure, including regulations implemented by the SEC and The NASDAQ Stock Market, may increase legal and financial compliance costs and make some activities more time consuming. These laws, regulations and standards are subject to varying interpretations and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment will result in increased general and administrative expenses and a diversion of management's time and attention. If we do not comply with new laws, regulations and standards, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

Failure to comply with these rules might also make it more difficult for us to obtain some types of insurance, including director and officer liability insurance, and we might be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on committees of our board of directors or as members of senior management.

We may be subject to securities litigation, which is expensive and could divert management attention.

The market price of our common stock may be volatile, and in the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Provisions in our corporate charter documents and under Delaware law may prevent or frustrate attempts by our stockholders to change our management and hinder efforts to acquire a controlling interest in us, and the market price of our common stock may be lower as a result.

There are provisions in our certificate of incorporation and bylaws that may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control was considered favorable by you and other stockholders. For example, our board of directors has the authority to issue up to 100,000,000 shares of preferred stock. The board of directors can fix the price, rights, preferences, privileges and restrictions of the preferred stock without any further vote or action by our stockholders. The issuance of shares of preferred stock may delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders may be adversely affected. An issuance of shares of preferred stock may result in the loss of voting control to other stockholders.

Our charter documents also contain other provisions that could have an anti-takeover effect, including:

- establishing a classified board of directors such that not all members of the board are elected at one time;
- allowing the authorized number of directors to be changed only by resolution of our board of directors;
- limiting the removal of directors by the stockholders;
- authorizing the issuance of "blank check" preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- eliminating the ability of stockholders to call a special meeting of stockholders;
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters than can be acted upon at stockholder meetings; and

- requiring the approval of the holders of at least 66^{2}/3% of the votes that all of our stockholders would be entitled to cast to amend or repeal our bylaws.

In addition, we are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which regulates corporate acquisitions by prohibiting Delaware corporations from engaging in specified business combinations with particular stockholders of those companies. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in your best interests. These provisions may also prevent changes in our management or limit the price that investors are willing to pay for our stock.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our stock would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

We have never paid dividends on our capital stock, and because we do not anticipate paying any cash dividends in the foreseeable future, capital appreciation, if any, of our common stock will be your sole source of gain on an investment in our common stock.

We have paid no cash dividends on any of our classes of capital stock to date, and we currently intend to retain our future earnings, if any, to fund the development and growth of our business. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future. There is no guarantee that shares of our common stock will appreciate in value or even maintain the price at which you purchase shares of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections titled "Prospectus Summary," "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business," contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future operating results and financial position, business strategy, and plans and objectives of management for future operations, are forward-looking statements. In many cases, you can identify forward-looking statements by terms such as "may," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of these terms or other similar expressions.

Forward-looking statements in this prospectus include, but are not limited to, statements about:

- the initiation, timing, cost, progress and success of our research and development, pre-clinical studies and clinical trials;
- developments relating to our competitors and our industry, including the success of competing therapies that are or may become available;
- our ability to advance product candidates into, and successfully complete, clinical trials;
- the therapeutic benefits, effectiveness and safety of our product candidates;
- our ability to recruit sufficient numbers of subjects for our future clinical trials;
- our ability to obtain funding for our operations, including funding for Phase III clinical trials for our lead product candidates, MIN-101 and MIN-117;
- our ability to achieve profitability;
- our expectation of receiving royalties under our collaboration agreement with Janssen, and the timing of such payments;
- the implementation of our business model and strategic plans;
- our ability to develop and commercialize product candidates and obtain coverage and adequate reimbursement from third-party payors;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others;
- our expectations regarding federal, state and foreign regulatory requirements;
- the rate and degree of market acceptance and clinical utility of our product candidates, if any;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- our ability to maintain and establish collaborations;
- our use of proceeds from this offering;
- our expectations regarding market risk, including interest rate changes and foreign currency fluctuations;
- our belief in the sufficiency of our cash position to meet our needs until the end of 2015;
- the accuracy of our estimates of the size and characteristics of the markets that may be addressed by our product candidates;
- our ability to remediate our material weaknesses in our internal control over financial reporting;
- our expectations regarding the timing during which we will be an emerging growth company under the JOBS Act;
- our ability to engage and retain the employees required to grow our business;
- our future financial performance and projected expenditures;
- estimates of our expenses, future revenue, capital requirements and our needs for additional financing; and
- the potential purchases by certain of our existing stockholders in this offering.

The forward-looking statements contained in this prospectus reflect our views as of the date of this prospectus about future events and are subject to risks, uncertainties, assumptions, and changes in circumstances that may cause our actual results, performance, or achievements to differ significantly from those expressed or implied in any forward-looking statement. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future events, results, performance, or achievements. A number of important factors could cause actual results to differ materially from those indicated by the forward-looking statements, including, without limitation, those factors described in "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Except as required by law, after the date of this prospectus, we are under no duty to update or revise any of the forward-looking statements, whether as a result of new information, future events or otherwise.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate or expect to operate is based on information from independent industry and research organizations, such as Datamonitor, Decision Resources and other industry publications, surveys and forecasts, and management estimates and are subject to all applicable copyrights. Management estimates are derived from publicly available information released by independent industry analysts and third-party sources, as well as data from our internal research, and are based on assumptions made by us upon reviewing such data and our knowledge of our industry and markets, which we believe to be reasonable. In addition, projections, assumptions and estimates of the future performance of our industry and our future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section of this prospectus titled "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 5,454,545 shares of our common stock in this offering will be approximately $52.2 million, or approximately $60.6 million if the underwriters exercise their option to purchase additional shares in full, based upon an assumed initial public offering price of $11.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $11.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the net proceeds to us from this offering by approximately $5.1 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting estimated underwriting discounts and commissions. Each increase or decrease of 1,000,000 in the number of shares we are offering would increase or decrease the net proceeds to us from this offering, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, by approximately $10.2 million, assuming the assumed initial public offering price stays the same.

Further, at the time of closing of this offering, we will also concurrently (i) sell $26.0 million of common stock to JJDC in a private placement and pay $22.0 million to Janssen in connection with our co-development and license agreement for certain rights to MIN-202 and (ii) sell $4.0 million of our common stock to certain former shareholders of Mind-NRG in a private placement. As a result of these transactions, or the Private Placement Transactions, we expect to receive an additional $8.0 million of net cash at the time of the closing of this offering.

As of March 31, 2014, we had cash and cash equivalents of $2.1 million. We currently estimate that we will use the net proceeds from this offering and the Private Placement Transactions, together with our existing cash and cash equivalents, as follows:

- $19.8 million to fund MIN-101 through Phase II clinical development;
- $18.0 million to fund MIN-117 through Phase II clinical development;
- $5.0 million to fund MIN-202 through Phase I clinical development;
- $5.6 million to fund MIN-301 through Phase I clinical development;
- $0.6 million to repay the April Bridge Loan;
- $1.0 million to repay the May Bridge Loan;
- €0.5 million (or $0.7 million, as converted) to pay the ProteoSys License Fee with respect to MIN-301; and
- the remainder for working capital and general corporate purposes.

The April Bridge Loan was provided subsequent to March 31, 2014 for working capital purposes by Index Ventures V (Jersey), L.P., an affiliate of Index Ventures, Limburgse Reconversiemaatschappij NV, and KMOFIN 2 NV, who became our stockholders in connection with the Mind-NRG Acquisition, and all principal and accrued interest must be paid in connection with the closing of this offering. The April Bridge Loan was incurred in April 2014 and has an interest rate of 8% per annum that is added to the original principal amount of $0.6 million.

The May Bridge Loan was provided subsequent to March 31, 2014 for working capital purposes by certain of our stockholders and their affiliates. All principal and accrued interest must be paid in connection with the closing of this offering. The May Bridge Loan was incurred in May 2014 and has an interest rate of 8% per annum. We have drawn down $0.5 million under the May Bridge Loan as of June 10, 2014. We expect to draw down the remaining $0.5 million prior to the closing of this offering.

Although it is difficult to predict future liquidity requirements, we believe that the net proceeds from this offering, the Private Placement Transactions and our existing cash and cash equivalents, will be sufficient to fund our operations through at least the end of 2015. However, these funds will not be sufficient to complete advanced clinical development of any of our product candidates, or if applicable, to prepare for commercializing any product candidate which achieves approval. Accordingly, we will continue to require substantial additional capital beyond the expected proceeds of this offering to continue our clinical development and potential commercialization activities. Because successful development of our product candidates is uncertain, we are unable to estimate the actual funds we will require to complete research and development and commercialize our products under development.

Our intentions described above are based upon our current plans and business conditions, and could change in the future as our plans and business conditions evolve. In addition, the development of MIN-202 is dependent on the contributions and willingness of our co-development partner, Janssen. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs. As a result, our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds of this offering.

DIVIDEND POLICY

We do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our operating results, financial condition, contractual restrictions, capital requirements, business prospects, and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of March 31, 2014:

- on an actual basis;
- on a supplemental pro forma basis to reflect (i) the filing of our amended and restated certificate of incorporation on June 9, 2014; (ii) the repayment of $0.5 million of debt to certain of our stockholders in April 2014; (iii) the incurrence of the $0.6 million April Bridge Loan; and (iv) the incurrence of the $1.0 million May Bridge Loan, of which we have drawn down $0.5 million as of June 10, 2014 and expect to draw down the remaining $0.5 million prior to the closing of this offering; and
- on a pro forma as adjusted basis to further reflect (i) the conversion of the 2013 Notes, including accrued interest thereon, into an aggregate of 191,787 shares of common stock upon the closing of this offering at the initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus; (ii) the repayment of the April Bridge Loan that is due and payable upon the closing of this offering; (iii) the repayment of $1.0 million relating to the May Bridge Loan that is due and payable upon the closing of this offering; (iv) the payment of €0.5 million (or $0.7 million, as converted) to ProteoSys for the ProteoSys License Fee; (v) the purchase of 2,363,636 shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus for an aggregate of $26.0 million, and our subsequent payment of $22.0 million to Janssen, pursuant to the co-development and license agreement with Janssen which will be expensed upon payment; (vi) the purchase of 363,636 shares of our common stock by certain former stockholders of Mind-NRG in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, for an aggregate of $4.0 million; (vii) 926,604 shares of common stock held by one of our stockholders that have been considered non-vested stock for accounting purposes vesting due to the closing of this offering, resulting in a charge for stock-based compensation of approximately $10.5 million; and (viii) the sale of 5,454,545 shares of common stock in this offering at an assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses.

You should read this table together with "Selected Historical Financial Data," "Unaudited Pro Forma Condensed Combined Financial Statements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes included elsewhere in this prospectus.

	AS OF MARCH 31, 2014		
	ACTUAL	SUPPLEMENTAL PRO FORMA	PRO FORMA AS ADJUSTED
		(in thousands)	
Cash and cash equivalents	$ 2,141	$ 3,234	$ 61,165
Convertible promissory notes, net of debt discount	333	333	—
Loans payable	500	1,600	—
Stockholders' equity:			
Common stock, $0.0001 par value; 45,000,000 shares authorized, actual; 125,000,000 shares authorized supplemental pro forma and pro forma as adjusted; 7,594,321 shares issued and outstanding actual; 7,594,321 shares issued and outstanding supplemental pro forma; and 16,894,529 shares issued and outstanding pro forma as adjusted	1	1	2
Preferred stock, $0.0001 par value per share, no shares authorized actual; 100,000,000 shares authorized supplemental pro forma and pro forma as adjusted, no shares issued and outstanding	—	—	—
Additional paid-in capital	54,852	54,852	149,726
Accumulated deficit	(20,768)	(20,775)	(55,031)
Total stockholders' equity	34,085	34,078	94,697
Total capitalization	34,918	$ 36,011	$ 94,697

A $1.00 increase (decrease) in the assumed initial public offering price of $11.00 per share would increase (decrease) each of cash and cash equivalents, additional paid-in capital, and total capitalization by $5.1 million, and decrease (increase) total stockholders' equity by $5.1 million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, a 1,000,000 share increase (decrease) in the number of shares offered by us, as set forth on the cover of this prospectus, would increase (decrease) each of cash and cash equivalents, additional paid-in capital, and total capitalization by $10.2 million, and decrease (increase) total stockholders' equity by $10.2 million, assuming the assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus, remains the same and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

The table above excludes the following, unless otherwise indicated:

- 646,759 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2014 with an exercise price of $9.49 per share;
- 2,896,995 shares of common stock reserved for future issuance under our Amended and Restated 2013 Equity Incentive Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the Plan; and
- 926,604 shares of common stock issued and held by one of our stockholders that is not considered outstanding for accounting purposes.

DILUTION

If you invest in our common stock, your interest will be immediately diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

The historical net tangible book deficit of our common stock as of March 31, 2014 was $(3.2) million, or $(0.42) per share. Historical net tangible book deficit is the amount of our total tangible assets less our total liabilities. Historical net tangible book deficit per share is our historical net tangible book deficit, divided by the number of outstanding shares of common stock.

The pro forma net tangible book deficit of our common stock as of March 31, 2014 was approximately $(3.2) million, or approximately $(0.42) per share. Pro forma net tangible book deficit and pro forma net tangible book deficit per share give effect to (i) the repayment of $0.5 million of debt to certain of our stockholders in April 2014; (ii) the incurrence of the $0.6 million April Bridge Loan; and (iii) the incurrence of the $1.0 million May Bridge Loan.

Pro forma as adjusted net tangible book value is our pro forma net tangible book deficit, after giving effect to (i) the conversion of the 2013 Notes, including accrued interest thereon, into an aggregate of 191,787 shares of common stock upon the closing of this offering at the assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus; (ii) the repayment of the April Bridge Loan that is due and payable upon the closing of this offering; (iii) the repayment of the May Bridge Loan that is due and payable upon the closing of this offering; (iv) the payment of €0.5 million (or $0.7 million, as converted) to ProteoSys for the ProteoSys License Fee; (v) the purchase of 2,363,636 shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus for an aggregate of $26.0 million, and our subsequent payment to Janssen of $22.0 million, pursuant to the co-development and license agreement with Janssen; (vi) the purchase of 363,636 shares of our common stock by certain former shareholders of Mind-NRG in a private placement concurrent with the closing of this offering at an assumed price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, for an aggregate of $4.0 million; (vii) 926,604 shares of common stock held by one of our stockholders that have been considered non-vested stock for accounting purposes vesting due to the closing of this offering, resulting in a charge for stock-based compensation of approximately $10.5 million; and (viii) the sale of 5,454,545 shares of common stock in this offering at an assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As of March 31, 2014, our pro forma as adjusted net tangible book value would have been approximately $54.7 million, or approximately $3.24 per share. This represents an immediate increase in pro forma net tangible book value of $3.66 per share to our existing stockholders and an immediate dilution of $7.76 per share to investors purchasing common stock in this offering.

The following table illustrates this dilution on a per share basis to new investors:

Assumed initial public offering price per share		$ 11.00
Historical net tangible book deficit per share as of March 31, 2014	$ (0.42)	
Pro forma increase in net tangible book deficit per share attributable to the pro forma transactions described above	—	
Pro forma net tangible book deficit per share as of March 31, 2014	(0.42)	
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares in this offering	3.66	
Pro forma as adjusted net tangible book value per share after this offering		3.24
Dilution per share to new investors purchasing shares in this offering		$ 7.76

A $1.00 increase (decrease) in the assumed initial public offering price of $11.00 per share would increase (decrease) the pro forma as adjusted net tangible book value after this offering by $0.35 per share and the dilution to new investors by $0.65 per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Similarly, a 1,000,000 increase (decrease) in the number of shares offered by us, as set forth on the cover of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value (deficit) after this offering by approximately $0.39 per share and decrease (increase) the dilution to investors participating in this offering by approximately $0.39 per share, assuming the initial public offering price remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters' option to purchase additional shares in this offering is exercised in full, the pro forma as adjusted net tangible book value after this offering would be $3.56 per share and the dilution to new investors would be $7.44 per share.

The table below summarizes as of March 31, 2014, on a pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration, and the average price per share (i) paid to us by our existing stockholders and convertible noteholders, including the investors purchasing shares in the Private Placement Transactions concurrent with the closing of this offering, and (ii) to be paid by new investors purchasing our common stock in this offering at an assumed initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE PER SHARE
	NUMBER	PERCENT	AMOUNT	PERCENT	
Existing stockholders	11,439,984	67.7%	$ 88,640,488	59.6%	$ 7.75
New investors	5,454,545	32.3%	60,000,000	40.4%	$ 11.00
Total	16,894,529	100.0%	$ 148,640,488	100.0%	

A $1.00 increase (decrease) in the assumed initial public offering price of $11.00 per share would increase (decrease) total consideration paid by new investors by $5.5 million and increase (decrease) the percent of

total consideration paid by new investors by 2.1%, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

Similarly, a 1,000,000 share increase (decrease) in the number of shares offered by us, as set forth on the cover of this prospectus, would increase (decrease) total consideration paid by new investors by $11.0 million and increase (decrease) the percent of total consideration paid by new investors by 4.1%, assuming the initial public offering price remains the same.

If the underwriters' option to purchase additional shares in this offering is exercised in full, the percentage of shares of our common stock held by existing stockholders will be reduced to 64.6% of the total number of shares of our common stock outstanding after this offering, and the number of shares held by new investors will increase to 6,272,727 shares, or 35.4% of the total number of shares of our common stock outstanding after this offering.

The discussion and tables above are based on 7,594,321 shares of our common stock outstanding as of March 31, 2014, and exclude the following, unless otherwise indicated:

- 646,759 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2014 with an exercise price of $9.49 per share;
- 2,896,995 shares of common stock reserved for future issuance under our Amended and Restated 2013 Equity Incentive Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the Plan; and
- 926,604 shares of common stock issued and held by one of our stockholders that is not considered outstanding for accounting purposes.

To the extent that options are exercised, new options are issued under our Amended and Restated 2013 Equity Incentive Plan or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. Assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, these existing stockholders would purchase an aggregate of up to approximately 1,363,636 of the 5,454,545 shares in this offering based on these indications of interest. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering. The foregoing discussion and tables do not reflect potential purchases of shares of our common stock by such stockholders or our directors or officers in this offering as described in "Underwriting."

SELECTED HISTORICAL FINANCIAL DATA

The following selected historical financial data should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and related notes, each of which are included elsewhere in this prospectus.

We have derived our statements of operations data for the two years ended December 31, 2012 and 2013 and our selected balance sheet data as of December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived our statements of operations data for the three months ended March 31, 2013 and 2014 and the selected balance sheet data as of March 31, 2014 from our unaudited interim financial statements included elsewhere in this prospectus. The selected historical results set forth below are not necessarily indicative of results to be expected for any future period.

This financial data does not include the results of Sonkei prior to our merger with it on November 12, 2013, the results of Mind-NRG prior to our acquisition of it on February 11, 2014, the incurrence of the April Bridge Loan or the May Bridge Loan or any of the transactions occurring at the closing of this offering. Please see "Summary Historical Financial Data," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements," the Sonkei consolidated financial statements and the Mind-NRG financial statements included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31,		THREE MONTHS ENDED MARCH 31,	
	2012	2013	2013	2014
	(in thousands, except share and per share data)			
Statement of Operations Data:				
Expenses				
Research and development	$ 550	$ 708	$ 104	$ 586
General and administrative	1,031	2,467	167	2,037
Total expenses	1,581	3,175	271	2,623
Foreign exchange (gains)/losses and other, net	1	29	—	7
Interest expense, net	—	58	—	308
Net loss	$ (1,582)	$ (3,262)	$ (271)	$ (2,938)
Per Share Data:[1]				
Net loss per share — basic and diluted	$ (0.47)	$ (0.78)	$ (0.08)	$ (0.43)
Weighted average shares outstanding — basic and diluted	3,386,914	4,186,104	3,562,454	6,902,910

(1) Per share data excludes 926,604 shares of common stock held by one of our stockholders that is not considered outstanding for accounting purposes for the periods presented. See "Management Discussion and Analysis — Results of Operations."

	DECEMBER 31, 2012	DECEMBER 31, 2013	MARCH 31, 2014
	(in thousands)		
Selected Balance Sheet Data:			
Cash and cash equivalents	$ 200	$ 1,818	$ 2,141
In-process research and development	—	19,000	34,200
Goodwill	—	7,918	15,104
Other current and non-current assets	9	439	1,693
Total assets	209	29,175	53,138
Accounts payable, accrued expenses and other liabilities	190	1,348	5,051
Convertible promissory notes, net of discount	—	58	333
Deferred tax liability	—	7,589	13,669
Total liabilities	190	8,995	19,053
Total stockholders' equity	19	20,180	34,085
Total liabilities and stockholders' equity	$ 209	$ 29,175	$ 53,138

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

The following unaudited pro forma condensed combined financial information presents the unaudited pro forma condensed combined statements of operations for the year ended December 31, 2013 and the three months ended March 31, 2014 after giving effect to the transactions and adjustments as described in the accompanying notes. The unaudited pro forma condensed combined financial information includes our historical results of operations, after giving pro forma effect to

- the November 2013 Sonkei Merger, presented as "Total Minerva and Sonkei" in the unaudited pro forma condensed combined statements of operations for the year ended December 31, 2013; and
- the February 2014 Mind-NRG Acquisition, presented as "Pro Forma Combined for Mind-NRG Acquisition" in the unaudited pro forma statement of operations for the year ended December 31, 2013 and the three months ended March 31, 2014.

The unaudited pro forma condensed combined statements of operations for the year ended December 31, 2013 reflect the above transactions as if they occurred on January 1, 2013. The unaudited pro forma condensed combined statements of operations for the three months ended March 31, 2014 reflect the Mind-NRG Acquisition as if it occurred on January 1, 2013.

The historical financial information has been adjusted to give pro forma effect to events that are directly attributable to the transactions described above, have an ongoing effect on our statements of operations and are factually supportable. The unaudited pro forma condensed combined statements of operations show the impact on the combined statement of operations of the acquisition method of accounting under Financial Accounting Standards Board ASC 805, *Business Combinations*.

The unaudited pro forma condensed combined financial information was prepared in accordance with Article 11 of Regulation S-X, using the assumptions set forth in the notes to the unaudited pro forma condensed combined financial information. The following unaudited pro forma condensed combined financial information is presented for illustrative purposes only and does not purport to reflect the results we may achieve in future periods or the historical results that would have been obtained had the above transactions been completed as of January 1, 2013.

The unaudited pro forma condensed combined financial information also does not give effect to the potential impact of current financial conditions, any anticipated synergies, operating efficiencies or cost savings that may result from the above transaction. Further, the unaudited pro forma condensed combined financial information does not include any other transactions since March 31, 2014 or transactions that will occur in connection with the closing of this offering.

The unaudited pro forma condensed combined financial information is derived from and should be read in conjunction with our historical financial statements and related notes included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31, 2013					
	HISTORICAL MINERVA NEUROSCIENCES, INC.	HISTORICAL SONKEI JANUARY 1, 2013- NOVEMBER 12, 2013	ADJUSTMENT	TOTAL MINERVA AND SONKEI	HISTORICAL MIND-NRG	PRO FORMA FOR SONKEI MERGER AND MIND-NRG ACQUISITION
	(in thousands, except share and per share amounts) (unaudited)					
Statement of Operations Data:						
Expenses						
Research and development	$ 708	$ 1,497	$ (1,126)	$ 1,079	$ 1,218	$ 2,297
General and administrative	2,467	233	—	2,700	479	3,179
Total expenses	3,175	1,730	(1,126)	3,779	1,697	5,476
Foreign exchange (gains)/losses and other, net	29	(4)	—	25	(32)	(7)
Interest expense (income), net	58	15	—	73	(1)	72
Net loss	$ (3,262)	$ (1,741)	$ 1,126	$ (3,877)	$ (1,664)	$ (5,541)
Per Share Data:(1)						
Net loss per share — basic and diluted	$ (0.78)					$ (0.75)
Weighted average shares outstanding — basic and diluted	4,186,104					7,396,760

(1) Per share data excludes 926,604 shares of non-vested common stock held by one of our stockholders that are not considered outstanding for accounting purposes for the periods presented. See "Management's Discussion and Analysis — Share Repurchase in Settlement of Nonrecourse Notes."

	THREE MONTHS ENDED MARCH 31, 2014		
	HISTORICAL MINERVA NEUROSCIENCES, INC.	HISTORICAL MIND-NRG JANUARY 1, 2014 TO FEBRUARY 11, 2014	PRO FORMA COMBINED FOR MIND-NRG ACQUISITION
Statement of Operations Data:			
Expenses			
Research and development	$ 586	$ 151	$ 737
General and administrative	2,037	302	2,339
Total expenses	2,623	453	3,076
Foreign exchange (gains)/losses and other, net	7	—	7
Interest expense (income), net	308	—	308
Net loss	$ (2,938)	$ (453)	$ (3,391)
Per Share Data:(1)			
Net loss per share — basic and diluted	$ (0.43)		$ (0.45)
Weighted average shares outstanding — basic and diluted	6,902,910		7,594,321

(1) Per share data excludes 926,604 shares of non-vested common stock held by one of our stockholders that are not considered outstanding for accounting purposes for the periods presented. See "Management's Discussion and Analysis — Share Repurchase in Settlement of Nonrecourse Notes."

MINERVA NEUROSCIENCES, INC

NOTES TO UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

1. Basis of Presentation and Description of Transactions

The historical Minerva statement of operations data for the year ended December 31, 2013 are derived from our audited financial statements included elsewhere in this prospectus. The historical Minerva statement of operations data for the three months ended March 31, 2014 are derived from our unaudited financial statements included elsewhere in this prospectus.

- Effective November 12, 2013, we acquired all of the outstanding shares of Sonkei in the Sonkei Merger, a transaction accounted for as a business combination, which was financed through the issuance of 2,423,368 shares of common stock. Since the balance sheet of Sonkei is already included in our balance sheet at March 31, 2014, there is no pro forma balance sheet presentation applicable. However, the unaudited pro forma condensed combined statement of operations for the year ended December 31, 2013 reflects the accounts of Sonkei prior to the Sonkei Merger.

- In February 2014, we acquired all of the outstanding common and preferred stock of Mind-NRG in the Mind-NRG Acquisition, a transaction accounted for as a business combination, which was financed through the issuance of 1,481,583 shares of our common stock (which includes 148,160 shares held in escrow until the expiration of the hold back period, February 11, 2015). See Note 3 to our March 31, 2014 consolidated financial statements included elsewhere in this prospectus. Since the balance sheet of Mind-NRG is already included in our balance sheet of March 31, 2014, there is no pro forma balance sheet presentation applicable. However, the unaudited pro forma condensed combined statement of operations for the year ended December 31, 2013 and the three months ended March 31, 2014 reflect the accounts of Mind-NRG prior to the Mind-NRG Acquisition.

The unaudited pro forma condensed combined financial information also does not give effect to the potential impact of current financial conditions, any anticipated synergies, operating efficiencies or cost savings that may result from the above transactions. Further, the unaudited pro forma condensed combined financial information does not include any other transactions since March 31, 2014 or transactions that will occur in connection with the closing of this offering.

2. Unaudited Pro Forma Condensed Combined Statement of Operations for the Sonkei Merger — Period from January 1, 2013 to November 12, 2013

The historical results of operations required no purchase accounting adjustments to be reflected as if the Sonkei Merger occurred on January 1, 2013 since, based upon our assessment of the assets acquired in the transaction, there were no amortizable intangible assets acquired, and there are no other transactions where the fair value was different from the carrying value of the Sonkei assets and liabilities.

Prior to the merger, Sonkei recognized a non-recurring stock-based compensation expense related to a modification of options in contemplation of the merger of approximately $1.1 million. The modification related to common stock held by a consultant (subject to a non-recourse promissory note) that is accounted for as a stock option. A change in control provision that would have resulted in the vesting of the option was waived by the consultant in contemplation of the Sonkei Merger. The stock-based compensation charge of $1.1 million was recorded in the 2013 results for Sonkei, and represents the value the consultant would have been entitled to if Sonkei and the consultant had not waived the change of control provision in the original agreement. Since the pro forma results of operations reflects the Sonkei Merger as if it occurred on January 1, 2013, the charge is adjusted for in the "Adjustment" column and effectively removed from the 2013 pro forma condensed combined statement of operations data.

The historical Sonkei results of operations are summarized are follows:

	HISTORICAL SONKEI FOR PERIOD JANUARY 1, 2013 TO NOVEMBER 12, 2013	ADJUSTMENT	HISTORICAL SONKEI ADJUSTED FOR THE PERIOD JANUARY 1, 2013 TO NOVEMBER 12, 2013
Expenses			
Research and development	$ 1,497	$ (1,126)	$ 371
General and administrative	233		233
Total expenses	1,730	(1,126)	604
Foreign exchange (gains)/losses and other, net	(4)	—	(4)
Interest expense (income), net	15	—	15
Net loss	$ (1,741)	$ 1,126	$ (615)

3. Unaudited Pro Forma Condensed Combined Statement of Operations for the Mind-NRG Acquisition — year ended December 31, 2013 and three months ended March 31, 2014

The historical results of operations did not require purchase accounting adjustments to be reflected as if the Mind-NRG Acquisition occurred on January 1, 2013 since, based upon our assessment of the assets acquired in the transaction, there were no amortizable intangible assets acquired, and there are no other transactions where the fair value was different from the carrying value of the Mind-NRG assets and liabilities.

The results of operations for the year ended December 31, 2013 have been translated from the historical financial statements from Euros to dollars using average monthly exchange rates of 1.328. Mind-NRG has historically reported its financial results in Euros. As a result of the acquisition of Mind-NRG by us in February 2014, the functional currency of Mind-NRG changed to the U.S. Dollar and exchange rate gains and losses have been included in the results of operations.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with "Selected Historical Financial Data," "Unaudited Pro Forma Condensed Combined Financial Statements" and with the financial statements and related notes appearing at the end of this prospectus. In addition to historical and pro forma information, some of the information in this discussion and analysis contains forward-looking statements reflecting our current expectations and involves risk and uncertainties. For example, statements regarding our expectations as to our plans and strategy for our business, future financial performance, expense levels and liquidity sources are forward-looking statements. Our actual results and the timing of events could differ materially from those discussed in our forward-looking statements as a result of many factors, including those set forth under the "Risk Factors" section and elsewhere in this prospectus. Please also see the section entitled "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of a portfolio of product candidates to treat patients suffering from central nervous system, or CNS, diseases. Leveraging our domain expertise, we have acquired or in-licensed four development-stage proprietary compounds that we believe have innovative mechanisms of action with potentially positive therapeutic profiles. Our lead product candidates are MIN-101, a compound we are developing for the treatment of patients with schizophrenia, and MIN-117, a compound we are developing for the treatment of patients suffering from major depressive disorder, or MDD. In addition, our portfolio includes MIN-202, a compound we are co-developing for the treatment of patients suffering from primary and secondary insomnia, and MIN-301, a compound we are developing for the treatment of patients suffering from Parkinson's disease. We believe our innovative product candidates have significant potential to transform the lives of a large number of affected patients and their families who are currently not well-served by available therapies in each of their respective indications.

We exclusively licensed MIN-101 from Mitsubishi Tanabe Pharma Corporation, or MTPC, in 2007 with the rights to develop, sell and import MIN-101 globally, excluding most of Asia. In November 2013, we merged with Sonkei Pharmaceuticals Inc., or Sonkei, a clinical-stage biopharmaceutical company and, in February 2014, we acquired Mind-NRG SA, or Mind-NRG, a pre-clinical-stage biopharmaceutical company. We refer to these transactions as the Sonkei Merger and Mind-NRG Acquisition, respectively. Sonkei licensed MIN-117 from MTPC in 2008 with the rights to develop, sell and import MIN-117 globally, excluding most of Asia. With the acquisition of Mind-NRG, we obtained exclusive rights to develop and commercialize MIN-301. We have also entered into a co-development and license agreement with Janssen for the exclusive rights to develop and commercialize MIN-202 in the European Union, subject to royalty payments to Janssen, and royalty rights for any sales outside the European Union, and will obtain such rights upon the closing of this offering.

We have not received regulatory approvals to sell any of our product candidates, and we have not generated any revenue from the sales or license of our product candidates. We have incurred significant operating losses since inception. In addition, neither Sonkei nor Mind-NRG have received any regulatory approvals to sell any product candidates and have also incurred significant operating losses since their respective inceptions in 2008 and 2010.

We have financed our operations, including the development of MIN-101, through the sale of common stock and convertible promissory notes. Likewise, Sonkei raised capital to fund the development of MIN-117 through the sale of common stock and convertible promissory notes. Funds managed by Care Capital and Index Ventures are our principal investors, and were the principal investors of Sonkei, and collectively owned approximately 76% of our capital stock at March 31, 2014. The operations of Mind-NRG were financed through the sale of preferred stock. Funds managed by Index Ventures were among the investors in Mind-NRG.

For the year ended December 31, 2013, we reported a net loss of $3.3 million and a combined pro forma net loss of $5.5 million, after giving effect to the Sonkei Merger and the Mind-NRG Acquisition as if such transactions occurred on January 1, 2013. For the three months ended March 31, 2014, we reported a net loss of $2.9 million and a combined pro forma net loss of $3.4 million after giving effect to the Mind-NRG Acquisition as if it occurred on January 1, 2013. For a description of the combined pro forma adjustments described above, see "Unaudited Pro Forma Condensed Combined Financial Statements." We expect to incur net losses and negative cash flow from operating activities for the foreseeable future in connection with the clinical development and the potential regulatory approval, infrastructure development and commercialization of our product candidates.

The board of directors managed our company from our inception through November 2013, when we hired our Chief Executive Officer.

Financial Overview

Presentation

Our results of operations include the accounts of Sonkei from November 12, 2013 to March 31, 2014 reflecting the Sonkei Merger which was accounted for using the acquisition method. The purchase price of approximately $18.9 million was primarily assigned to in-process research and development of $19.0 million and goodwill of $7.9 million, offset by a deferred tax liability of $7.6 million. On the effective date of the Sonkei Merger, Sonkei had no employees and minimal clinical activity.

Our results also include the accounts of Mind-NRG from February 12, 2014 to March 31, 2014, reflecting the Mind-NRG Acquisition, which was effective on February 11, 2014 and accounted for using the acquisition method. The purchase price of approximately $16.5 million was primarily assigned to in-process research and development of $15.2 million and goodwill of $7.2 million, offset by a deferred tax liability of $6.1 million. On the effective date of the acquisition, Mind-NRG had no employees and minimal clinical activity.

Revenue

None of our product candidates have been approved for commercialization and we have not received any revenue in connection with the sale or license of our product candidates.

Research and Development Expense

Research and development expense consists of costs incurred in connection with the development of our product candidates, including:

- fees paid to consultants and clinical research organizations, or CROs, including in connection with our non-clinical and clinical trials, and other related clinical trial fees, such as for investigator grants, patient screening, laboratory work, clinical trial database management, clinical trial material management and statistical compilation and analysis;
- licensing fees;
- costs related to acquiring clinical trial materials;
- costs related to compliance with regulatory requirements; and
- costs related to salaries, bonuses and stock-based compensation granted to consultants in research and development functions.

We expense research and development costs as they are incurred, and Sonkei and Mind-NRG also expensed research and development costs as incurred. The historic costs relating to each of our product candidates are summarized as follows:

	YEARS ENDED DECEMBER 31,		THREE MONTHS ENDED MARCH 31,	
	2012	2013	2013	2014
	(dollars in thousands)			
MIN-101	$ 550	$ 706	$ 104	$ 81
MIN-117[(1)]	486	472	43	232
MIN-301[(2)]	635	1,218	188	381

(1) The research and development expense for MIN-117 for the year ended December 31, 2012 was derived from Sonkei's historical audited financial statements. The expense for the three months ended March 31, 2013 was derived from Sonkei's unaudited financial statements. The expense for the year ended December 31, 2013 was derived from a combination of Sonkei's unaudited financial statements up to the date of the Sonkei Merger, and our financial statements subsequent to the Sonkei Merger. The expense for the three months ended March 31, 2014 is from our unaudited financial statements for the three months ended March 31, 2014.

(2) The research and development expense for MIN-301 for the years ended December 31, 2012 and 2013 was derived from the Mind-NRG audited financial statements included elsewhere in this prospectus, as converted in U.S. dollars using the average exchange rate over the periods presented, which was 1.2858 and 1.328 for the years ended December 31, 2012 and 2013, respectively. Mind-NRG has historically reported its financial results in Euros. As a result of the acquisition of Mind-NRG by us in February 2014, the functional currency of Mind-NRG changed to the U.S. Dollar and exchange rate gains and losses have been included in the results of operations. The expense for the three months ended March 31, 2013 was derived from Mind-NRG's unaudited financial statements, as converted in U.S. dollars using the average exchange rate over the period presented, which was 1.0752. The expense for the three months ended March 31, 2014 was derived from a combination of Mind-NRG's unaudited financial statements up to the date of the Mind-NRG Acquisition, as converted in U.S. dollars using the average exchange rate of 1.1076, and our financial statements subsequent to the Mind-NRG Acquisition.

In the future, we expect research and development expense to consist of the items described above as well as expense incurred in performing research and development activities, including compensation and benefits for full-time research and development employees, facilities expenses and overhead expenses.

We expect research and development expense to be our largest category of operating expense and to increase as we continue our planned pre-clinical and clinical trials for our product candidates, including MIN-202 (which we licensed from Janssen subject to the completion of this offering). Please see "Business — Our Pipeline" for additional details regarding our current plan for progressing clinical trials of our product candidates.

Completion dates and completion costs can vary significantly for each product candidate and are difficult to predict. We anticipate we will make determinations as to which programs to pursue and how much funding to direct to each program on an ongoing basis in response to the scientific and clinical success or failure of each product candidate, as well as an ongoing assessment as to each product candidate's commercial potential. We will need to raise additional capital or may seek additional product collaborations in the future in order to complete the development and commercialization of our product candidates.

General and Administrative Expenses

General and administrative expenses consist principally of consulting and professional services costs for functions in executive, finance, business development, legal, auditing and taxes. Historically, substantially all of these services were provided by third party consultants, as none of the three companies had employees in 2011 through October 2013. Our general and administrative expense in 2012, 2013 and

2014 also includes stock-based compensation expense with respect to option and warrant grants to such consultants and employees hired and directors who joined our board subsequent to October 2013.

In the future, we expect general and administrative expenses to consist primarily of salaries and related benefits, including stock-based compensation, related to our executive, finance and support functions. Other general and administrative expenses include allocated facility-related costs not otherwise included in research and development expenses, travel expenses and professional fees for auditing, tax and legal services.

We expect that general and administrative expenses will increase as a result of merging with Sonkei, the acquisition of Mind-NRG and licensing MIN-202 from Janssen. In addition, we anticipate that following the completion of this offering, we expect to incur greater expenses relating to our operations as a public reporting company, including increased payroll and increased consulting, legal and compliance, accounting, insurance and investor relations costs.

Foreign Exchange (Gains)/Losses and Other, Net

Foreign exchange (gains)/losses and other, net has been primarily comprised of interest income and foreign currency exchange gains or losses resulting from clinical trial expenses denominated in Euros. We will incur interest expense on our outstanding convertible promissory notes issued by us in November 2013 and assumed by us in the Sonkei Merger as well as our outstanding debt assumed in connection with the Mind-NRG Acquisition. These notes and the accrued interest will convert into common stock upon the closing of this offering.

Other than general and administrative expenses and interest expense, we have incurred certain expenses in Euros, which includes, research and development expenses. Since our initial planned clinical trials are expected to be in Europe, we expect to continue to incur expenses in Euros. We record expenses in U.S. dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Net Operating Losses and Tax Carryforwards

As of December 31, 2013, we had approximately $16.0 million of federal net operating loss carryforwards. These federal net operating loss carryforwards will begin to expire at various dates beginning in 2028, if not utilized. As of December 31, 2013, we had approximately $11.0 million of state net operating loss carryforwards. These state net operating loss carryforwards will begin to expire at various dates beginning in 2014, if not utilized.

The Internal Revenue Code, or IRC, limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. We do not believe an ownership change had occurred through December 31, 2013. We have not performed a detailed analysis to determine whether an ownership change occurred upon consummation of the merger between us and Sonkei or the acquisition of Mind-NRG. However, as a result of these transactions and the shares to be issued to JJDC or shareholders of Mind-NRG in concurrent private placements in connection with this offering, it is likely that an ownership change would occur or has occurred and such an ownership change could also be triggered by subsequent sales of securities by us or our stockholders. Such a change in ownership would limit the utilization of our net operating losses. As a result, we may not be able to take full advantage of these tax carryforwards for federal tax purposes.

Costs Associated with the Acquisitions and Financings

We incurred legal and other professional fees associated with the acquisition of Sonkei and Mind-NRG, which costs are expensed as incurred. We also incurred professional fees associated with entering into the co-development and licensing agreement with Janssen, engaging valuation specialists, and preparing this registration statement to support such activities. Through March 31, 2014, such costs were approximately $3.6 million. Such costs are expected to significantly increase for us for the three month period ending June 30, 2014.

On November 12, 2013, Cyrenaic Pharmaceuticals, Inc., or Cyrenaic, merged with Sonkei, with Cyrenaic being the surviving company, which was renamed Minerva. In the merger, each share of Sonkei common stock was converted into 0.383 shares of Cyrenaic common stock, resulting in the issuance of 2,423,368 shares of Cyrenaic common stock to the former Sonkei stockholders. Although there were certain venture funds that were common stockholders of each of Sonkei and Cyrenaic, since the underlying investors in the venture funds were not "substantially similar", the merger was accounted for a business combination with Cyrenaic being treated as the acquirer. The results of Sonkei are included in our accompanying financial statements commencing November 12, 2013. We merged with Sonkei in order to acquire Sonkei's lead product candidate, MIN-117.

At the date of the merger, a Sonkei consultant held 1,112,500 shares of Sonkei common stock with a nonrecourse note due to Sonkei, which was being treated as a stock option for accounting purposes. In connection with the merger, we issued 426,176 shares of common stock to this consultant (discussed further in Note 8 — Stockholders' Equity to our December 31, 2013 financial statements appearing elsewhere in this prospectus) in order to replace the holder's common stock in Sonkei. Due to the nonrecourse note, these shares are treated as stock options for accounting purposes and the holder of the option could only vest in the stock options if the holder continues to provide services to us through the time of a change in control. As a change in control was not deemed probable as of the merger date, the value of the options have not been included as part of the consideration transferred in the merger for accounting purposes. Rather, we will recognize all of the compensation expense for these stock options in our statement of operations upon the closing of this offering. The merger accounting purchase price was therefore determined based upon the remaining 1,997,192 shares of common stock issued in the merger at a valuation of $9.49 per share for a total purchase price of approximately $18.9 million. Merger expenses of $14 thousand were included in general and administrative expenses for the year ended December 31, 2013.

The fair value of our common stock issued in the merger was determined based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an initial public offering of common stock or our sale. Substantially all of the purchase price was allocated to in-process research and development and goodwill. As part of the acquisition, we also assumed €0.5 million (or $0.7 million, as converted) of convertible notes, which have a stated interest rate of 8%. Upon completion of this offering, the outstanding principal balance of the notes and accrued but unpaid interest thereon will convert into common stock at a conversion price equal to the price per share set forth on the cover of this prospectus.

We acquired Mind-NRG in February 2014, and the fair value of the 1,481,583 shares of common stock issued to the stockholders of Mind-NRG was approximately $16.5 million. The fair value of the common shares issued and the allocation of the purchase price was based upon our valuation of our common stock as approved by our board of directors. Substantially all of the purchase price was allocated to in-process research and development and goodwill. In connection with the acquisition, we entered into loan agreements for working capital up to a maximum of $0.6 million. The Mind-NRG loans have an interest rate of 8% per annum that is added to the principal. The Mind-NRG loans, including accrued interest, were repaid in full in April 2014 for $0.5 million. We subsequently entered into two loan agreements for $0.6 million and $1.0 million, the April Bridge Loan and the May Bridge Loan, respectively. As part of the Mind-NRG Acquisition, we have agreed to pay ProteoSys a final license payment of €0.5 million (or $0.7 million, as converted) upon the closing of this offering.

Results of Operations

The following discussion relates to our results of operations without giving effect to the results of Sonkei prior to the Sonkei Merger, the results of Mind-NRG prior to the Mind-NRG Acquisition or any of the transactions occurring at the closing of this offering. Please see "Unaudited Pro Forma Condensed Consolidated Financial Statements" and the Sonkei and Mind-NRG financial statements included elsewhere in this prospectus. The below results also exclude the accounting consequences of 926,604 shares of

common stock that are considered non-vested stock for accounting purposes held by a consultant that will vest upon the closing of this offering, for which we will incur a charge of approximately $10.5 million for stock-based compensation upon the closing of this offering, equal to 926,604 shares multiplied by the fair value per share on May 1, 2014, the date the consultant became an employee, less previous compensation expense recorded.

Comparison of the Years Ended December 31, 2012 and December 31, 2013

	YEARS ENDED DECEMBER 31,	
	2012	2013
	(dollars in thousands)	
Expenses		
Research and development	$ 550	$ 708
General and administrative	1,031	2,467
Total expenses	1,581	3,175
Foreign exchange (gains)/losses and other, net	1	29
Interest expense, net	—	58
Net loss	$ (1,582)	$ (3,262)

Research and Development Expenses

Research and development expenses were $0.7 million for the year ended December 31, 2013 compared to $0.6 million for the same period in 2012, an increase of $0.1 million, or 17%. This increase was principally attributable to higher costs paid to regulatory consultants in 2013 as compared to the 2012 period.

General and Administrative Expenses

General and administrative expenses were $2.5 million for the year ended December 31, 2013 compared to $1.0 million for the same period in 2012, representing an increase of approximately $1.5 million or 138%. The increase was due primarily to higher legal and professional fees in 2013 related to: (i) the Sonkei Merger in November 2013, (ii) the Mind-NRG Acquisition in February 2014, (iii) legal fees associated with the Janssen license agreement, (iv) intellectual property expenses and (v) costs associated with preparing for our operation as a public reporting company.

Foreign Exchange (Gains)/Losses and Other, Net

Foreign exchange (gains)/losses and other, net was a loss of $29 thousand for the year ended December 31, 2013 compared to a loss of $1 thousand for the same period in 2012. The increase in foreign currency loss was principally due to certain expenses of Sonkei and certain clinical activities being denominated in Euros, with more negative currency movements in 2013.

Interest Expense, net

Interest expense, net was $58 thousand of expense for the year ended December 31, 2013. This expense relates to the interest expense for the convertible promissory notes issued or assumed in November 2013, including $36 thousand for the amortization of the debt discount and $23 thousand in accrued interest expense.

Comparison of the Three Months Ended March 31, 2013 and March 31, 2014

	THREE MONTHS ENDED MARCH 31,	
	2013	2014
	(dollars in thousands)	
Expenses		
Research and development	$ 104	$ 586
General and administrative	167	2,037
Total expenses	271	2,623
Foreign exchange losses	—	6
Interest expense, net	—	309
Net loss	$ (271)	$ (2,938)

Research and Development Expenses

Research and development expenses were $0.6 million for the three months ended March 31, 2014 compared to $0.1 million for the same period in 2013, an increase of $0.5 million. This increase was principally attributable to higher drug development program costs due to the addition of MIN-117 as a result of the Sonkei Merger in November 2013 and the addition of MIN-301 as a result of the Mind-NRG Acquisition in February 2014.

General and Administrative Expenses

General and administrative expenses were $2.0 million for the three months ended March 31, 2014 compared to $0.2 million for the same period in 2013, representing an increase of approximately $1.9 million. The increase was due primarily to higher legal and professional fees in 2014 related to the Mind-NRG Acquisition in February 2014, the Janssen license agreement, intellectual property matters and preparing for our operation as a public reporting company.

Foreign Exchange Losses

Foreign exchange losses were $7 thousand for the three months ended March 31, 2014 compared to $0 for the same period in 2013. The increase in foreign exchange loss was principally due to certain expenses of Mind-NRG and certain clinical activities being denominated in Euros, with more negative currency movements in 2014.

Interest Expense, net

Interest expense was $0.3 million for the three months ended March 31, 2014 compared to $0 for the same period in 2013. This expense relates to the interest expense for the convertible promissory notes associated with the beneficial conversion feature of the convertible promissory notes issued and assumed in November 2013, including $275 thousand for the amortization of the debt discount and $39 thousand in accrued interest expense.

The convertible promissory notes contain a beneficial conversion feature which allows noteholders to convert the notes and accrued interest into shares of our common stock at a conversion price of $3.50 per common share at any time after April 30, 2014. On April 25, 2014, the convertible promissory notes were amended to provide for conversion only after September 30, 2014. The notes will convert into common stock at a conversion price equal to the price per share set forth on the cover of this prospectus. The intrinsic value of the beneficial conversion feature was calculated by measuring the difference between the effective conversion price and the fair value of the common stock at initial recognition. We recorded a debt discount for the intrinsic value of the beneficial conversion feature which was limited to the proceeds of the convertible promissory notes received of approximately $2.0 million, with an offsetting increase to

additional paid-in capital. The discount is being amortized to interest expense using the effective interest method through the notes' maturity date of June 30, 2014. This will result in noncash interest expense of approximately $2.0 million in 2014.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred losses and cumulative negative cash flows from operations since our inception in April 2007 and, as of March 31, 2014, we had an accumulated deficit of approximately $20.8 million. We anticipate that we will continue to incur net losses for the foreseeable future as we continue the development and potential commercialization of our product candidates and incur additional costs associated with being a public company. At March 31, 2014, we had $2.1 million in cash and cash equivalents.

We have raised capital to fund the development of MIN-101 primarily through common stock financings. From 2007 through 2013, we sold shares of common stock at $3.50 per share over several closings to funds managed by Care Capital and Index Ventures in equal proportion pursuant to a Stock Purchase Agreement among the stockholders. The stock purchase agreement provided for several closings of the stock purchase depending on the success of clinical milestones. From 2007 through 2012 and from January 1 through December 31, 2013, we raised approximately $12.1 million and $1.9 million, respectively, through the sale of shares of common stock.

Convertible Promissory Notes

During November 2013, we issued convertible promissory notes for approximately $1.3 million in aggregate to certain stockholders which are payable by us on June 30, 2014. The notes have a stated interest rate of 8% per annum. Upon completion of this offering, the outstanding principal balance of the notes and accrued but unpaid interest thereon will convert into the common stock sold in this offering at a conversion price equal to the price per share set forth on the cover of this prospectus.

During November 2013, prior to the merger of Sonkei into us, Sonkei issued convertible promissory notes for €0.5 million (or $0.7 million, as converted) in aggregate to certain stockholders which we assumed at the time of the merger with Sonkei and which are payable by us on June 30, 2014. The notes have a stated interest rate of 8% per annum. Upon completion of this offering, the outstanding principal balance of the notes and accrued but unpaid interest thereon will convert into the common stock sold in this offering at a conversion price equal to the price per share set forth on the cover of this prospectus.

Working Capital Loans

In February 2014, we entered into loan agreements for working capital up to a maximum of $0.6 million in connection with the Mind-NRG Acquisition. As of March 31, 2014, the balance outstanding under these loans was $0.5 million, which were repaid in full with accrued interest in April 2014.

On April 30, 2014 we entered into the April Bridge Loan with certain stockholders and their affiliates. The April Bridge Loan provides loan facilities of $0.6 million, of which we have drawn $0.6 million, with an annual interest rate of 8% and is repayable at the time we complete this offering or December 1, 2015. The April Bridge Loan contains standard terms of default, under which the interest rate would increase to 11% per annum. Any amount outstanding may be repaid at any time without penalty.

On May 22, 2014, we entered into the May Bridge Loan with certain stockholders and their affiliates. The May Bridge Loan provides loan facilities up to a maximum of $1.0 million, of which we have drawn $0.5 million as of June 10, 2014, at an annual interest rate of 8% and is repayable at the time we complete this offering or December 1, 2015. The May Bridge Loan contains standard terms of default, under which the interest rate would increase to 11% per annum. Any amount outstanding may be repaid at any time without penalty. We expect to draw down the remaining $0.5 million prior to the closing of this offering.

Cash Flows

The tables below set forth our significant sources and uses of cash for the periods set forth below. The following table and discussion do not give effect to any of the transactions occurring at the closing of this offering. Each of these events will occur after March 31, 2014.

Comparison of the Years Ended December 31, 2012 and December 31, 2013

	YEARS ENDED DECEMBER 31,	
	2012	2013
	(dollars in thousands)	
Net cash provided by (used in):		
Operating activities	$ (909)	$ (2,160)
Investing activities	—	(3)
Financing activities	900	3,781
Net increase (decrease) in cash	$ (9)	$ 1,618

Net Cash Used in Operating Activities

Net cash used in operating activities of $0.9 million during the year ended December 31, 2012 was primarily a result of our net loss of $1.6 million, offset by non-cash stock-based compensation expense of $0.6 million. Net cash used in operating activities of approximately $2.2 million during the year ended December 31, 2013 was primarily a result of our net loss of $3.3 million, partially offset by non-cash stock-based compensation expense of $0.7 million.

Net Cash Used in Investing Activities

Net cash used in investing activities for the year ended December 31, 2013 consisted of computer equipment purchases.

Net Cash Provided by Financing Activities

Net cash provided by financing activities in the year ended December 31, 2012 consisted of approximately $0.9 million of net proceeds from the sale of common stock. Net cash provided by financing activities in the year ended December 31, 2013 consisted of approximately $1.9 million from the sale of common stock, $1.3 million of proceeds from the issuance of convertible promissory notes and approximately $0.6 million related to Sonkei's issuance of convertible promissory notes in November 2013.

In February 2012, we sold 98,901 shares of common stock to Mr. Race for an aggregate purchase price of $34.62. In June 2012, we sold 6,410 shares of common stock to Mr. Race for an aggregate purchase price of $2.24. In December 2013 we sold 24,516 shares of common stock to Mr. Race for an aggregate purchase price of $8.58.

The transactions with Dr. Luthringer and Mr. Race resulted in significant stock-based compensation charges in 2012 and 2013.

Comparison of the Three Months Ended March 31, 2013 and March 31, 2014

	THREE MONTHS ENDED MARCH 31,	
	2013	2014
	(dollars in thousands)	
Net cash provided by (used in):		
Operating activities	$ (179)	$ (1,240)
Investing activities	—	1,168
Financing activities	—	395
Net increase (decrease) in cash	$ (179)	$ 323

Net Cash Used in Operating Activities

Net cash used in operating activities of approximately $0.2 million during the three months ended March 31, 2013 was primarily a result of our net loss of $0.3 million, partially offset by a $0.1 million increase in accounts payable and accrued liabilities. Net cash used in operating activities of $1.2 million during the three months ended March 31, 2014 was primarily a result of our net loss of $2.9 million, partially offset by $1.2 million net increase in accounts payable, $0.3 million in non-cash stock-based compensation expense and $0.3 million in non-cash interest expense.

Net Cash Provided by Investing Activities

Net cash provided by investing activities in the three months ended March 31, 2014 consisted of $1.2 million of cash acquired in February 2014 in conjunction with the Mind-NRG Acquisition.

Net Cash Provided by Financing Activities

Net cash provided by financing activities of $0.4 million during the three months ended March 31, 2014 was due to the proceeds from a working capital loan, partially offset by costs of this offering paid during the quarter.

Future Funding Requirements

To date, we have not generated any revenue. We do not know when, or if, we will generate any revenue from sales of our products or royalty payments from our collaboration with Janssen. We do not expect to generate significant revenue from product sales unless and until we obtain regulatory approval of and commercialize any of our product candidates. At the same time, we expect our expenses to increase in connection with our ongoing development activities, particularly as we continue the research, development and clinical trials of, and seek regulatory approval for, our product candidates.

Upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. In addition, subject to obtaining regulatory approval of any of our product candidates, we expect to incur significant commercialization expenses for product sales, marketing, manufacturing and distribution. We anticipate that we will need substantial additional funding in connection with our continuing operations.

Based upon our current operating plan, the net proceeds from the issuance of shares of common stock to Janssen under the co-development and license agreement and payment of the upfront fee and the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements through 2015. In particular, we expect that these funds will allow us to complete our planned Phase II clinical trials for our two lead product candidates, MIN-101 and MIN-117. See "Use of Proceeds" for a more detailed discussion. We will require significant

additional capital to fund Phase III clinical trials of our lead product candidates, and to obtain regulatory approval for, and to commercialize, our product candidates.

Our future capital requirements will depend on many factors, including:

- the progress, costs, results and timing of our clinical trials;
- the outcome, costs and timing of seeking and obtaining EMA, FDA and any other regulatory approvals;
- the willingness of the FDA or other regulatory agencies outside the European Union to accept our trial data, as well as our other completed and planned clinical and non-clinical studies and other work, as the basis for review and approval of our product candidates in the United States;
- the number and characteristics of product candidates that we pursue, including our product candidates in pre-clinical development;
- the ability of our product candidates to progress through clinical development successfully;
- our need to expand our research and development activities;
- the costs associated with securing and establishing commercialization and manufacturing capabilities;
- market acceptance of our product candidates;
- the costs of acquiring, licensing or investing in businesses, products, product candidates and technologies;
- our ability to maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- our need and ability to hire additional management and scientific and medical personnel;
- the effect of competing technological and market developments;
- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and
- the economic and other terms, timing and success of our existing licensing arrangements and any collaboration, licensing or other arrangements into which we may enter in the future.

Until such time, if ever, as we can generate substantial revenue from product sales, we expect to finance our cash needs through a combination of equity offerings, debt financings, government or other third-party funding, commercialization, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our common stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through government or other third-party funding, commercialization, marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. There can be no assurance that such additional funding, if available, can be obtained on terms acceptable to us. If we are unable to obtain additional financing, future operations would need to be scaled back or discontinued. Accordingly, there is substantial doubt regarding our ability to continue as a going concern.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations at December 31, 2013 and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

Payments Due by Period (in millions)

	TOTAL	LESS THAN A YEAR	1-3 YEARS	3-5 YEARS	MORE THAN FIVE YEARS
Contractual Obligations:					
Operating lease obligations[1]	$ 0.1	$ 0.1	—	—	—
License fee[2]	0.7	0.7	—	—	—
Total contractual cash obligations	$ 0.8	$ 0.8	$ —	$ —	$ —

(1) Represents operating lease costs, consisting of leases for office space in Cambridge, MA.

(2) Represents license fee payable with respect to MIN-301 to ProteoSys SA for €0.5 million (or $0.7 million, as converted). This license fee is payable upon completion of the IPO, or no later than January 1, 2015, whichever is sooner.

Payments under our licenses described below are not considered contractual obligations due to the uncertainty of the occurrence of the events requiring payment under these agreements, including our share of potential future milestone and royalty payments. These payments generally become due and payable only upon the achievement of certain clinical development, regulatory or commercial milestones.

See the section of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Sources of Liquidity — Promissory Notes" for a description of our outstanding convertible promissory notes and debt, which have a maturity date of June 30, 2014.

Subsequent to December 31, 2013, we incurred $0.5 million of borrowings under several working capital loan agreements, which were repaid in April 2014. In April 2014 we entered into new loan facilities for a maximum of $0.6 million. In May 2014 we entered into additional loan facilities of up to a maximum of $1.0 million. All loan facilities are payable upon the completion of the IPO. See the section of this prospectus titled "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Sources of Liquidity —Working Capital Loans" for a description of our working capital loans.

On February 11, 2014, we entered into an agreement with Quotient Ltd, a Contract Research Organization based in Nottingham, UK to conduct a two-part study to evaluate the pharmacokinetic profile of MIN-101 modified release prototype formulations, and to evaluate the relationship between the pharmacokinetic profile and cardiovascular parameters following multiple dose administration. The total cost of the project is €1.6 million, ($2.2 million, as converted).

Contractual Arrangements

MIN-101 License Agreement with MTPC

We have entered into a license agreement with MTPC dated as of August 30, 2007, as amended, or the MIN-101 License Agreement. Under the terms of the MIN-101 License Agreement, we acquired an exclusive license to the lead compound known as CYR-101 (subsequently renamed MIN-101), and other compounds with a similar structure and intended purpose and other data included within the valid claims of certain patents licensed to us under the MIN-101 License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. We will pay MTPC a

tiered royalty for net sales of product by us or any of our affiliates or sublicensees containing the licensed compound at a range of percentages of the high single digits to the low teens depending on net sales of products under the License Agreement. The initial $1.0 million licensing fee paid in 2007 was expensed as research and development expense, as was an additional payment of $0.5 million in 2008 upon the onset of a Phase IIa study. We made a $0.5 million extension payment in 2010 which was expensed as part of research and development expense. We also were required to make milestone payments upon the achievement of certain development and commercial milestones, potentially up to $57.5 million for MIN-101 and up to $59.5 million for additional products.

In January 2014, we renegotiated the structure of the license for MIN-101 such that we are required to make milestone payments upon the achievement of one development milestone totaling $0.5 million and certain commercial milestones, which could total up to $47.5 million. In addition, in the event that we sell the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low thirties. Under the terms of the amended agreement, we are required to meet a certain diligence obligation to commence a clinical pharmacology study of the licensed compound by the end of April 2015. We may extend this deadline for an additional year by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. If we fail to achieve this development milestone by end of April 2015 or make an extension payment, the licensor may elect to terminate the agreement. This license agreement's term ends on the date that is the later of 12 years from the launch of the product in each country in our territory, or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up, non-exclusive, perpetual, irrevocable license. Our obligation to pay royalties continues, on a country-by-country basis, until the expiration of the last-to-expire patent that covers MIN-101 in each country in our territory.

MIN-117 License Agreement with MTPC

Sonkei entered into a license agreement with MTPC dated September 1, 2008, as amended, or the MIN-117 License Agreement. Under the terms of the MIN-117 License Agreement, we acquired an exclusive license to the lead compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to us under the MIN-117 License Agreement. Sonkei paid an initial license fee to MTPC of $0.5 million. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. We will pay a tiered royalty for net sales of product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. Through the date of the agreement, as amended, we were required to make payments up to $57.5 million upon the achievement of certain commercial milestones.

In January 2014, we renegotiated the structure of the license for MIN-117 such that we are required to make certain milestone payments upon the achievement of certain commercial milestones up to $47.5 million. In addition, in the event that we sell the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low thirties. Under the terms of the amended agreement, we are required to meet a certain diligence obligation to initiate either a Phase II(a) or Phase II(b) study with the licensed compound in patients suffering major mood disorders, where initiation is defined as first patient enrolled in the study by the end of April 2015. If we fail to achieve this milestone, we may elect to extend the timeline to achieve the milestone in one year increments by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. If we fail to achieve this development milestone by end April 2015 or make an extension payment, the licensor may elect to terminate the agreement. This license agreement's term ends on the date that is the later of 10 years from the launch of the product in each country in our territory, or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up, non-exclusive, perpetual, irrevocable license. Our obligation to pay royalties continues, on a country-by-country basis, until the expiration of the last-to-expire patent that covers MIN-117 in each country in our territory.

MIN-202 Co-Development and License Agreement with Janssen

Subject to the completion of this offering, we have entered into a co-development and license agreement with Janssen, dated as of February 12, 2014, pursuant to which, among other things, Janssen has granted us an exclusive license (even as to Janssen), with the right to sublicense, in the European Union, Switzerland, Liechtenstein, Iceland and Norway, referred to as the Minerva Territory, under certain Janssen patent and patent applications to sell products containing any orexin 2 compound, controlled by Janssen and claimed in a Janssen patent right, as an active ingredient, or MIN-202, for any use in humans. In addition, upon regulatory approval in the Minerva Territory (and earlier if certain default events occur), we will have rights to manufacture or have a third party manufacture MIN-202. We have granted to Janssen an exclusive license, with the right to sublicense, under all patent rights and know-how controlled by us related to MIN-202 to sell MIN-202 outside the Minerva Territory. The Janssen license will become effective simultaneously with the closing of this offering and the payment of the initial upfront payment described below. If the closing of this offering does not occur by September 30, 2014, the agreement will not become effective. Once effective, this agreement will be in place until we have no further payment obligations, upon which we will have a non-exclusive, fully paid-up and royalty-free license in the Minerva Territory. We will also have the right of first negotiation for any sublicense that Janssen pursues in certain Asian and Latin American countries and the United States. Our obligation to pay royalties begins upon the first commercial sale of a licensed product in each country in which we have licensing rights and continues until the later of 10 years, the expiration of the last to expire intellectual property right owned by Janssen or the end of the period during which the licensed product is subject to regulatory exclusivity in each country.

In consideration of the licenses granted, we will make an initial upfront payment of $22.0 million upon the closing of this offering and will pay a quarterly royalty in the high single digits (subject to certain customary adjustments) on the aggregate net sales for MIN-202 products sold by us, our affiliates and sublicensees in the European Union. Janssen will pay a quarterly royalty in the high single digits (subject to certain customary adjustments) on the aggregate net sales for MIN-202 products sold by Janssen outside the European Union.

We will pay 40% of MIN-202 development costs related to the joint development of any MIN-202 products. However, subject to certain exceptions, our share of aggregate development costs shall not exceed (i) $5.0 million for the period beginning from the effective date of the Janssen license and ending following the completion of certain Phase Ib clinical trials and animal toxicology studies, and (ii) $24.0 million for the period beginning from the effective date of the Janssen license and ending following the completion of certain Phase II clinical trials.

Janssen has a right to opt out at the end of certain development milestones, with the first milestone being the completion of a single day Phase I clinical trial in patients with MDD. Upon opt out, Janssen will not have to fund further development of MIN-202 and the Minerva Territory will be expanded to also include all of North America. We would then owe Janssen a reduced royalty in the mid single digits for all sales in the Minerva Territory.

We have the right to terminate the Janssen license following certain development milestones the first of which is the completion of a certain Phase Ib clinical trial in patients with insomnia and certain toxicology studies in animals. If we terminate the Janssen license within 45 days of this milestone, we must pay Janssen a termination fee equal to $3.0 million. If we terminate the Janssen license at any time following the last development milestone involving a certain Phase IIb clinical trial, we will be entitled to a royalty in the mid single digits from sales of MIN-202 by Janssen.

Janssen may also terminate the agreement for our material breach or certain insolvency events, including if we are unable to fund our portion of the development costs.

MIN-301 Assignment Agreement with ProteoSys

Mind-NRG has acquired the rights to MIN-301 pursuant to an assignment agreement with ProteoSys. In connection with the Mind-NRG Acquisition, Mind-NRG and ProteoSys agreed that a final license payment of €0.5 million (or $0.7 million, as converted) to ProteoSys will be paid upon the closing of this offering, after which we will have no further obligations under this agreement.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements as defined under Securities and Exchange Commission rules.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations.

Stock-Based Compensation

Stock-based compensation for non-employees has been a significant expense of the Company. We had one warrant issuance which required stock based compensation consideration and which was terminated in 2012, as described below. We also have a share issuance to a non-employee subject to a non-recourse promissory note (described below in the section titled "Consultant Equity Issuance"), which is treated for accounting purposes as if it were a stock option, and therefore we would recognize expense under this accounting policy. We issued stock options to an employee and two consultants in December 2013.

We determine the fair value of share-based awards using the Black-Scholes option-pricing model to determine the fair value of stock option awards. Inputs to this model requires management to apply judgment and make assumptions and estimates, including with respect to:

- the term of the warrant issuance represents the remaining contractual term;
- the risk free interest rate, which we estimate based on the U.S. Treasury instruments whose term was consistent with the term of the warrants;
- the expected volatility of the underlying common stock, which we estimate based on the historical volatility of a peer group of comparable publicly traded life sciences and biotechnology companies with product candidates in similar stages of clinical development, as we do not have significant trading history for our common stock; and
- the fair value of our common stock determined on the date of grant, as described below.

Consultant Equity Issuance

In February 2009, we entered into a warrant agreement with an affiliate of a consultant who provides services associated with the clinical development of our drug compound. The warrant was exercisable at any time through February 28, 2014. The number of shares of our common stock subject to this warrant was dependent upon an anti-dilution formula based upon maintaining a 20% ownership after each of the

common stock purchase agreement closings by the Care Capital and Index Ventures family of venture capital funds, with the total warrant shares not to exceed 1,785,714 shares, or the Warrant Shares. The exercise price of the warrant equaled the sum of $3.50, or the Numerator, plus the quotient obtained by $142 thousand divided by the number of Warrant Shares outstanding, however the Numerator would increase by 2% for each quarter the warrant was outstanding. The warrant agreement also included a performance based provision for the quantity of the Warrant Shares that could be exercised. The warrant became fully vested on May 31, 2010 upon our successful completion of specific clinical milestones. Subsequent to the date of vesting, we increased the number of warrant shares on October 26, 2011 and April 25, 2012, as a result of the anti-dilution provision described above. We determined that the warrant qualified as an equity instrument.

As of April 25, 2012, the warrant was exercisable for 821,429 shares of common stock issuable at an exercise price of $3.71 per share. On April 26, 2012, the warrant agreement was cancelled and replaced with a common stock subscription agreement for the purchase of 821,429 shares of common stock, which was immediately exercised. We have accounted for the warrant cancellation and the concurrent replacement with a common stock subscription agreement as a modification in accordance with ASC 718-20-35-8 as further discussed below.

We estimated the fair value of the warrant using the Black-Scholes option-pricing model as of the dates below with the following assumptions:

	MAY 31, 2010	OCTOBER 26, 2011	APRIL 26, 2012
Expected term (years)	3.2	2.3	1.8
Expected volatility	98.3%	69.7%	74.7%
Risk-free interest rate	1.1%	0.32%	0.25%
Expected dividend yield	0%	0%	0%
Fair value underlying common stock per share	$ 3.85	$ 4.80	$ 5.32
Fair value of warrants per share	$ 2.42	$ 2.21	$ 2.56

On April 26, 2012, in connection with the exercise of the subscription agreement, we issued 821,429 shares of common stock in exchange for a nonrecourse note payable in principal amount of $3.1 million (equivalent to approximately $3.71 per share, or the original price). The note payable was originally due in a single installment on February 28, 2014, which was extended to March 31, 2014. We have the option (a call option) to repurchase the shares if the holder ceases to provide services to us or after February 28, 2014, which was extended to March 31, 2014, at the original price. The holder has the option (a put option) to require us to repurchase the shares at any time at the original price. Through December 31, 2013, neither the put nor call options were exercised and the notes were settled as described below in March 2014.

In accordance with ASC 718-10-25, the purchase of stock in exchange for a non-recourse loan effectively is the same as granting a stock option. If the value of the underlying shares falls below the loan amount, the stockholder will relinquish the stock in lieu of repaying the loan and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, we have not recorded a note or reflected these shares as outstanding on our balance sheets. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to us through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option.

Our arrangements with the holder of the 821,429 shares noted above include a continuing anti-dilution obligation with respect to the shares owned by that holder through the date of the our initial public offering. In connection with such arrangement, we have an obligation to issue additional shares to the holder each time we issue shares to certain investors, such that the holder's ownership percentage remains constant relative to the shares held by certain investors. Subsequent to the April 26, 2012 issuance of 821,429 shares to the holder discussed above, we sold an additional 171,429 and 528,571 shares to certain investors during 2012 and 2013, respectively. We issued 27,925 shares to the holder at a purchase price of $3.50 per share (subject to the corresponding note payable) in December 2013 in accordance with the anti-dilution agreement. Since Sonkei had a similar arrangement with the holder, upon the Sonkei Merger 426,176 shares of our common stock were issued under the same arrangement. The accounting for the additional share issuance is consistent with the 821,429 shares discussed above as the stock was purchased for a non-recourse loan, which is effectively the same as the granting of a stock option. At December 31, 2013 there were 1,275,530 shares issued under this arrangement subject to the promissory notes in the aggregate principal amount of $4.7 million.

Share Repurchase in Settlement of Nonrecourse Notes

In March 2014, the holder of the $4.7 million nonrecourse notes, which includes accrued interest, remitted to us 348,926 shares of common stock with a fair value of $13.51 per share in full settlement of the outstanding notes in a cashless transaction. Additionally, we further modified the awards by cancelling the put option and adding a term providing for the award to vest. The original issuance of the shares and the nonrecourse notes were accounted for as a stock option, with no stock-based compensation expense recognized, as the ultimate holder of the option could only vest in the stock option if he continued to provide services to us through the time of a change in control, which is not deemed probable until the change in control occurs.

The remittance of the shares in exchange for settling the outstanding notes, the cancellation of the put option, and the addition of the vesting provision, represents a modification of the awards. This modification resulted in the conversion of approximately 1.3 million stock options with an aggregate exercise price of $4.7 million to 926,604 shares of stock that are considered non-vested stock for accounting purposes with no exercise price. These shares will become vested for accounting purposes upon the closing of this offering. Accordingly we will recognize stock-based compensation expense of approximately $10.5 million for the shares of stock that are considered non-vested stock for accounting purposes upon the closing of this offering in the amount of 926,604 shares multiplied by the fair value per share on May 1, 2014, the date the consultant became an employee, less previous compensation expense recorded.

Stock Options

We established our stock option plan in the fourth quarter of 2013, and we amended and restated our stock option plan in the second quarter of 2014. The amended and restated plan provides for the issuance of up to 3,543,754 shares of common stock, subject to automatic annual increases pursuant to the terms of the plan, each to be issued at the then fair value of our underlying common stock. We will recognize compensation cost relating to share-based payment transactions in net loss using a fair-value measurement method, in accordance with Financial Accounting Standards Board Accounting Standards Codification (ASC)-718 *"Compensation-Stock Compensation*." Stock-based compensation expense related to stock options wil increase significantly in the future.

The following table presents the grant dates of stock options that we granted from January 1, 2012 through the date of this prospectus along with the corresponding exercise price for each option grant and our current estimate of the fair value per share of our common stock on each grant date, which we utilize to calculate stock-based compensation.

DATE OF GRANT	NUMBER OF SHARES UNDERLYING OPTIONS GRANTED	EXERCISE PRICE PER SHARE	CURRENT ESTIMATE OF COMMON STOCK FAIR VALUE PER SHARE ON GRANT DATE
December 20, 2013	646,759	$ 9.49	$ 9.49

We estimated the fair value of the options using the Black-Scholes option pricing model with the following assumptions:

Expected term (years)	5.8 – 10
Expected volatility	102 – 107%
Risk free interest rate	1.9 – 2.9%
Expected dividend yield	0%

At March 31, 2014, options to purchase 646,759 shares of our common stock were outstanding, 30,703 of which have vested as of March 31, 2014. The intrinsic value of outstanding options as of March 31, 2014, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus is $980 thousand.

While our stock-based compensation expense through December 31, 2013 has been limited to transactions described in the section of this prospectus titled "Consultant Equity Issuance" above and the 646,759 shares subject to the outstanding options described above, we expect the effect to grow in future periods due to the potential increases in the value of our common stock and increased number of stock options granted due to increases in our overall headcount.

Fair Value of Common Stock

We are a private company with no active public market for our common stock. We utilize significant estimates and assumptions in determining the fair value of our common stock. We performed these valuations as of April 26, 2012, November 12, 2013, December 31, 2013, February 11, 2014, and March 31, 2014, or the Valuation Dates. The April 26, 2012 and November 12, 2013 valuation dates were based upon the dates of warrants issued pursuant to the above warrant agreement. The November 13, 2013 and February 11, 2014 valuation dates were related to the date of the issuance of shares in connection with the Sonkei Merger on November 11, 2013 and the Mind-NRG Acquisition. The March 31, 2014 valuation date related to the share repurchase in settlement of non-recourse notes described above.

In conducting the valuations, our board of directors, with input from management considered objective and subjective factors that we believed to be relevant for each valuation conducted, including our best estimate of our business condition, prospects and operating performance at each valuation date. Within the valuations performed, we used a range of factors, assumptions and methodologies. The significant factors included:

- our results of operations, financial position and the status of research and development efforts;
- the lack of liquidity of our common stock as a private company;

- our stage of development and business strategy and the material risks related to our business and industry;
- the achievement of enterprise milestones, including entering into collaboration and license agreements, and the likelihood of entering into such agreements;
- the valuation of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed mergers and acquisitions of peer companies;
- any external market conditions affecting the life sciences and biotechnology industry sectors;
- the likelihood of achieving a liquidity event for the holders of our common stock and stock options, such as an initial public offering, or IPO, or a sale of our company, given prevailing market conditions;
- the state of the IPO market for similarly situated privately held biotechnology companies;
- general U.S. and global economic conditions; and
- our most recent valuations prepared in accordance with methodologies outlined in the 2013 American Institute of Certified Public Accountants Technical Practice Aid.

We utilized various valuation methodologies in accordance with the framework of the 2013 American Institute of Certified Public Accountants Technical Practice Aid, Valuation of Privately-Held Company Equity Securities Issued as Compensation, to estimate the fair value of our common stock. The Practice Aid prescribes several valuation approaches for setting the value of an enterprise, such as the cost, income and market approaches, and various methodologies for allocating the value of an enterprise to its common stock. The cost approach establishes the value of an enterprise based on the cost of reproducing or replacing the property, less depreciation and functional or economic obsolescence, if present. The income approach establishes the value of an enterprise based on the present value of future cash flows that are reasonably reflective of our company's future operations, discounting to the present value with an appropriate risk-adjusted discount rate or capitalization rate. The market approach is based on the assumption that the value of an asset is equal to the value of a substitute asset with the same characteristics. Given our stage of development we did not utilize the cost approach or market approach to determine our enterprise value for any of the periods discussed below. We utilized the income approach for the valuation periods.

The various methods for allocating the enterprise value across our classes and series of capital stock to determine the fair value of our common stock in accordance with the Practice Aid include the following:

- *Current Value Method, or CVM.* Under the current value method, once the fair value of the enterprise is established, the value is allocated to the various series of preferred and common stock based on their respective seniority, liquidation preferences or conversion values, whichever is greatest. This method was utilized in the valuations discussed below.
- *Option Pricing Method, or OPM.* Under the OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The values of the preferred and common stock are inferred by analyzing these options. Given that we had one class of stock and one warrant arrangement issued through November 2013, this method was not utilized in the valuations discussed below.
- *Probability-Weighted Expected Return Method, or PWERM.* The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class. We utilized the PWERM in the valuations dated November 12, 2013, December 31, 2013, February 11, 2014, and March 31, 2014 to quantify the effect on valuation of common stock associated with the Sonkei Merger, the Mind-NRG Acquisition and implementation of the plan towards the IPO.

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These judgments and estimates include assumptions regarding our future operating performance, the time to completing an IPO or other liquidity event and the determination of the

appropriate valuation methods. If we had made different assumptions, our stock-based compensation expense, net loss and net loss per common share could have been significantly different.

We estimated the per share common stock fair value by allocating the enterprise value using the CVM or PWERM for the Valuation Dates. One of the key inputs into this model is the future estimated cash flows of us using management's estimate of patient populations, market penetration and compliance rates, expected launch date, price and costs per unit sold, selling, general and administrative expenses, capital expenditures, and long term growth factors. We used comparable companies to develop growth and other trend rates that we built into our expected cash flow model. We selected companies within the biopharmaceutical industry and in Phase II development, or those that were in Phase III with similar characteristics. We selected a group of comparable publicly traded companies and we calculated market multiples using each company's stock price and other financial data. We used industry standard studies to assess cumulative technical success probabilities for each phase of development. Using this data, we computed an estimate of our enterprise value. This expected future cash flows model was utilized for all periods in which the valuations were done, without changes to expected timing or net financial outcome. The December 2013, November 2013, February 11, 2014 and March 31, 2014 valuations utilized this discounted expected future cash flows, and also the expected outcomes as derived from the PWERM model.

The estimated future cash flows were then converted to present value using a 20% discount rate. The 20% discount was based on studies done of similar-stage biopharmaceutical companies, and reflected the single capital instrument that we had outstanding (common stock) until November 2013 when our capital structure also included the convertible bridge loans. After the issuance of the bridge loans we changed our discount rate to 17% to reflect the change in capital structure.

In addition, we applied a discount to reflect the lack of marketability of our common stock for those PWERM scenarios that did not utilize an IPO option. We based this discount on various put option analyses and considered the degree of risk for companies in the biotechnology industry.

April 26, 2012 Valuation. We estimated that a share of our common stock had a value of $5.32 per share at April 26, 2012, an increase of $0.53 from the prior valuation at October 25, 2011. This valuation utilized a 20% discount factor and a 30% discount for lack of marketability. The increase in the common stock valuation reflected almost 6 months closer to the commencement of our estimated future cash flows and reduction of 5% in the discount for lack of marketability as we moved 6 months closer to our expected initial public offering date of spring 2014.

November 12, 2013 Valuation. We estimated that a share of our common stock had a value of $9.49 per share at September 30, 2013, an increase of $4.17 from the prior valuation at April 26, 2012. This valuation utilized an 17% discount factor and a 15% discount for lack of marketability. We changed our approach to include a PWERM methodology to assign the possible enterprise values assuming various IPO pricing and technology sale scenarios in light of the closer proximity to our initial public offering. The reduction of the discount factor reflects the weighted average cost of capital between the common stock and the convertible promissory notes. The board of directors did not believe there was a significant change in our clinical or regulatory status of between April 2012 and November 2013.

December 31, 2013 Valuation. We estimated that a share of our common stock had a value of $9.49 per share at December 31, 2013. This valuation utilized a 17% discount factor and a 15% discount for lack of marketability. We utilized a PWERM methodology to assign the possible enterprise values assuming various IPO pricing and technology sale scenarios in light of the closer proximity to our initial public offering. The discount factor reflects the weighted average cost of capital between the common stock and the convertible promissory notes. The board of directors did not believe there was a significant change in our clinical or regulatory status of between November 2013 and December 2013.

February 11, 2014 Valuation. We estimated a share of our common stock had a value of $11.17 per share at February 11, 2014. This valuation utilized a 17% discount factor and a 10% discount for lack of

marketability. We utilized a PWERM methodology to assign the possible enterprise values assuming various IPO pricing and technology sale scenarios in light of the closer proximity to our initial public offering. The discount factor reflects the weighted average cost of capital between the common stock and the convertible promissory notes. The board of directors did not believe there was a significant change in our clinical or regulatory status of between December 2013 and February 11, 2014.

March 31, 2014 Valuation. We estimated that a share of our common stock had a value of $13.51 per share at March 31, 2014, an increase of $2.34 from the prior valuation at February 11, 2014. This valuation used a 17% discount factor and a 6% discount for lack of marketability. We utilized a PWERM methodology to assign the possible enterprise values assuming various IPO pricing and technology sale scenarios in light of the closer proximity to our initial public offering. The discount factor reflects the weighted average cost of capital between the common stock and the convertible promissory notes. The board of directors did not believe there was a significant change in our clinical or regulatory status between February 2014 and March 2014.

Valuation of the Net Assets Acquired in the Sonkei Merger and Mind-NRG Acquisition

Pursuant to Accounting Standards Codification Topic 805, we are required to determine the fair value of the assets and liabilities acquired to provide insight as to the combined condensed pro forma balance sheet. The following summarizes the principle considerations utilized:

- The purchase price was determined based upon the fair value of the shares issued utilizing the above discussed value of the Minerva shares ($9.49 per share) on the date of the Sonkei Merger and $11.17 on the date of the Mind-NRG Acquisition.

- The fair value acquired net current assets and assumed convertible promissory notes are approximate to the book value of such assets and liabilities due to the short term nature of the net current assets. The terms of the convertible promissory notes are similar to other venture stage instruments in the biotechnology industry, and given the short term nature of the notes, the fair value of the notes is considered to be approximate to its carrying value.

- The intangible assets acquired are the significant assets of each company are valued at fair value as discussed below. The methods commonly used to develop indications of value for an intangible asset are the Income, Market, and Cost approaches.

    - The Income Approach focuses on the income-producing capability of an asset. The Income Approach incorporates the calculation of the present value of future economic benefits, such as cash earnings, cost savings, tax deductions and proceeds from disposition proceeds. Indications of value are developed by discounting expected cash flows to the present value at a rate of return that incorporates the risk-free rate for the use of funds, the expected rate of inflation and risks associated with the particular investment. The discount rate selected is generally based on rates of return available from alternative investments of similar type and quality.

    - The Market Approach measures the benefits of an asset through an analysis of recent sales or offerings of comparable property. Sales and offering prices are adjusted for differences in location, time of sale, utility and the terms and conditions of sale between the asset being appraised and comparable properties.

    - The Cost Approach measures the benefits related to an asset by the cost to reconstruct or replace it with another of like utility. To the extent that the assets being analyzed provide less utility than new assets, the reproduction or replacement cost new would be adjusted to reflect appropriate physical deterioration, functional obsolescence and economic obsolescence.

We measured the value of the acquired IPR&D using the Income Approach — Multi-Period Excess Earnings Method and assembled workforce using the Cost Approach (for contributory asset charge calculations). The Multi-Period Excess Earning Method measures the present value of the future earnings expected to be generated during the remaining lives of the subject assets. The computed fair value of the IPR&D represented substantially all of the purchase price, after consideration of the net current assets acquired and the assumed convertible promissory notes.

Prior to determining the value of each intangible asset described above, it is standard methodology as part of an acquisition to perform a "business enterprise value" analysis. This analysis incorporates all potential economics that the acquired business would theoretically recognize under a fair value scenario. The business enterprise analysis incorporates a stand-alone forecast of us. The purpose of this is to provide a reasonableness check to substantiate the assumptions used in other portions of the analysis. The basis of the business enterprise analysis includes management's estimates regarding projected operating cash flows for the acquired businesses.

We utilized the net present value model under the Income Approach to arrive at the net cash flows attributable to each asset acquired. The estimated future cash flows were then converted to present value using an 17.5% discount rate in the case of the Sonkei acquisition and 19.9% in the case of Mind-NRG Acquisition. The 17.5% discount was based on studies done of similar-stage biopharmaceutical companies, and reflects the weighted average cost of capital including the convertible promissory notes. The 19.9% discount rate reflects the similar weighted average cost of capital, except that there was a greater weight to equity instruments after the issuance of the Sonkei merger shares.

We evaluated whether the fair value per share would be significantly different between December 31, 2013 and February 11, 2014, the date of the Mind-NRG Acquisition, and concluded that there was a change in fair value per share based upon the Mind-NRG Acquisition and proximity to the IPO. We estimated that a share of our common stock had a value of $11.17 per share at February 11, 2014, an increase of $1.68 from the prior valuation at December 31, 2013. This valuation utilized a 17% discount factor and a 10% discount for lack of marketability. We utilized a PWERM methodology to assign the possible enterprise values assuming various IPO pricing and technology sale scenarios in light of the closer proximity to our initial public offering. The discount factor reflects the weighted average cost of capital between the common stock and the convertible promissory notes. The board of directors did not believe there was a significant change in our clinical or regulatory status between December 2013 and February 2014.

Stock Options Granted in December 2013

Our board of directors granted options to purchase 646,759 shares of our common stock on December 20, 2013 at an exercise price of $9.49 per share, and determined the fair value of our common stock on the date of grant to be $9.49 per share. Our board of directors determined that there was no significant change in the fair value of our common stock between November 12, 2013 and December 20, 2013.

We note that, as is typical in IPOs, the estimated price range for this offering was not derived using a formal determination of fair value, but was determined by negotiation between us and the underwriters. Among the factors that were considered in setting this range were the following:

- an analysis of the typical valuation ranges seen in recent IPOs for companies in our industry;
- the general condition of the securities markets and the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies;
- an assumption that there would be a receptive public trading market for clinical stage biopharmaceutical companies such as us; and
- an assumption that there would be sufficient demand for our common stock to support an offering of the size contemplated by this prospectus.

We believe that the difference between the fair value of our common stock as of March 31, 2014 and the midpoint of the price range for this offering is the result of these factors and the following factors:

- The PWERM uses a probability weighted approach as described above, and the resulting calculation of the fair value of our common stock as of March 31, 2014 included the potential for an IPO and alternative liquidity events and assigned a probability for each potential outcome. The discount from the mid-point of the proposed IPO range is driven by the accounting of other lower value liquidity events as well as discounts for present value as well as for lack of marketability. By concluding that we will achieve our IPO and excluding the other lower value liquidity events in the PWERM, the associated discount is removed with the effect that the valuation increases by approximately $0.35.

On completion of an IPO the discounts associated with present value and lack of marketability are also removed with a resultant increase in valuation of $0.32 and $0.88 respectively.

In-Process Research and Development

In-process research and development, or IPR&D, assets represent a capitalized incomplete research project that we acquired through a business combination. Such assets are initially measured at their acquisition date fair values. The fair value of the research projects is recorded as intangible assets on the balance sheet, rather than expensed, regardless of whether these assets have an alternative future use. IPR&D represents projects that have not yet received regulatory approval and are required to be classified as indefinite-lived assets until the successful completion or the abandonment of the associated research and development efforts. These project costs include expenses incurred over the course of drug development programs such as previous and current pre-clinical trial expenses, intellectual property costs, drug product development, testing expenses and other related activities. These IPR&D projects represent a material demand on liquid resources to fund the completion of the development programs.

If regulatory approval is received, the associated IPR&D is amortized over the expected useful life. The determination of the useful life is estimated by management based on many inputs including: the number and types of patents that cover the drug product, the period of time before the related patent or patents expire, changes in the regulatory environment, the approval of competing therapies or compounds, changes in applicable laws or regulations and a variety of other circumstances.

Impairment testing is performed on the IPR&D asset at least annually or when a potential triggering event occurs, to determine whether the asset may be impaired. Potential triggering events that could indicate whether an impairment to the IPR&D may have occurred include: clinical trial results where the compound under investigation did not meet pre-established criteria or clinical endpoints, failure to obtain regulatory approval, the inability to fund future clinical trials, failure to obtain patent protection, adverse changes in the regulatory environment, the approval of competing therapies or compounds, adverse changes in applicable laws or regulations and a variety of other circumstances. The impairment of IPR&D could have a material adverse impact on our financial condition. In order to determine whether an impairment has occurred, management must evaluate the events and incorporate multiple assumptions including: costs associated with continuing the development program, competing therapies or compounds, potential market size, estimated future cash flows and other factors.

Acquisitions

The Sonkei Merger and the acquisition of Mind-NRG were accounted for using the acquisition method of accounting, which requires that the total cost of an acquisition be allocated to the tangible and intangible assets acquired and liabilities assumed based their respective fair values at the date of acquisition. The allocation of the purchase price is dependent upon certain valuations and other studies. We engaged a third party advisor to assist in the valuation of the intangible assets. These valuations incorporated many assumptions including calculations for projected cash flows based on estimates for market size, patient populations, expected launch dates, product development costs, capital expenditures and long term growth rates.

Acquisition costs are expensed as incurred. We recognize separately from goodwill the fair value of assets acquired and the liabilities assumed. We allocated the excess of purchase price over the identifiable intangible and net tangible assets to goodwill. The goodwill recorded recognizes the synergies and value of the overall combined development programs, both the current pre-clinical development program in process and the future clinical trial development strategy.

Impairment testing is performed at least annually on November 30, or when a potential triggering event occurs, to determine whether the asset may be impaired. The impairment of goodwill could have a material adverse impact on our financial condition. In order to determine whether an impairment has occurred, management must evaluate the events and incorporate multiple assumptions about future cash flows

including costs associated with continuing the development program, changes in strategy or potential market size and other factors.

Research and Development Expenses and Clinical Trial Accruals

Since our inception, we have focused our resources on our research and development activities, including conducting non-clinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings for our products. Substantially all of these services are recognized on an outsourced basis. We recognize research and development expenses as they are incurred.

We expense payments for the acquisition and development of technology as research and development costs if, at the time of payment: the technology is under development; is not approved by the U.S. Food and Drug Administration or other regulatory agencies for marketing; has not reached technical feasibility; or otherwise has no foreseeable alternative future use.

As part of the process of preparing our financial statements, we are required to estimate our expenses resulting from our obligations under contracts with vendors and consultants and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided to us under such contracts. Our clinical trial accrual is dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

Our objective is to reflect the appropriate clinical trial expenses in our financial statements by matching those expenses with the period in which services and efforts are expended. We account for these expenses according to the progress of the trial as measured by patient progression and the timing of various aspects of the trial. We determine accrual estimates through discussion with applicable personnel and outside service providers as to the progress or state of completion of clinical trials, or the services completed. During the course of a clinical trial, we adjust the rate of clinical trial expense recognition if actual results differ from the estimates. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known at that time. Although we do not expect that our estimates will be materially different from amounts actually incurred, our understanding of status and timing of services performed relative to the actual status and timing of services performed may vary and may result in our reporting amounts that are too high or too low for any particular period. Through March 31, 2014, there had been no material adjustments to our prior period estimates of accrued expenses for clinical trials. However, due to the nature of estimates, we cannot assure you that we will not make changes to our estimates in the future as we become aware of additional information about the status or conduct of our clinical trials.

JOBS Act

On April 5, 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, or the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth public companies. We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, as an "emerging growth company," we intend to rely on certain of these exemptions, including without limitation, (i) providing an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, as amended, and (ii) complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the

financial statements, known as the auditor discussion and analysis. We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission.

Recent Accounting Pronouncements

In February 2013, the FASB issued ASU 2013-02 "*Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*." This update requires companies to present the effects on the line items of net income of significant reclassifications out of accumulated other comprehensive income if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income in the same reporting period. ASU 2013-02 is effective prospectively for us for fiscal years, and interim periods within those years, beginning after December 15, 2013. We do not expect our adoption to have a material impact on our financial statements.

Internal Controls and Procedures

As of December 31, 2012 and 2013, we concluded that there were material weaknesses and significant deficiencies in our internal control over financial reporting. A material weakness is a significant deficiency, or a combination of significant deficiencies, in internal control over financial reporting such that it is reasonably possible that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses that we identified related to (1) lack of segregation of duties, (2) lack of personnel competent to perform complex accounting, including stock-based compensation, the convertible promissory notes beneficial conversion features, and income tax disclosures, (3) lack of financial statement disclosure controls, and (4) not performing a risk assessment. If one or more material weaknesses persist or if we fail to establish and maintain effective internal control over financial reporting, our ability to accurately report our financial results could be adversely affected. As of March 31, 2014, certain material weaknesses and significant deficiencies continued to exist, including material weaknesses related to (1) lack of segregation of duties, (2) lack of financial statement disclosure controls and (3) not performing a risk assessment.

As of June 10, 2014, we had six full-time employees. In connection with this offering, we are increasing our finance staff and management is taking steps to remediate the material weakness in our internal control over financial reporting, including the implementation of new accounting processes and control procedures and the identification of gaps in our skills base and expertise of the staff required to meet the financial reporting requirements of a public company. We have introduced procedures for proper management and control of payroll, accounts payable, treasury, equity and financial reporting, retaining third-party consultants to review our internal controls and to recommend improvements, and implementing improvements to the design and operation of internal control over financial reporting.

We will be required, pursuant to Section 404(a) of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting for the year following our first annual report required to be filed with the SEC. This assessment will need to include disclosure of any material weaknesses identified by management over our internal control over financial reporting. However, our independent registered public accounting firm will not be required to report on the effectiveness of our internal control over financial reporting pursuant to Section 404(b) until we are no longer an "emerging growth company."

We are in the very early stages of the costly and challenging process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404. We may not be able to complete our evaluation, testing or any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over

financial reporting, we will be unable to assert that our internal controls are designed and operating effectively, which could result in a loss of investor confidence in the accuracy and completeness of our financial reports. This could cause the price of our common stock to decline, and we may be subject to investigation or sanctions by the SEC.

Quantitative and Qualitative Disclosure about Market Risk

Interest Rate Fluctuation Risk

Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term duration and limited funds available for investment, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio. A 10% change in interest rates on March 31, 2014 would not have had a material effect on the fair market value of our portfolio.

Our convertible promissory notes issued in November 2013 contain a fixed interest rate of 8%, accordingly changes in the interest rates for similar types of debt instruments would not have a material effect on our operating results. However, if the terms of notes are required to be re-negotiated, a change in the debt markets might cause an increase in the future interest rate.

Foreign Currency Exchange Risk

We contract with CROs and investigational sites and third-party manufacturers in several foreign countries, including several countries in Europe and Russia. Several of these contracts are denominated in Euros and GBP. We are therefore subject to fluctuations in foreign currency rates in connection with these agreements, and recognize foreign exchange gains or losses in our statement of operations. We have not historically hedged our foreign currency exchange rate risk. To date we have not incurred any material effects from foreign currency changes on these contracts.

Further, substantially all of the Mind-NRG operations were conducted in Europe. We have translated their financial statements from Euros into U.S. dollars using appropriate exchange rates for purposes of presenting the combined pro forma financial statements. The Euro is the functional currency of Mind-NRG. We will continue to incur expenses under our development programs primarily in U.S. Dollars and Euros. We expect to manage our exposure to foreign currency risk with exchange rate contracts based on our forecasted operational needs. See "Risk Factors—Risks Related to Our Business and Industry—Our International operations are subject to foreign currency and exchange rate risk."

A 10% change in the euro-to-dollar exchange rate on March 31, 2014 would not have had a material effect on our results of operations or financial condition.

Inflation Risk

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on our business, financial condition or results of operations during the year ended December 31, 2013 or the three months ended March 31, 2014.

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of a portfolio of product candidates to treat patients suffering from central nervous system, or CNS, diseases. Leveraging our deep domain expertise, we have acquired or in-licensed four development-stage proprietary compounds that we believe have innovative mechanisms of action with potentially positive therapeutic profiles. Our lead product candidates are MIN-101, a compound we are developing for the treatment of patients with schizophrenia, and MIN-117, a compound we are developing for the treatment of patients suffering from major depressive disorder, or MDD. In addition, our portfolio includes MIN-202, a compound we are co-developing for the treatment of patients suffering from primary and secondary insomnia, and MIN-301, a compound we are developing for the treatment of patients suffering from Parkinson's disease. We believe our innovative product candidates have significant potential to transform the lives of a large number of affected patients and their families who are currently not well-served by available therapies in each of their respective indications.

We plan to develop and, if approved by the applicable regulatory authorities, commercialize our product candidates for the neuropsychiatric pharmaceutical market, which represents a significant portion of the broader CNS therapeutic area. Neuropsychiatry is a medical subspecialty devoted to understanding and treating cognitive, emotional, behavioral and perceptual symptoms resulting from circuit-specific brain dysfunction and includes the study of the diseases we are presently targeting, namely schizophrenia, MDD, insomnia and Parkinson's disease. These neuropsychiatric diseases affect large numbers of individuals with family members also bearing significant burdens. According to Datamonitor, an independent market research firm, 4.7 million people suffer from schizophrenia, 32 million suffer from MDD, 53 million suffer from insomnia and more than 2.4 million suffer from Parkinson's disease in the United States, Japan and the five major European Union markets of France, Germany, Italy, Spain and the United Kingdom.

While there are numerous available therapies in the market for the treatment of the neuropsychiatric diseases we are targeting, each of these therapies has significant limitations in addressing the needs of patients. We have pursued the development of our product candidates based on our deep knowledge of the pathophysiology of neuropsychiatric diseases, the pharmacology of our portfolio of compounds and the limitations of current therapies. We believe our product candidates each represent a differentiated treatment option that could overcome the limitations of current therapies and address the unmet needs of patients and their families.

Our management team has extensive experience in the pharmaceutical market. Dr. Remy Luthringer, our Executive Vice President, Head of Research and Development, has participated in over 750 clinical trials in the neuropsychiatric area, including trials for many products approved by the U.S. Food and Drug Administration, or the FDA, in the neuropsychiatry market. Our Executive Vice President and Chief Financial Officer, Geoff Race, has worked in the biotechnology industry since 1997 and has acted as a chief executive officer or chief financial officer in seven early stage development companies, including Funxional Therapeutics Ltd and PanGenetics BV. Our recently hired Chief Executive Officer, Dr. Rogerio Vivaldi, has been involved in launching and commercializing 20 pharmaceutical products addressing unmet medical needs over the past 20 years and building Genzyme Corporation in Brazil and Latin America and recently served as the head of the Rare Diseases Business Unit.

Our Opportunity

MIN-101 for the Treatment of Schizophrenia

We are developing our first lead product candidate, MIN-101, an innovative antagonist on 5-HT2A and sigma2 receptors, for the treatment of patients affected by schizophrenia. The pharmacological effects of MIN-101 are caused by MIN-101 blocking serotonin receptors and sigma receptors, two receptors in the brain that regulate mood and anxiety. MIN-101 is meant to block a specific subtype of serotonin receptor called 5-HT2A. When 5-HT2A is blocked, certain symptoms of schizophrenia (in particular positive symptoms) and side effects of antipsychotic treatments can be minimized. Additionally, blocking 5-HT2A promotes slow wave sleep, a sleep stage which is often disrupted in patients with schizophrenia. MIN-101 is also meant to block a specific subtype of sigma receptor called sigma2, which is involved in movement control, psychotic symptom control and learning and memory. Blocking sigma2 also modulates other neurotransmitters in the brain, in particular dopamine. Individuals with schizophrenia often have elevated levels of dopamine in their brains. Blocking sigma2 also increases calcium levels in neurons in the brain, which can improve memory. Patients suffering from schizophrenia suffer from one or more of the following:

- *Positive Symptoms* — such as delusions, hallucinations, thought disorders and agitation;
- *Negative Symptoms* — such as mood flatness, lack of pleasure in daily life, or decreased ability to initiate and maintain social interaction;
- *Cognitive Symptoms* — such as decreased ability to understand information and make decisions, difficulty focusing and decreased working memory function; or
- *Sleep Disorders* — such as difficulty falling asleep, staying asleep or poor sleep quality.

According to Datamonitor, 4.2 million patients suffered from schizophrenia in 2012 in the United States and the five major European Union markets, and the number of patients is expected to steadily increase in line with population growth. Patients with predominantly negative symptoms represented 48% of the overall patient population in 2012 within the United States and the five major European Union markets. In addition, 80% of the overall patient population in 2012 within the United States and the five major European Union markets suffered from cognitive impairment. Further, approximately half of the number of patients with schizophrenia experience sleep disorders, which further exacerbates positive and negative symptoms of schizophrenia.

Positive symptoms are often experienced only periodically in an individual with schizophrenia while negative symptoms persist chronically throughout an individual's lifetime and increase with severity over time. Patients with negative symptoms typically have a projected outcome that is worse than those suffering from positive symptoms, particularly those with persistent chronic negative symptoms. This is mainly because patients suffering from negative symptoms often do not even recognize that they have an illness and, therefore, do not seek treatment. Even when they do seek treatment, the disease is difficult to diagnose and currently available treatments generally are unable to improve negative symptoms and may exacerbate negative symptoms.

There are many therapies currently approved for the treatment of schizophrenia. However, most current therapies are geared primarily towards treating positive symptoms and there are no current treatments specifically approved for the treatment of negative or cognitive symptoms. Approved treatments generally result in significant side effects, including sedation, involuntary movements, prolactin increase, metabolic syndrome, cognitive impairment, sleep disorders and weight gain. These side effects and the lack of efficacy on negative and cognitive symptoms contribute to a high rate of treatment discontinuation of between 60% to 80% over the course of 18 months, according to Datamonitor.

Unlike current therapies, we believe MIN-101, at the anticipated dose and dosing schedule, due to its particular pharmacological profile, has the potential to address negative symptoms as well as the positive and cognitive symptoms of the disease, sleep and overall psychopathology, without many of the typical side effects of existing approved therapies, such as involuntary movements, prolactin increase, sedation, sleep disorders, weight gain and metabolic syndrome. We intend to seek approval for MIN-101 initially as a first

line monotherapy and also plan to study its use as an adjunctive therapy. We believe that MIN-101 could address the existing treated population and those who are not being treated successfully with the currently available therapies. In a Phase IIa clinical trial, a statistically significant improvement of negative symptoms and a non-statistically significant trend toward the improvement of positive and cognitive symptoms, and overall psychopathology was observed after three months of administration of MIN-101. The trial also showed that MIN-101 could have sleep promoting effects, in contrast to currently available therapies with no negative effects on sleep as measured by polysomnography. We plan to initiate a small clinical trial in the second quarter of 2014 to confirm earlier Phase I results, using a once a day formulation, in preparation for conducting a Phase IIb trial of MIN-101 in the fourth quarter of 2014 in Europe. We also plan to investigate the effects on sleep, cognition, anxiety and mood, as well as clinical and biological safety and drug plasma levels.

MIN-117 for the Treatment of Major Depressive Disorder

We are developing our second lead product candidate, MIN-117, an innovative small molecule antagonist on the 5-HT1A receptor and inhibitor of both serotonin and dopamine reuptake, for the treatment of MDD, the most prominent subtype of depression. The pharmacological effects of MIN-117 are related to serotonin and dopamine, two neurotransmitters in the brain. MIN-117 is meant to block a specific subtype of serotonin receptor called 5-HT1A. When 5-HT1A is blocked, anxiety and mood can be regulated. In addition, MIN-117 is meant to prevent the reuptake of serotonin and dopamine. This increases the amount of serotonin and dopamine in the brain, which is tied to an improvement in mood in individuals suffering from MDD. MIN-117 is also meant to modulate the levels of Alpha-1a and 1b, which further modulates serotonin and dopamine. Patients suffering from MDD experience feelings of sadness, loss, anger or frustration that interfere with their ability to carry out and enjoy once-pleasurable activities. According to Datamonitor, there are currently 30 million cases of MDD in the United States and the five major European Union markets and MDD is one of the leading causes of occupational disability. The main cause of mortality linked to MDD is suicide, at a rate of 6%. While suicide is the leading cause of death in those with MDD, other factors, such as changes in immune function and susceptibility to disease, can also lead to early mortality.

There are many therapies currently approved for the treatment of MDD. However, we believe that existing therapies do not meet all needs of the MDD patient population and a large number of patients fail to respond or only partially respond to treatment. Further, some current treatment options take up to four weeks to have a noticeable effect, which can expose patients to a period of vulnerability during which they are at most risk of committing suicide. In addition, current available therapies have several side effects, including cognitive impairment, sexual dysfunction, sleep disorders and weight gain, that lead many patients to discontinue therapy and, if therapy is resumed, at the original therapeutic doses efficacy is generally reduced.

We believe MIN-117, at the anticipated therapeutic doses, has the potential to address unmet needs of patients with MDD without many of the typical side effects associated with currently approved therapies. Existing MIN-117 pre-clinical and clinical pharmacology data from healthy volunteers administered higher doses than the anticipated therapeutic dose indicate that the MIN-117 therapeutic doses may demonstrate a favorable safety profile. The intended therapeutic doses will be explored in future studies. Two Phase I clinical trials conducted in healthy volunteers have shown potentially positive safety and tolerability results. Since a drug's impact on sleep parameters may be a biomarker for MDD and potential MDD drug efficacy, the preliminary sleep findings from one Phase I study suggest that MIN-117 may show efficacy in treating MDD in later clinical trials. It is not yet known, however, whether the MIN-117 results found in healthy volunteers will translate to the MDD patient population. We plan to initiate a Phase IIb clinical trial in the second half of 2014 in Europe. For our Phase IIb clinical trial, we intend to have the main clinical endpoints be changes from baseline depression scores after six to eight weeks of treatment. We also intend to explore the effects on depression as early as one and two weeks into treatment and the effects on cognition, anxiety, sleep and sexual function. We will also evaluate responder rates. Assuming favorable results, we plan to explore the potential for a collaboration for the future trials of MIN-117.

MIN-202 for the Treatment of Insomnia

We are co-developing MIN-202, an innovative selective orexin 2 receptor antagonist for the treatment of insomnia, with Janssen. In the brain, the orexin system is involved in the control of several key functions, including metabolism and wakefulness. The orexin system has two main sub-types of receptors, orexin 1 and orexin 2. MIN-202 is meant to block the orexin 2 receptor. Rather than making an individual sleepier, blocking the orexin 2 receptor reduces the level of the neurotransmitters that signal the brain to maintain vigilance and wakefulness, which can be helpful for patients with insomnia. Insomnia is defined as repeated difficulty with sleep initiation, maintenance or quality that occurs despite adequate time and opportunity for sleep and results in some sort of daytime impairment. Insomnia can be the primary condition for patients or a secondary symptom of another medical or psychiatric condition, such as MDD or schizophrenia. We intend to evaluate MIN-202 as a treatment in primary insomnia as well as secondary insomnia as an adjunctive therapy with an antidepressant for the treatment of depression. Datamonitor estimates that approximately one-third of adults globally experienced difficulty in falling or staying asleep during the past year.

There are many therapies currently approved for treatment of insomnia. However, the major drawbacks of current insomnia medications are that immediate onset therapies taken at bedtime can interfere with natural sleep architecture and patients can experience residual effects the following day, such as daytime sedation, slowed or distorted reaction time and cognitive impairment. Unlike many current therapies that activate sleep-promoting neurotransmitters, MIN-202 is specifically targeted towards inhibiting the activity of the neurons that promote wakefulness. We believe this approach is likely to result in better preservation of physiological and restorative sleep than currently available therapies, with improved safety and tolerability without daytime impairments.

We are co-developing MIN-202 with Janssen and, upon the completion of this offering, will own the exclusive rights to develop and commercialize the compound in the European Union subject to royalty payments to Janssen and have the right to royalties on any sales outside the European Union. Janssen completed a Phase I single ascending dose study of MIN-202 in 2011 that suggested a relationship which supports a rapid induction and promotion of sleepiness. In the next stages of development, in conjunction with Janssen, we plan to conduct two Phase Ib clinical trials of MIN-202 in 2014 in Europe, the first of which has been initiated.

MIN-301 for the Treatment of Parkinson's Disease

We are developing MIN-301, a soluble recombinant form of the Neuregulin-1β1, or NRG-1β1, protein, for the treatment of Parkinson's disease. MIN-301 is produced by recombinant technology, which is a type of process that modifies the genetics of a biological organism to cause it to produce a particular product. MIN-301 uses an Escherichia coli organism to produce neuregulin-1β1, a peptide. Once administrated, this peptide binds to a particular receptor, ErbB4, which produces certain biological effects. For instance, binding to ErbB4 modulates the levels of certain neurotransmitters such as GABA and glutamate in the brain, which are often unbalanced in individuals with Parkinson's disease. Further, ErbB4 promotes oxygenation and metabolism of neurons, which could indicate MIN-301 could reverse the damage caused by Parkinson's disease. Parkinson's disease is a progressive and incurable disease that leads to disability and lower quality of life. According to Datamonitor, there were nearly 800,000 cases in the United States in 2012, and Parkinson's disease was identified as the 14th leading cause of death by the Centers for Disease Control and Prevention in 2011. Current treatments for Parkinson's disease improve the symptoms of patients, but none have been proven to delay the onset of the disease, slow or prevent the progression of the disease or reverse its effects. Due to MIN-301's novel mechanism of action that targets neurological deficits, we believe MIN-301 has the potential to address these unmet needs of patients and, if approved, may be used as an early-stage monotherapy as well as a complementary therapy to existing treatments.

MIN-301 has been observed to restore motor functions in multiple pre-clinical non-primate models mimicking Parkinson's disease symptoms, with a positive effect on cognition. Currently, we are planning pre-clinical studies in a primate model of Parkinson's disease to seek to confirm the results observed in

non-primate animals and to validate certain biomarkers that could be applied to the first Phase I human trials during the first half of 2015 in Europe.

Our Strategy

Our strategy is to develop and commercialize products with transformative potential addressing critical unmet medical needs in the neuropsychiatric therapeutic area. Pursuing our strategy will be based on the following principles: unwavering commitment to neuropsychiatric patients and community; scientific rigor applied to drug development and the clinical trial process; leveraging patient and caregiver insights to drive scientific advancements; and integrity. Key elements of our strategy are:

- ***Advance the clinical development and obtain regulatory approval of our current product candidates.***

  Based on the results of our Phase IIa clinical trial of MIN-101, we plan to initiate a small clinical trial in the second quarter of 2014 to confirm the results of earlier Phase I trials, using a once a day formulation, in preparation for conducting a Phase IIb clinical trial for the treatment of schizophrenia in the fourth quarter of 2014. We also intend to initiate a Phase IIb clinical trial of MIN-117 for the treatment of MDD in the second half of 2014. If the results of these trials are favorable, we intend to transition each of these product candidates into a Phase III program and, if approved, marketing and commercialization. In addition, we plan to conduct two Phase Ib clinical trials of MIN-202 in 2014 (the first of which has been initiated) and to initiate a Phase I first-in-man study in the first half of 2015 for MIN-301. In order to have access to a greater number of potentially eligible subjects, we plan to initiate clinical trials in Europe, prior to conducting clinical trials in the United States, for all compounds except MIN-301 which may have trials initiated in Europe and the United States concurrently. Based upon the results of our future clinical trials in Europe, the potential patient profile, and disease state, if eligible, we may apply to the FDA for product designation under one or more programs intended to expedite the availability of new drugs, such as fast track, breakthrough therapy, and priority review designation.

- ***Selectively explore collaborations with leading pharmaceutical companies to maximize the value of our current product candidate portfolio.***

  We are co-developing MIN-202 in collaboration with Janssen. In addition to our collaboration with Janssen, we plan to explore the potential for collaborations for the clinical development of MIN-117, as well as to continue to assess the most capital-efficient regulatory approval strategy for the other product candidates in our pipeline.

- ***Serve the patient community upon any approval of a product candidate.***

  We have global commercialization rights, excluding most of Asia, to our two lead product candidates, MIN-101 and MIN-117. In addition, we have global commercialization rights for MIN-301 and European commercialization rights for MIN-202. We intend to work to closely assess and address the needs of the patient population. We plan to initiate patient programs to cooperate and collaborate with patient advocacy organizations.

- ***Leverage our management team's expertise and current intellectual property portfolio to identify and explore additional indications relating to our current portfolio of compounds and to acquire additional product candidates.***

  Our management team has extensive experience in developing and commercializing innovative neuropsychiatric therapeutic products. We believe our compounds affect multiple neuropsychiatric disease mechanisms and have the potential to address unmet medical needs in several major neuropsychiatric disease indications. We plan to leverage our management team's expertise to continue to evaluate our current product portfolio to explore additional indications and develop additional neuropsychiatric product candidates from our existing intellectual property and acquire rights to additional product candidates that we believe have significant commercial potential and potential to be transformative and address unmet patient medical needs.

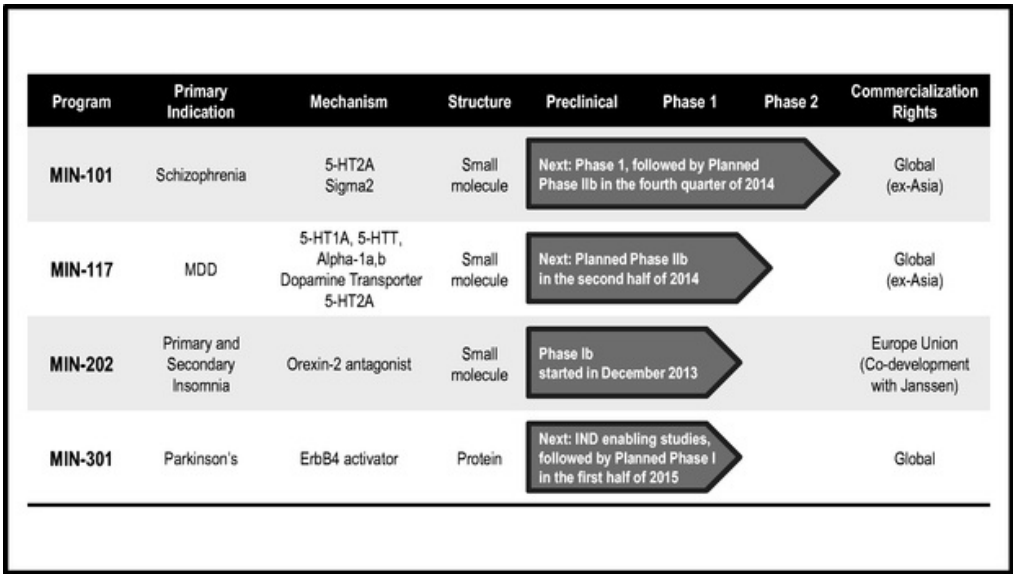
Our History

In November 2013, Cyrenaic Pharmaceuticals, Inc., or Cyrenaic, and Sonkei Pharmaceuticals, Inc., or Sonkei, merged and the combined company was renamed Minerva Neurosciences, Inc. Cyrenaic was incorporated in 2007, and exclusively licensed MIN-101 from Mitsubishi Tanabe Pharma Corporation, or MTPC. Sonkei was incorporated in 2008 and exclusively licensed MIN-117 from MTPC. We executed the merger as we saw an opportunity to better serve an underserved patient population through combining a portfolio of promising product candidates targeting neuropsychiatric diseases. As a result of the merger, we have the rights to develop, sell and import MIN-101 and MIN-117 globally, excluding most of Asia.

We further expanded our product candidate portfolio in February 2014 by acquiring the shares of Mind-NRG SA, which had exclusive rights to develop and commercialize MIN-301. In addition, we entered into a co-development and license agreement with Janssen, a Johnson & Johnson company, for the European development and commercialization rights to MIN-202 subject to royalty payment to Janssen as well as for royalties on any sales of MIN-202 that may be made by Janssen outside the European Union, subject to the completion of this offering.

Funds managed by Care Capital and Index Ventures are our principal investors and collectively owned approximately 76% of our capital stock at March 31, 2014 on an as-converted basis.

Our Pipeline



MIN-101

MIN-101 is an innovative compound we are developing for the treatment of patients with schizophrenia. It is an antagonist of 5-HT2A and sigma2 receptors. We believe MIN-101 reflects scientifically supported and innovative mechanisms of action to potentially address the unmet needs of this patient population. We plan to initially seek approval of MIN-101 as a first line monotherapy. We will also study its use as an adjunctive therapy. We believe that MIN-101, as a once-a-day tablet, could treat the majority of patients diagnosed with schizophrenia if approved.

In a Phase IIa clinical trial conducted by Cyrenaic in 2009, MIN-101 suggested positive treatment effects and suggested that, in future trials at the intended therapeutic dose and dosing schedule, a favorable safety profile may be seen. MIN-101 has also undergone extensive pre-clinical studies, five Phase I clinical trials in healthy volunteers and one Phase I clinical trial in subjects with schizophrenia. We have exclusively

licensed MIN-101 and a number of back-up compounds from MTPC. MTPC has retained commercialization rights to MIN-101 in most of Asia. We expect to initiate a small clinical trial of MIN-101 in the second quarter of 2014 to confirm the results of earlier Phase I trials, using a once a day formulation, in preparation for conducting a Phase IIb clinical trial of MIN-101 in approximately 250 subjects in the fourth quarter of 2014, in Europe, subject to receiving the necessary regulatory and ethical approvals.

Background of the Disease

Schizophrenia is a chronic, severe and debilitating mental disease where patients suffer from positive, negative and cognitive symptoms. "Positive" symptoms in patients are psychotic behaviors not typically seen in healthy people, including hallucinations, delusions, and thought and movement disorders. "Negative" symptoms are disruptions to normal emotions and behaviors that may signal social withdrawal. Patients may be socially inhibited, lack the ability to begin and sustain planned activities, or speak little, even when forced to interact. "Cognitive" symptoms interfere with the patient's ability to engage in and maintain daily routines. Patients may experience difficulty focusing and paying attention, have disruptions to their working memory or have speech difficulties. Overall, this lack of cognitive focus has been shown to interrupt "executive function," making it harder for patients to sustain relationships or employment. In addition, about half of patients with schizophrenia experience sleep disorders which further exacerbates the positive and negative symptoms of schizophrenia. Positive symptoms are often experienced only periodically in an individual with schizophrenia while negative symptoms persist chronically throughout an individual's lifetime and increase with severity over time.

Symptoms such as hallucinations and delusions usually begin in late adolescence or early adulthood, and patients may first present with symptoms between the ages of 15 and 30. Genetic and environmental factors are believed to contribute to the disease, and patients with schizophrenia have been observed to have physical differences in brain chemistry and structure. The symptoms of schizophrenia are important for selecting treatment options and may predict the long-term health and well-being of the patient. Patients with predominantly negative symptoms represented 48% of the overall patient population in 2012 within the United States and the five major European Union markets. In addition, 80% of the overall patient population in 2012 within the United States and the five major European Union markets suffered from cognitive impairment.

According to Datamonitor, 4.2 million patients suffered from schizophrenia in 2012 in the United States and the five major European Union markets and the number of patients is expected to steadily increase in line with population growth. Datamonitor estimated schizophrenia-specific sales revenue of antipsychotic drugs across the United States and the five major European Union markets was $3.9 billion in 2012. It is expected that growth of the schizophrenia sales market from 2014 to 2021 will be heavily dependent on pipeline products.

Current Treatment Options and Limitations of Therapy

Patients are often first diagnosed with schizophrenia in conjunction with the onset of positive symptoms, such as hallucinations or delusions. When these patients present and require treatment, they are typically given either conventional "first-generation" antipsychotic medication or second-generation "atypical antipsychotics" to trigger immediate symptom relief by suppressing dopamine receptor activity. Both types of medication are reasonably effective at managing the periodic nature of positive symptoms, but many patients experience side effects and adverse events. Products that target positive symptoms may further exacerbate the negative symptoms of the disease.

Key products such as Thorazine and Largactil (chlorpromazine) and Haldol (haloperidol) represent "first-generation" antipsychotic medications. These medications may be formulated as oral doses or intramuscular injections. While these treatments can be effective against positive symptoms in acute cases, there have been concerns about the side effects causing atypical involuntary muscle contractions, leading to motion disorders, such as involuntary movements, or extrapyramidal syndrome, inability to initiate movement, or akinesia, a state of agitation or restlessness, or akathisia. Additional side effects often seen with these treatments include sedation, nausea and tremors. In the United States, according to Datamonitor, it is

estimated that approximately 25% of patients receive first-generation antipsychotics as first-line therapy. They are also used more frequently in treatment-resistant patients.

Key products in the "atypical antipsychotic" class include Clozaril (clozapine), Risperdal (risperidone), Seroquel (quetiapine), Zyprexa (olanzapine) and Abilify (aripiprazole). Most of these have a common mechanism of action, acting as antagonists to the DA and 5-HT receptors. Their side effect profiles include difficulty thinking, restlessness, sedation, insomnia, exacerbation of metabolic disorders called metabolic syndrome, weight gain and prolactin increase, which can create sexual hormone imbalances. This has been a highly competitive class of treatments, and manufacturers have refined these therapies to offer less frequent dosing schedules and minimized side effects. However, these treatments do not address negative or cognitive symptoms of the disease, which can lead to non-compliance and treatment discontinuation. Many patients with schizophrenia will experience negative symptoms chronically during the course of the disease and these symptoms will become more severe over the lifespan of the patient and can be worsened by current pharmaceutical therapies. The American Psychiatric Association guidelines recommend that atypical antipsychotics be used as first-line therapy for positive symptoms in acute treatment, with approximately 75% of psychiatrists prescribing these first, according to Datamonitor.

Some patients may experience a phase of the disease that precedes the "active" state of severe psychosis, reporting vague symptoms of anxiety, social isolation, difficulty making choices and problems with concentration and attention, known as the prodromal phase. This prodromal phase can last months or years, during which emotional, behavioral and attenuated psychotic symptoms first appear. New diagnostic tests that can identify high-risk patients are in development, with the intention to intervene before severe positive symptoms appear in these patients. To support this shift to early-stage diagnosis and treatment, we believe more products are needed to address negative and cognitive symptoms that are currently not being addressed by the first-generation and atypical antipsychotic classes.

Both types of existing therapies have significant limitations. They have limited ability to improve negative symptoms, cognitive symptoms and sleep. In addition, existing therapies have extensive side effects such as weight gain, metabolic syndrome, sedation, nausea, movement disorders, restlessness, insomnia, impairment of cognitive skills, and prolactin increase. Since schizophrenia has a wide range of symptoms, multiple therapeutics are often prescribed in an attempt to address all aspects of the disease, compounding these side effects. Patients often abandon treatment due to lack of overall efficacy of existing therapies and side effects. According to Datamonitor, the rate of treatment discontinuation for current schizophrenia therapies is 60% to 80% over the course of 18 months.

Over the last two decades several attempts have been made to develop new therapies focusing on the improvement of negative symptoms. Two new pharmacological approaches have been investigated. One targets a neurotransmitter called glutamate and the other targets a neurotransmitter called nicotine. Glutamate is the most predominant neurotransmitter system in maintaining the brain in an active state and is involved in maintaining accurate vigilance, attention and contributing to some cognitive skills. Nicotine is among the most predominant neurotransmitter system involved in learning and some other cognitive skills. Even though there are several compounds still under development, recent clinical data of the most advanced molecules following these two mechanisms of action have shown limited effectiveness on all symptoms of schizophrenia, in particular on negative and cognitive symptoms. In addition, the product candidates with these mechanisms of action need to be co-administered with existing atypical antipsychotics.

Key Differentiating Attributes of MIN-101

We believe MIN-101 has the potential to address positive, negative, cognitive symptoms, overall psychopathology, and sleep disorders associated with schizophrenia without many of the typical side effects of current treatment options. Accordingly, we believe MIN-101 has the potential to address the major unmet needs in the schizophrenia treatment market. Unlike currently available therapies that block the effect of dopamine, MIN-101's mechanism of action only modulates the effect of dopamine and has been shown to temper the negative effects of dopamine without eliminating its physiological effect in the brain in its

entirety, which may help prevent many of the side effects associated with typical and atypical antipsychotics, and effectively treat schizophrenia. If approved, we believe MIN-101 would be a first-in-class compound for the treatment of negative symptoms.

Based on the clinical and pre-clinical data discussed below, we believe that MIN-101 has a number of potential advantages over currently available therapies:

- *Addresses the Spectrum of Symptoms.* In pre-clinical studies, MIN-101 has been shown to modulate dopamine, which is associated with improving positive symptoms, improving negative symptoms, positively impacting certain cognitive skills, such as motor speed, motivation, verbal fluency and memory, and reducing sleep disorders.

- *Avoids Many of the Typical Side Effects Associated with Existing Therapies.* Unlike existing therapies, MIN-101 does not operate as a dopamine blocker. As a result, we believe that MIN-101 will avoid causing involuntary movements, prolactin increase, sedation, weight gain and metabolic syndrome, which are side effects of existing therapies.

- *Good Safety and Tolerability Profile.* Based on the results of the most recent study of MIN-101, a Phase IIa study that explored the effect of elevated doses administered twice daily, we believe that at the intended therapeutic dose and dosing schedule, MIN-101 may demonstrate a safety and tolerability profile comparable to placebo. We intend to evaluate the safety of MIN-101 at the therapeutic dose and dosing schedule in future studies.

- *Single and Combination Treatment Option.* MIN-101 may be effective as a monotherapy to address the spectrum of symptoms of schizophrenia and the simplicity of such treatment would avoid complications from using multiple pharmaceuticals. If approved, we expect MIN-101 to be used as a monotherapy for younger patients in the prodromal phase of the disease and in older patients suffering from predominantly negative symptoms. We also plan to study the use of MIN-101 with existing therapies to help moderate many of the typical side effects of those therapies as well as to improve the negative and cognitive symptoms, as well as sleep disorders, experienced by patients not addressed by currently available therapies.

Clinical and Pre-clinical Experience

Phase II

We completed a Phase IIa clinical trial of MIN-101 in 2009 in subjects suffering from schizophrenia. 96 subjects were randomized in this study, of which 30 completed the study per the protocol. Enrolled subjects suffered from an acute episode necessitating hospitalization. They suffered from positive, negative and cognitive symptoms of the disease and had ceased to respond well to previously prescribed medication. The study was designed as a double-blind, placebo controlled study with a treatment duration of three months. Subjects received either placebo or MIN-101, including in doses and at a dosing schedule that may differ from the final formulated dose. Subjects electing to participate were hospitalized for the first 28 days and allowed to return to their home environment for the remaining 56 days. Prior to initiating treatment with MIN-101 (or placebo), all subjects discontinued their previous medication for an average of eight days in order to establish an accurate baseline of symptoms related to their disease and to minimize the side effects induced by previous medication.

The primary endpoint of the study was to evaluate the efficacy of MIN-101 versus placebo, as measured by the Positive and Negative Symptom Scale, or PANSS, total and subscores after one month of treatment. The PANSS is used to measure psychopathology in patients suffering from schizophrenia and can be split into either three factors (positive, negative and general psychopathology) or in five factors (positive, negative, activation, dysphoric mood and autistic thoughts).

Secondary and exploratory endpoints included the measurement of MIN-101 efficacy versus placebo through the PANSS total and sub scores after three months of treatment, as well as cognition, mood, anxiety and sleep using various psychological scales at various treatment timepoints.

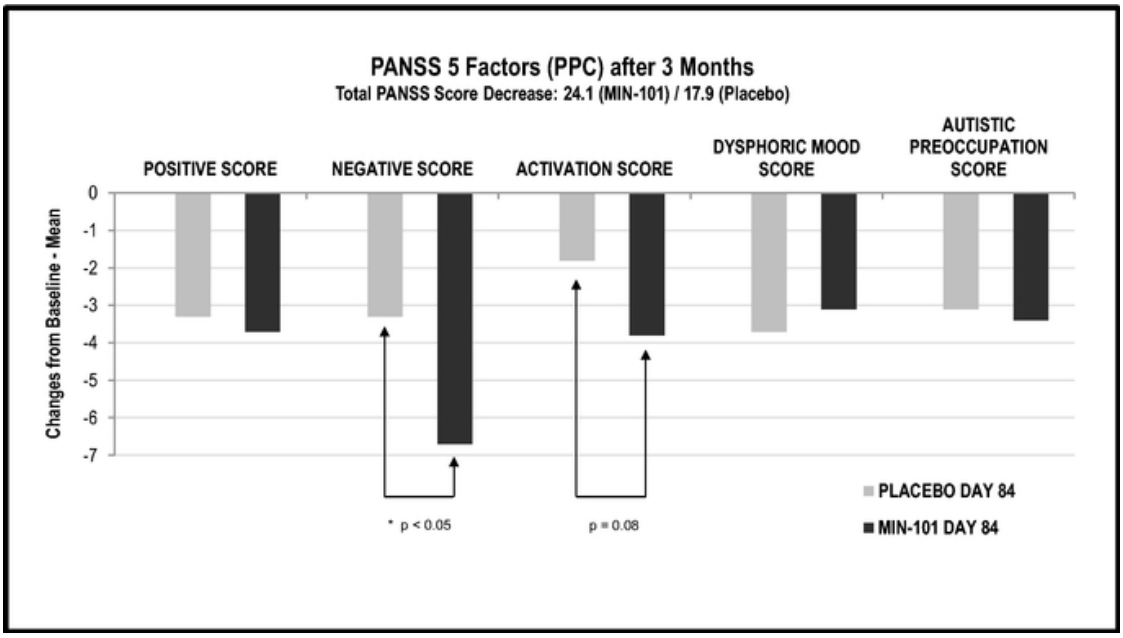
This Phase IIa trial was not powered to show results with statistical significance and this may not be the basis for regulatory approval. Statistical significance means that an effect is unlikely to have occurred by

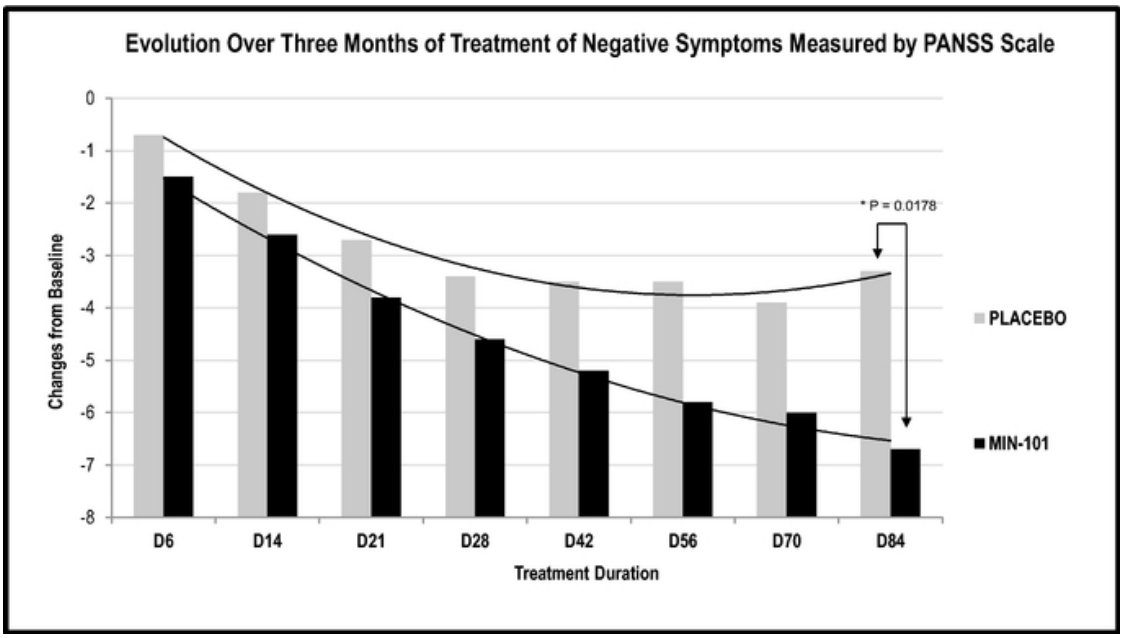
chance. Pre-clinical research and clinical trial results are generally considered statistically significant when the probability of the results occurring by chance, rather than from the efficacy of the drug candidate, is sufficiently low and may not be the basis for potential regulatory approval. Because of the trial design, including the relatively small number of patients in the trial, we did not expect to observe statistically significant results in the trial. This trial design is typical of some Phase II clinical trials, the principal purpose of which is to provide the basis for the design of larger, definitive trials that are powered by the addition of more subjects to potentially show statistical significance. We plan to design any later stage trials that are intended to support marketing approval applications to show statistical significance. We would do so by enrolling a larger number of subjects based on the clinical data observed in earlier trials.

The results of the trial suggest that MIN-101 shows potential for the treatment of the positive, negative, and cognitive symptoms of schizophrenia, as well as sleep and overall psychopathology. P-value is a conventional statistical method for measuring the statistical significance of clinical results. In clinical trials, the "p-value" is the probability that the result was obtained by chance. For example, a "p-value" of 0.10 would indicate that there is a 10% likelihood that the observed results could have happened at random. By convention, a "p-value" that is less than 0.05 is considered statistically significant.

Overall, subjects treated with MIN-101 showed ongoing improvements in negative symptoms, as compared to baseline, throughout the duration of the trial. After one month, improvements on the PANSS negative symptoms scale were observed which was the study's primary endpoint. Because this result was not statistically significant, the study's primary endpoint was not met. After three months of treatment, the MIN-101 group showed improvements in negative symptoms as compared to placebo, one of the secondary endpoints. The negative symptom score was assessed using both the 3 factor and the 5 factor scores in both the per protocol completers set, or PPC and the full analysis set, or FAS. The PPC consisted of subjects who took the study drugs, placebo or MIN-101, for the entire duration of the study, as outlined in the protocol. The FAS consisted of subjects who took at least one dose of the study drugs and for whom at least one evaluation of the main efficacy criteria was available, including those that did not complete the study. Treatment effects are more likely to be seen in the PPC group than the FAS group as they completed the study. However, detecting a treatment effect within the FAS potentially provides stronger evidence of efficacy. Notwithstanding the relatively small trial design and that the study was not powered for statistical significance, statistical significance was reached in both the PPC and the FAS for the 5 factor negative score after three months of treatment. The 3 factor negative scores were nearly statistically significant ($p=.0581$ and $p=.062$ for the PPC and the FAS respectively) after three months of treatment. In addition to the above effects seen on negative symptoms, MIN-101 showed potential to improve positive symptoms as well as the overall total PANSS score and psychopathology, based upon measurements taken after three months of treatment as compared to baseline measurements, which was a secondary endpoint.

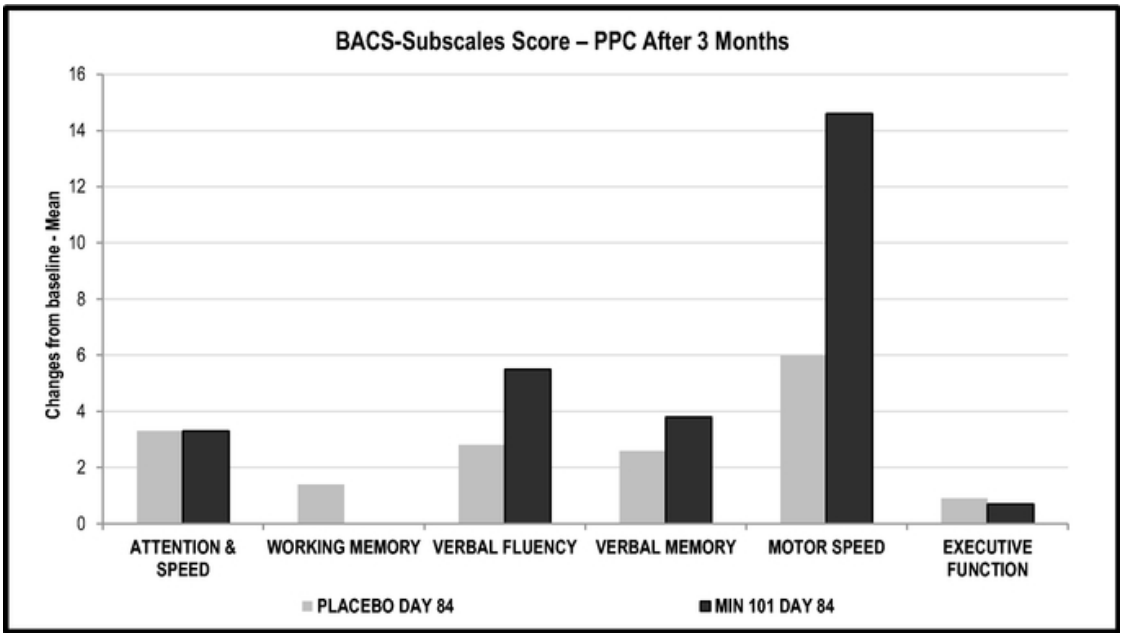
Selected results from the PPC group in the Phase IIa clinical trial of MIN-101 are presented in the two figures below. At this stage of development, the PPC group provides the most complete information, as these subjects received the study medication for the full three months, and therefore were more likely to have experienced the full treatment effect of MIN-101. In future clinical trials, we will seek to design the trials in a manner to maximize the likelihood that subjects comply with the medication regimen as outlined in the study protocol, to ensure they have the potential to receive the full treatment effect. The first figure shows on the vertical axis changes in the PANSS five factor sub-scores from baseline for subjects receiving MIN-101 and placebo for three months in the PPC group. The PANSS scale assesses the severity of the symptoms of schizophrenia, on a scale of 0 (absence of symptoms) to 7 (symptoms highly present). A decrease in the PANSS score from baseline, as measured on the vertical axis of the figures below, corresponds to a decrease of symptoms. As can be seen, other than for the dysphoric mood scale, there was a greater decrease, in the PANSS scores for subjects receiving MIN-101 as compared to subjects receiving placebo. This decrease was significantly greater when examining the negative symptom scale. The second figure shows the changes from the baseline PANSS negative symptom score over the three month period for subjects in the PPC group. As in the first figure, the vertical axis measures the change in PANSS score from baseline, while the horizontal axis measures the number of days subjects received the study medications. As can be seen, subjects taking MIN-101 showed a greater decrease in the PANSS negative symptom score as compared to subjects receiving placebo. This decrease became statistically significant after three months of treatment.





The effects of MIN-101 on cognitive functioning were assessed using the interview-based Brief Assessment of Cognition in Schizophrenia, or BACS, scale after three months of treatment, as illustrated below. This was a secondary endpoint. Using a variety of tests, this scale assesses attention and processing speed, reasoning and problem solving, executive function, verbal memory and working memory. Overall, descriptive data showed a difference in favor of the MIN-101 group in comparison to the placebo group for the attention and processing speed, verbal memory and verbal fluency. Though these results are not statistically significant, they suggest that MIN-101 has minimal negative effects on cognition, and suggest the compound may have a positive effect on processing speed, which is generally impaired by antipsychotic medication.

The below figure shows the change from the BACS subscales scores in subjects taking MIN-101 and placebo in the PPC group after three months of study drug administration. As above, the PPC group provides the most complete information, as subjects in this group remained in the study for the full three months. The horizontal axis shows the BACS subscales and the vertical axis shows the change in the score from the baseline measure to the end of the study. An increase in the score indicates improvement in cognition activities as assessed within the specific subset. As can be seen in the below figure, subjects receiving MIN-101 for three months had greater improvements in verbal fluency, verbal memory, and motor speed as compared to subjects receiving placebo in the PPC group.



A small subset of subjects was also included in a sleep analysis using polysomnography, or PSG. This was an exploratory endpoint. The results of the study indicate the MIN-101 had a significant effect on sleep EEG parameters characterized by a normalization of the distribution of slow wave sleep, which shifted from the end to the beginning of the night. As sleep is a potential biomarker for memory consolidation, these findings support the BACS cognitive functioning results discussed above. The results of this study also suggested that MIN-101 could have sleep promoting effects, as treatment showed a favorable trend toward improvement in sleep initiation parameters with a faster onset of sleep after two weeks of treatment versus placebo and improved sleep quality after three months of treatment versus placebo. Given the high variability in EEG sleep parameters within schizophrenic subjects and the small sample size, these results would need further evaluation in a larger population, but nonetheless, suggest MIN-101 may have some positive impact on sleep parameters.

Subjects participating in this clinical trial receiving MIN-101 or placebo experienced adverse events, including, but not limited to gastrointestinal, nervous system, psychiatric, and cardiac events, with two subjects with increased heart rate and one subject with decreased heart rate that were deemed to be possibly related to MIN-101 by investigators. Generally, with the exception of cardiac events, which occurred in the MIN-101 subjects alone, similar adverse events were seen in the placebo group tested in this study, although at different rates. Safety evaluations also found that subjects in both groups exhibited prolongation of the QTc interval, although at greater rates in the MIN-101 group. QT/QTc interval prolongation is a delay in cardiac repolarization, or the length of time between heartbeats. Long delays can create an electrophysiological environment that favors the development of cardiac arrhythmias, which, in more severe cases, can lead to ventricular fibrillation and sudden death. There were no QTc results in

excess of 480 milliseconds, the upper limit allowed in the study, in the MIN-101 group. The only patient crossing this level was in the placebo group (486 milliseconds). The mean changes from baseline in QTc were higher in MIN-101 group (7.75 milliseconds) compared to placebo (near 0 milliseconds) over the three months of treatment duration. The mean change was greater than 10 milliseconds in MIN-101 group on three occasions (Day 6, Day 14, Day 28 with QTc changes from baseline of 11.5 milliseconds, 11.7 milliseconds and 11 milliseconds respectively). For all the other measurement points the values in the placebo and in the MIN-101 group were below 10 milliseconds. For context, a 10 millisecond or shorter change from baseline of QTc is considered to have a lower risk of arrhythmia, with the risks becoming more significant at a change from baseline of 30 milliseconds. Pursuant to FDA guidelines, we will likely be required to conduct further analysis of MIN-101's impact on the QT/QTc interval. Substantial prolongation of the QT/QTc interval could be the basis for nonapproval of MIN-101, discontinuation of its clinical development, the inclusion of warnings or precautionary statements in the drug's labeling, or implementation of risk management strategies such as healthcare provider and patient education or distribution restriction. Prior studies indicate that these effects, especially at the higher dosage ranges, are likely seen when the drug, which was given in this Phase IIa study according to a twice a day dosing, is at its highest concentration in the blood stream. The formulation that will be used for future development is once daily, likely resulting in reduced drug levels in the blood, but with similar drug exposure over time as the ones obtained in the previous trial. Overall, MIN-101 is believed not to display many of the typical side effects of schizophrenia drugs currently on the market. The safety results of the Phase IIa study supported the Phase I results observed in healthy volunteers described below, and will be further assessed in future clinical studies that explore the intended therapeutic dose and dosing schedule.

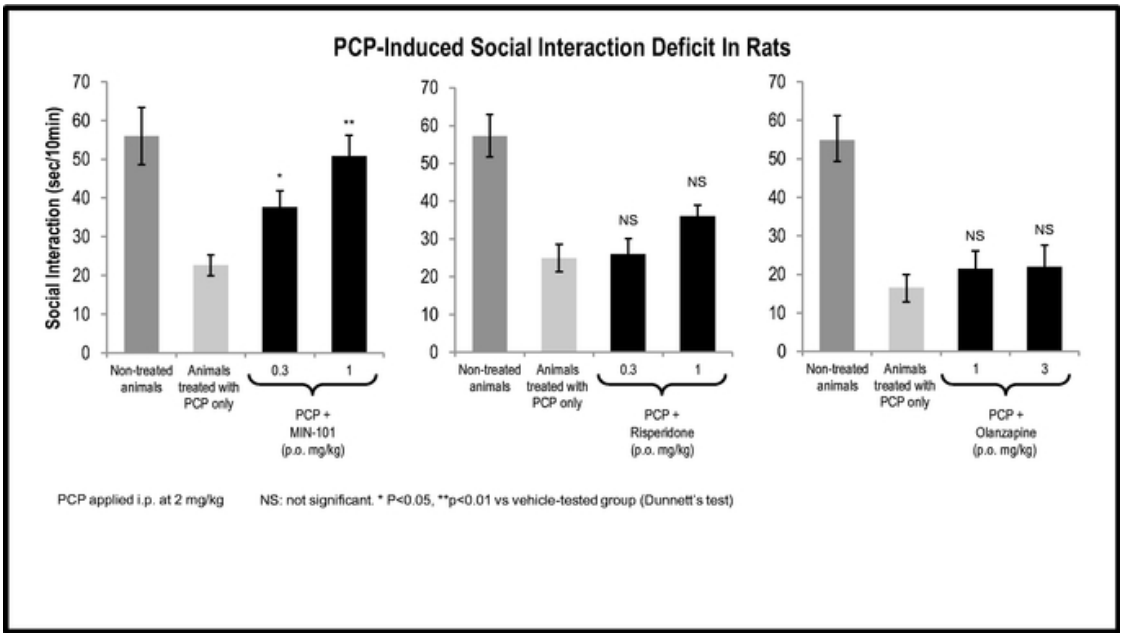
Phase I

MIN-101 was studied in five Phase I clinical trials in healthy volunteers and one Phase I clinical trial in subjects with schizophrenia conducted by MTPC prior to the company licensing this compound. These clinical trials primarily assessed the primary and secondary endpoints of safety, tolerability, and pharmacokinetics of MIN-101. One Phase I study also aimed to assess the preliminary efficacy of MIN-101, a secondary endpoint. Two studies also examined the pharmacodynamic profile of MIN-101. Overall, the safety and tolerability profile of MIN-101 in these Phase I studies was generally comparable to placebo and the results indicated that MIN-101 may not display many of the typical side effects of currently marketed first generation or atypical antipsychotics for both single and repeated administration. Adverse events experienced by subjects receiving MIN-101, included, but were not limited to dizziness, vital sign changes, central nervous symptom events, cardiac events, including QT/QTc prolongation, and gastrointestinal events. Additionally, one study was discontinued due to QT/QTc prolongation noted, especially in the higher dosage group, which contained three subjects receiving 48 mg of MIN-101 twice a day. Based upon these findings, MTPC decided to discontinue its own clinical development of MIN-101 and, subsequently, elected to license this compound to us, rather than pursue its development independently. Despite these adverse events, MIN-101 is not expected to pose a significant safety concern, as study subjects who experienced these adverse events received the study drug at different dosage levels and dosing schedules than will be used for therapeutic dosing.

Pre-clinical

MIN-101 was also explored in preclinical studies focusing on safety, pharmacological profile and target activity. In terms of toxicology, six- and nine-month studies were completed in both rodent and non-rodent species, including monkeys. The results of the toxicological studies indicate that MIN-101 likely has an acceptable safety profile and a good safety margin at the expected therapeutic dose and dosing schedule and relative to other therapies currently used in patients with schizophrenia.

Extensive behavioral pre-clinical models conducted between 2000 and 2007 explored the potential antipsychotic effect of MIN-101 and evaluated the potential of the drug in both positive and negative symptoms. Negative symptoms in animals were induced using Phencyclidine, or PCP. The symptoms were measured by the number of seconds of social interaction engaged in by the rats over a ten minute period depicted on the vertical axis of the below figure. Decreased time spent in social interaction is indicative of simulated negative schizophremic symptoms. These symptoms were reversed in a dose-dependent manner when animals were administered MIN-101. The figure below shows how MIN-101 was more effective at reducing an induced social interaction impairment, a measure of negative symptoms, than two of the most commonly prescribed atypical antipsychotics, Risperdal (risperidone) and Zyprexa (olanzapine), in a rodent model of schizophrenia. Rats given MIN-101 showed increased periods of social interaction compared to rats for which negative symptoms were induced using PCP but which did not receive any treatment, and rats that received treatment with risperidone and olanzapine.



Development Strategy

Our next steps for MIN-101 are to perform additional studies to develop a final once-a-day formulation and to assess the minimum neuropsychiatric active dose of the drug by including sleep recordings as a biomarker. While we will initially be pursuing a first line monotherapy indication for MIN-101, we will also be studying the use of MIN-101 as an adjunctive therapy.

We expect these additional studies will prepare us to conduct a Phase IIb clinical trial, to confirm the results of our Phase IIa trial and to form the basis for future pivotal studies. We plan to initiate this trial in the fourth quarter of 2014 subject to receiving the necessary regulatory and ethical approvals in Europe. We intend to carry out this trial in stable subjects with schizophrenia suffering from predominantly negative symptoms. We intend to evaluate two doses of MIN-101 versus placebo, in a double-blind design in approximately 250 subjects. The primary endpoint for efficacy of this trial will be to evaluate the changes from baseline of negative symptoms after three and six months of drug administration. We plan to also investigate the effects on sleep, cognition, anxiety and mood, as well as clinical and biological safety and drug plasma levels. We expect to receive the results of this study in the first quarter of 2016.

MIN-117

MIN-117 is an innovative compound we are developing for the treatment of patients suffering from MDD. We believe that MIN-117 has the potential to address limitations of existing therapies, such as slow onset of action and poor safety and tolerability. We believe MIN-117 is an innovative small molecule antagonist on the 5-HT1A receptor and inhibitor of both serotonin and dopamine reuptake. Two Phase I clinical trials of MIN-117 in healthy volunteers at higher doses were completed in 2005 by MTPC and 2009 by Sonkei. Based upon these two studies as well as pre-clinical studies, we believe that MIN-117 will demonstrate a safety profile comparable to placebo at the expected therapeutic doses and without many of the typical side effects of currently marketed MDD pharmaceutical treatments, including cognitive impairment, sexual dysfunction, sleep disorders and weight gain. The therapeutic doses will be examined in future studies. As part of our license agreement with MTPC, we may develop, sell, and import products related to the MIN-117 compound globally, excluding most of Asia. We plan to initiate a Phase IIb clinical trial in the second half of 2014, subject to receiving the necessary regulatory and ethical approvals in Europe, which we intend to sufficiently power to possibly serve as one of our three planned pivotal trials. If this trial is

successful, we plan to explore the potential for a collaboration for the future clinical development of MIN-117.

Background of the Disease

Depression is a complex disease encompassing multiple subtypes that include MDD, dysthymic disorder, psychotic depression, postpartum depression and seasonal affective disorder. MDD is the most prominent subtype of depression and the following symptoms are typically associated with MDD:

- *Depressed Mood.* People suffering from MDD typically have depressed spirit or mood, known as dysphoria, which can be worse in the morning, reduced energy and decreased activity level, as well as loss of libido. Lowered mood may vary little from day to day.

- *Reduced Concentration and Overall Tiredness.* People suffering from MDD also have a reduced capacity for enjoyment and their interest level in life and general concentration is reduced. In addition, these individuals can experience marked tiredness after minimal effort. MDD may be accompanied by so-called "somatic" symptoms, such as loss of interest in pleasurable feelings, or anhedonia, and early morning walking.

- *Sleep Disturbance and Diminished Appetites.* People suffering from MDD may also experience sleep disturbances, which is the difficulty falling or staying asleep, and they may also experience a diminished appetite, which can result in weight loss.

- *Lowered Self-Esteem.* People suffering from MDD may also experience a lowered self-esteem and reduced self-confidence. Ideas of guilt and worthlessness are often present.

The severity of symptoms varies with individuals and over time. The more severe an episode of depression is, the more symptoms an individual will experience, more frequently or even continuously, and over an extended period of time. The greatest cause of mortality linked to those with MDD is suicide. Approximately 6% of those with MDD commit suicide. While suicide is the leading cause of death in those with MDD, other factors, such as changes in immune function and susceptibility to disease, can also lead to early mortality.

MDD affects millions of people and causes significant morbidity and loss of productivity. According to Datamonitor, it is estimated that up to 30% of people will experience an episode of MDD at some point in their life and that there are currently 30 million cases in the United States and the five major European Union markets. However, due to lack of acknowledgement of symptoms and the stigma of mental illness, Datamonitor estimates that only around a quarter of prevalent cases are eventually diagnosed by a physician as MDD. MDD is one of the most common conditions leading to occupational disability in the United States and the five major European Union markets.

While the exact cause of MDD is unknown, there are psychological, biological, genetic and environmental factors that contribute to its onset. Biologically, the monoamines serotonin, or 5-HT, norepinephrine, or NE, and dopamine, or DA, are three of the main neurotransmitters thought to be involved in MDD. When there is a chemical imbalance in these neurotransmitters, depression is likely to develop. The identification of these and other neurotransmitters linked to the development of MDD has been the focus for the development of a drug therapy to treat the symptoms of MDD.

According to Datamonitor, it is estimated that sales of drugs for depression totaled $5.2 billion across the United States and the five major European Union markets in 2012. With a number of popular antidepressant drugs becoming generic over the next few years, the overall value of the antidepressant market is forecast to shrink slightly in the short term.

The market for first-line treatment is crowded, well-established and inexpensive due to the prevalence of generics. However, because of the high number of patients who do not respond to first-line treatment, who are known as partial responders or non-responders, we believe an antidepressant targeted for second-line treatment or in combination with additional therapies may potentially achieve high sales. The exact MDD indication that we will seek will be determined based on the results of future MIN-117 studies. According to Datamonitor, it is estimated that sales of quetiapine (Seroquel/Seroquel SR) for MDD exceeded

$400 million in 2012. Aripiprazole (Abilify), another adjunct treatment, saw estimated sales of over $1 billion for MDD in 2012, despite only being approved for MDD in the United States. These two compounds are used in combination with marketed antidepressants.

Vortioxetine (Brintellix) has been developed as a monotherapy and was recently approved by the FDA for use as a second-line therapy. Datamonitor has forecast that Brintellix will achieve $900 million in sales in 2021.

Current Treatment Options and Limitations of Therapy

Treatment of MDD is based on severity of the patient's symptoms, the availability of both pharmacological and non-pharmacological therapies, patient preference and contraindications, instructive guidelines and physician experience. Examples of non-pharmacological approaches for depression include cognitive behavioral therapy and interpersonal therapy, exercise, and neurostimulatory interventions for severe, treatment-resistant depression. Pharmacological treatment is the mainstay of treatment for depression in the United States and the five major European Union markets. According to a Datamonitor physician survey, on average 88.5% of diagnosed patients receive drug therapy, either as the sole therapy or in combination with non-drug intervention.

The first generation of antidepressants includes mainly MonoAmineOxydose-Inhibitors, or MAOIs, and Tricyclic molecules. MAOIs are effective because they are active on most of the neurotransmitter systems involved in mood disorders, but have many unwanted side effects, so they are not broadly used. The most severe side effect associated with MAOIs is the cardiovascular impact and severe blood pressure variations requiring strict diet regulation. Tricyclic molecules are effective because they also have a large spectrum of effects on several neurotransmitters. However, this broad activity causes severe side effects, such as sedation, weight gain and autonomic nervous system dysregulation, like hypotension, dry mouth, and glaucoma. These unwanted side effects prevent these molecules from being used as a first line therapy and today are only used in severe and resistant patients not adequately responding to current therapies like selective serotonin reuptake inhibitors, or SSRIs, or serotonin-norepinephrine reuptake inhibitors, or SNRIs.

Currently, the most prescribed antidepressants are SSRIs and SNRIs. The SSRIs generally function by blocking the reuptake of serotonin. Depending on the degree of SSRIs' effect on other neurotransmitter systems, SSRIs may lead to varying levels of weight gain and impairment of cognitive skills and sexual function. SNRIs have an effect on noradrenegic neurotransmitter systems in addition to the effect on serotonin reuptake. This added pharmacological activity improves the efficacy over SSRIs but doesn't improve their safety and tolerability profile. In some cases, the SNRIs have a worse safety and tolerability profile compared to SSRIs, in particular with respect to cardiovascular side effects. In addition, SSRIs and SNRIs are effective in only a part of the MDD patient population.

The severe side effects of first generation and current commonly prescribed anti-depressants can result in patients not continuing with their drug therapy. Once a patient has discontinued treatment, a subsequent course of treatment will generally have less efficacy in terms of relieving depression and improving mood.

Overall, less than half of patients receiving first-line drug treatment for depression enter into remission. Of those that do achieve remission, 30% to 50% will later relapse while taking medication, so the effect is often not sustained, according to Datamonitor. Over one-third of patients fail to respond to two or more successive lines of antidepressant therapy. These patients are defined as having treatment-resistant major depression, or TRMD, and often require treatment with several antidepressants, such as an SSRI or SNRI, combined with an "adjunct" therapy such as an antipsychotic or mood stabilizer. These antipsychotic compounds, such as Seroquel (quetiapine) and Abilify (aripiprazole), and mood stabilizers, such as Topimax (topiramate), cause some slight improvements in efficacy but often have unacceptable side effects, including motor symptoms, sedation, lack of concentration, and weight gain.

In addition to the side effects described above, these antidepressants generally do not begin to take effect until a few weeks after initiating treatment, with no noticeable improvement before four weeks. It is during this lag period that the risk of suicide can in fact be higher than prior to initiation of therapy. Further,

starting doses must be slowly scaled up over a period of time before a standard therapeutic dose can be taken. While ketamine and related compounds are now being used to address this slow onset of action, the long term efficacy and safety of this approach has not been confirmed. Ketamine is also not appropriate for chronic therapy due to the risk of hallucinations and delusions, as well as its potential for abuse.

Recently, a molecule called Brintellix (vortioxetine) has been approved by the FDA. This molecule has been shown to have fewer side effects, in particular less adverse effect on patient cognition, than existing therapies, though we believe it does not show improved efficacy on depressive symptoms compared to existing therapies.

Key Differentiating Attributes of MIN-117

MIN-117 acts through multiple mechanisms on several receptors associated with mood and the control of mood including SSRI, 5-HT1A auto-receptor and dopamine transporter, or DAT, and alpha-1A and B modulation.

We believe that existing therapies do not meet all needs of the MDD patient population and a large number of patients fail to respond or only partially respond to treatment. In addition, some current treatment options take up to four weeks to have a noticeable effect, which can expose patients to a period of vulnerability during which they are at most risk of committing suicide. Further, current available therapies have several side effects, including cognitive impairment, sexual dysfunction, sleep disorders and weight gain, that lead many patients to discontinue therapy and, if therapy is resumed, efficacy is generally reduced.

Based on the clinical and pre-clinical data described below, we believe that MIN-117 has a number of potential advantages over currently available therapies:

- *Potential Faster Response Rate.* Unlike existing therapies, which can take weeks before a patient begins to notice an improvement in symptoms, MIN-117 generated a reduction in modeled symptoms within a few days of treatment in pre-clinical studies involving animal models. Future studies of MIN-117 will determine whether a rapid response is experienced by human subjects.

- *Avoids Side Effects Associated with Existing Therapies.* Based upon Phase I and pre-clinical studies, we believe that MIN-101 will not display many of the typical side effects of existing therapies, including cognitive impairment, sexual dysfunction, sleep disorders and weight gain.

- *Safety and Tolerability Profile.* Based upon Phase I clinical trials in healthy volunteers at higher doses, we believe that MIN-117 will demonstrate a safety and tolerability profile comparable to placebo at the anticipated therapeutic doses, which will be explored in future studies.

- *Low Starting Dose.* Based upon pre-clinical studies, MIN-117 is expected to be effective at a low starting dose, which may eliminate the need to gradually move to a therapeutic dose and would be suitable for chronic use.

- *Pharmacological Profile to Benefit Non- or Partial-Responders.* Because MIN-117 acts through multiple mechanisms of action on several receptors associated with mood, we believe it could benefit non- or partial-responders, unlike current treatment options that do not target the same wide range of receptors.

Due to both its potential efficacy to treat MDD and its safety and tolerability profile, we believe that MIN-117 will be a promising treatment for patients suffering from MDD.

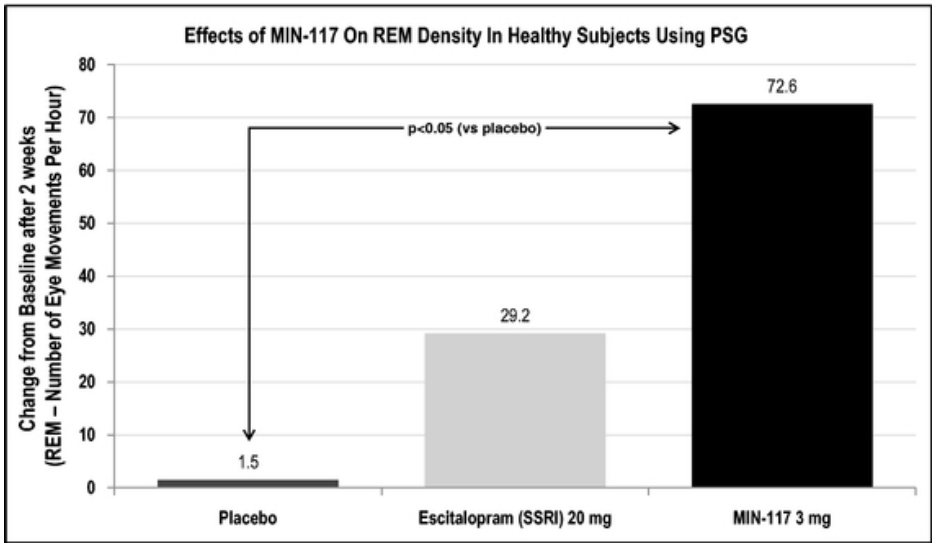
Clinical and Pre-clinical Experience

Phase I

Prior to being licensed by us, elevated doses of MIN-117 were evaluated by MTPC and Sonkei in two Phase I clinical pharmacology studies in healthy volunteers. The primary endpoint of these studies was to assess the safety and tolerability of MIN-117. The studies explored safety, the processing of the compound by the body, known as pharmacokinetics, or PK, and the effect of the compound on the body, known as pharmacodynamics, or PD, at doses above the anticipated therapeutic doses as secondary endpoints.

As part of the PD analysis, one study assessed the impact of MIN-117 on sleep as measured by PSG and the Leeds Sleep Evaluation Questionnaire. This study also explored the impact of MIN-117 on mood, as measured by the Profile of Mood Disorders, emotion, as measured by the Emotional Visual Analogue Scale, and cognitive function as measured by the Flanker/EEG task, which were other endpoints assessed in the study. 50 subjects were randomized in this study, of which 47 completed the study per the protocol. Because this was a Phase I study that primarily examined drug safety and tolerability, the study was not powered for statistical significance. Nevertheless, calculations of statistical significance were performed on some biomarkers exploring pharmacodynamic effects of MIN-117. Some statistically significant results were found when making these calculations. Based upon a PSG analysis, statistically significant improvements, compared to placebo, were found in the density of ocular movements during REM sleep (at the 3 and 7.5 mg dose) as well as the number of ocular movements during rapid eye movement, or REM, sleep (at the 7.5 mg dose). This ocular activity in REM sleep may be a potential biomarker for MDD drug efficacy. While these results do not provide evidence of MIN-117 efficacy nor would they be the basis for a potential regulatory approval, these results suggest that further investigation is warranted to determine whether MIN-117 at the therapeutic doses promotes REM sleep and impact REM density and activity with repeated dosing. These results will help define hypotheses for our future efficacy studies carried out in subjects with MDD. This study further found that MIN-117 did not have a negative impact on mood, emotion, cognitive function and sleep in healthy volunteers. While these results may indicate a potential drug effect, because this study was conducted in healthy volunteers, it is not yet known whether these results will also be found in the patient population. It is also not known whether these results will be seen in larger, adequately powered clinical trials.

The table below presents the effects on REM density, which is the number of eye movements per hour of sleep, evaluated after two weeks of administration of placebo, a therapeutic dose of a reference antidepressant (20 mg/day of escitalopram) and 3 mg/day of MIN-117 in the Phase I study of healthy volunteers. The vertical axis shows the change in REM density from baseline after two weeks of study drug administration. As sleep may be a predictive parameter of drugs in MDD patients, an increase in REM density in the study results may indicate potential effects in MDD subjects. As can be seen in the figure below, MIN-117 increased REM density as compared to placebo at a statistically significant level. This was not the case for escitalopram. This effect indicates that MIN-117 possibly has a faster effect on MDD when compared to escitalopram.

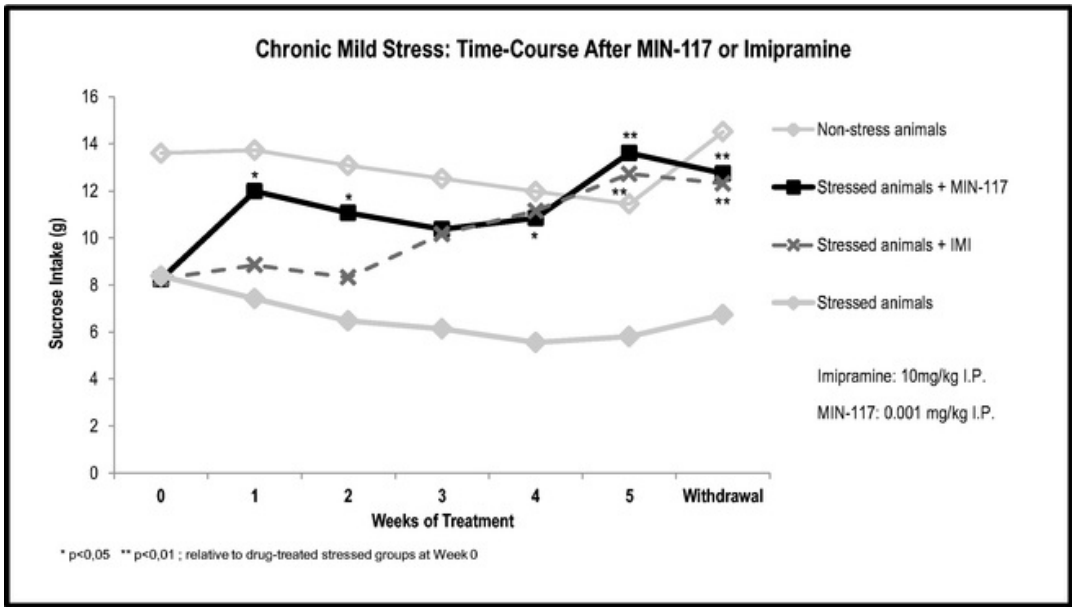


In addition, based upon the Phase I studies, as well as the pre-clinical studies discussed below, we believe that MIN-117 will display a safety and tolerability profile at anticipated therapeutic dose levels that does not include many of the typical side effects experienced by patients taking existing MDD pharmacologic therapies, including cognitive impairment, sexual dysfunction, sleep disorders and weight gain. While adverse events, such as nervous system and gastrointestinal events, did occur in subjects, the incidence of the observed adverse events, even at the highest doses of MIN-117 explored in these trials, was generally comparable to placebo and, in one trial, escitalopram, an antidepressant that was given as a control, had a higher incidence of certain adverse events. We plan to study the effect of the intended therapeutic doses in future studies. PK parameters also indicated that once a day administration may be possible. Further evaluation in MDD subjects is needed to confirm the potential therapeutic effect of MIN-117.

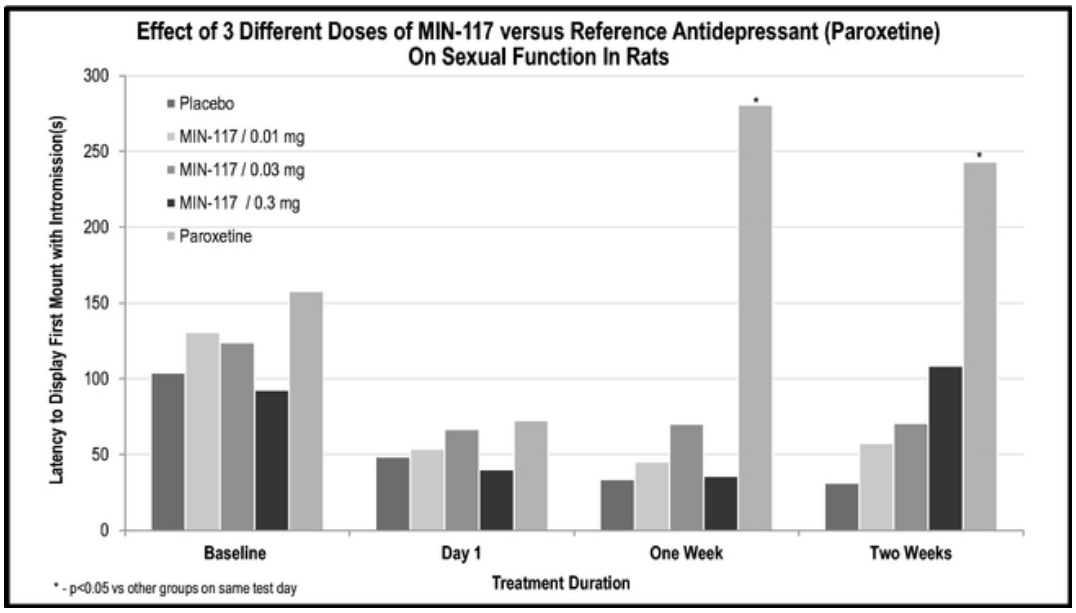
Pre-clinical

Extensive pre-clinical explorations of MIN-117 were conducted by MTPC. In terms of safety and toxicology, three-month toxicological studies were completed in rodents and non-rodents. These explorations showed the potential for a good safety and tolerability profile for MIN-117 at the intended therapeutic doses.

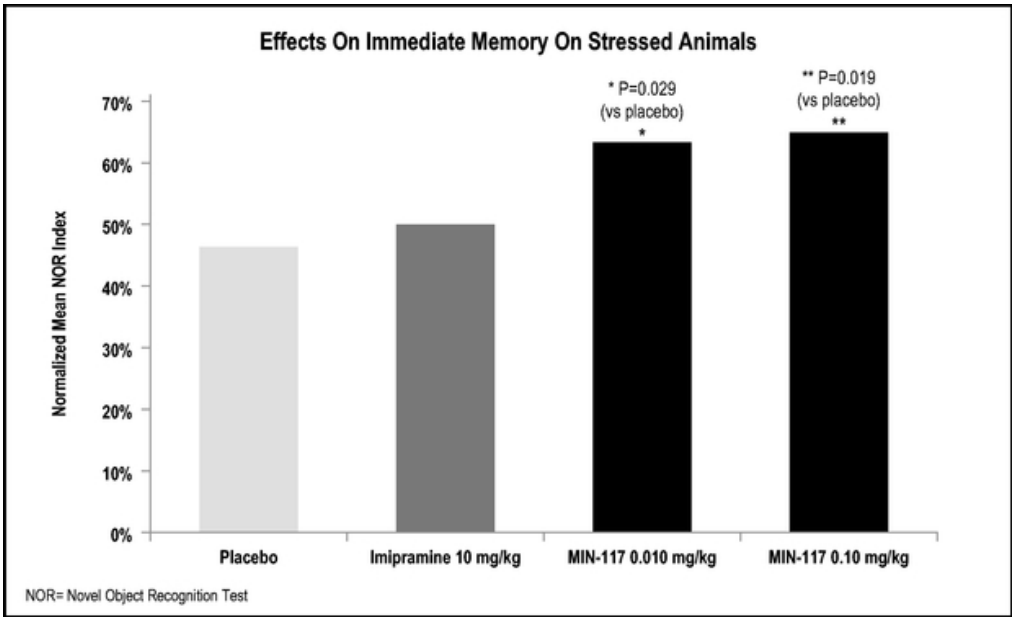
During pre-clinical evaluation of MIN-117 as an antidepressant drug, a number of behavioral tests simulating mood disorders were conducted on rodents. All tests carried out suggested that MIN-117 has beneficial effects on mood. In a mild chronic stress model, which simulated depression and measured the degree to which an animal is chronically stressed by reference to its reduction in sucrose intake, animals that were more stressed typically exhibited lower levels of sucrose intake. Very low doses of MIN-117 reversed the suppression of sucrose intake by animals and by implication removed the level of stress experienced by the animal. The below figure shows the amount of sucrose consumed, in grams, by stressed and nonstressed animals, as well as stressed animals administered either MIN-117 or Imipramine, a tricylcic molecule that is used for the treatment of major depression. Animals receiving MIN-117 exhibited a rapid increase in sucrose intake, which reached statistical significance after only one week of MIN-117 administration as compared to the measurements at the start of the study. Animals receiving Imipramine, however, did not exhibit increased sucrose intake until after three weeks of drug administration. Faster efficacy action is an important aspect of any drug for MDD because patients have an increased risk of suicide during the period prior to treatment efficacy.



Other pre-clinical studies were conducted by MTPC, including imaging studies using positron emission tomography, or PET. This brain imaging technique assesses the binding of a drug to specific receptors. The PET results suggested that MIN-117 targets the key brain serotoninergic pathways involved in depression. Other aspects of MIN-117 were investigated by analyzing 5HT, NE and DA release into the synaptic cleft of neurons using microdialysis techniques. These results showed an increase of serotonin and dopamine after a single dose of MIN-117, unlike the reference antidepressant escitalopram which only induced a modest and transient increase. Finally, the effects on cognition and sexual function were also investigated. Unlike a number of currently marketed drugs that risk impairment of patients' cognitive skills and sexual function, these pre-clinical studies indicated that MIN-117 may not have the same risks of these side effects. The following chart shows the effect of MIN-117 as compared to paroxetine, an SSRI, on the sexual function of rats. The below chart shows the impact of various doses of MIN-117 on the sexual function of rats, as compared to Paroxetine, an antidepressant drug. The vertical axis measures the amount of time to rats' first mount accompanied with intromission. As can be seen, after one week of administration rats receiving Paroxetine had a statistically significant increase in time to first mount with intromission compared to rats receiving MIN-117 and placebo, suggesting sexual impairment for Paroxetine. Administration of the three different doses of MIN-117 had no significant effects on the time to first mount, indicating that use of MIN-117 may not result in sexual impairment.



The potential effect of MIN-117 on cognition was demonstrated in a pre-clinical study examining the effect of MIN-117, imipramine and placebo on the immediate memory of stressed rats. Rats were exposed to repeated dosing and chronic stress, causing them to perform poorly on an immediate working memory task, called the Novel Object Recognition, or NOR, task. Higher NOR indices indicate better immediate working memory. The figure below shows the normalized mean NOR Index of rats as measured on the horizontal axis, after placebo, imipramine, or MIN-117 administration. As can be seen, rats receiving placebo had a NOR index of below 50%. The administration of a reference tricyclic antidepressant (Imipramine 10 mg/kg per day) did not significantly improve performance, whereas two doses of MIN-117 did significantly improve NOR task performance as compared to the placebo-treated group. These results indicate the possibility of preservation or even an improvement of some cognitive skills after administration of MIN-117.



Development Strategy

We intend to conduct a Phase IIb clinical trial of MIN-117 in approximately 450 subjects suffering from MDD in the second half of 2014, subject to receiving the necessary regulatory and ethical approvals in Europe. This study will be sufficiently powered to propose its support to regulatory authorities as one of our three planned pivotal trials. Because pivotal trials are typically Phase III trials, the likelihood of regulatory authority acceptance of the Phase IIb trial as a pivotal trial is unknown. In this trial, we plan to evaluate different doses of MIN-117 versus placebo in a double-blind experimental design. A positive control is expected to be included in the trial, and will serve as a tool to validate the quality and validity of the data generated with MIN-117. No direct comparison between MIN-117 and the active comparator is expected to be performed. We intend to have the main clinical endpoint be changes from baseline depression scores after six to eight weeks of treatment. We also intend to explore the effects on depression as early as one and two weeks and the effects on cognition, anxiety, sleep and sexual function. We will also evaluate responder rates. We expect to receive the results of this study in the second half of 2015.

MIN-202

MIN-202 is our compound for the treatment of insomnia we are currently developing in collaboration with Janssen. Insomnia can be the primary condition for patients or a secondary symptom of another medical or psychiatric condition, such as MDD or schizophrenia. We intend to evaluate MIN-202 as a treatment in primary insomnia, as well as in secondary insomnia as an adjunctive therapy with an antidepressant for the treatment of mood disorders. MIN-202 is specifically targeted towards inhibiting the activity of the neurons that promote wakefulness. We believe this approach is likely to result in better preservation of physiological and restorative sleep than currently available therapies, with improved safety and tolerability. Janssen completed a single ascending dose study for MIN-202 in 2011 that suggested a relationship which supports a rapid induction and promotion of sleepiness. In the next stages of development, we plan to conduct two Phase Ib clinical trials of MIN-202 in 2014, the first of which has been submitted to the necessary regulatory and ethical approval authorities in the European Union so that subject enrollment may begin.

Background of the Disease

Insomnia is defined as repeated difficulty with sleep initiation, maintenance or quality that occurs despite adequate time and opportunity for sleep and results in some sort of daytime impairment. Specific criteria vary, but common ones include taking longer than 30 minutes to fall asleep, staying asleep for less than six hours, waking more than three times a night, or experiencing sleep that is chronically non-restorative or poor in quality. Chronic insomnia, lasting more than one month, can be associated with impaired occupational and social performance, high absenteeism and higher healthcare use. It can also be a risk factor for depression, anxiety, alcohol addiction, substance abuse and suicide.

There are two main processes that regulate sleep and wakefulness: the circadian system, related to the 24 hour clock, and the homeostatic system, related to how long a person has been awake before going to sleep. Both systems involve a complex interplay between neurons that produce wakefulness-inducing neurotransmitters and sleep-promoting neurotransmitters. Light hitting the retina activates neurons, which initiates a chain of signals culminating in the activation of orexin producing neurons (involved in maintaining wakefulness), as well as the inhibition of the sleep-promoting hormone melatonin.

Recent research shows that the orexin system affects the secretion and control of stress hormones like the ones involved in the HPA axis (e.g., adrenocorticotropic hormone and cortisol). The HPA axis is known to be overactive in depressed patients and, in addition, a significant proportion of depressed patients suffer from insomnia. As a consequence, there is a strong rationale to explore the usefulness of orexin antagonists in secondary insomnia, particularly in cases of depression.

Current Treatment Options and Limitations of Therapy

Depending on the individual and the underlying cause of insomnia, patients are treated using non-pharmacological methods, such as cognitive behavioral therapy, or with drug therapy.

Until recently, most of the pharmaceuticals on the market targeted neurotransmitter pathways involved in depressing the brain activity, such as the histamine and gamma-aminobutyric acid, or GABA, pathways, to induce a decrease in vigilance and attention, leading to sedation and sleep induction. GABA pathways are currently preferred to histamine pathways as the target pathway of pharmaceuticals because they have a more efficient effect on sleep and fewer side effects.

Several pharmacological tools have been used to affect GABA pathways in the brain to induce sedation. Barbiturates were initially used and showed good efficacy but had major side effects, such as daytime sleepiness and interaction with other drugs leading to, for example, liver damage. Until recently, benzodiazepines have been used extensively. These molecules have both anti-anxiety and sleep inducing effects, but, again, show serious side effects. Benzodiazepines cause severe memory impairments and require a constant dosage increase in order to maintain efficacy. This dosage increase intensifies side effects and, as such, this class of drugs is generally not appropriate for chronic use, in particular with at-risk patient populations. The third generation of drugs affecting GABA pathways target the sedative effect of GABAergic drugs. The leading molecule among this third generation of molecules is zolpidem, often marketed under the name Ambien. The use of this drug over about the past two decades shows less severe side effects than those seen with the benzodiazepines, but still requires careful utilization to avoid tolerance and drug abuse. Finally, extensive sleep studies have demonstrated that zolpidem does not restore physiological sleep and does not allow restorative sleep, which prevents good daytime performance.

The major drawbacks of current insomnia medication are that immediate onset therapies taken at bedtime can interfere with natural sleep onset and slow wave sleep and patients can experience residual effects the following day, such as daytime sedation and cognitive impairment, particularly following middle of the night administration.

Drug development has shifted from activating sleep-promoting neurotransmitters to inhibiting wakefulness-promoting neurotransmitters such as orexin. The first orexin inhibitors developed antagonize both orexin 1

and orexin 2 sub-types of orexin receptors, which are known as dual orexin receptor antagonists, or DORAs. Although there is not yet any marketed orexin antagonist, Merck & Co's DORA suvorexant may be launched in the near future, pending any additional trials that may be requested by the FDA. Even if suvorexant does not have a favorable PK and PD profile, the clinical data demonstrate that orexin antagonists have a number of differentiating factors as compared to GABAergic drugs:

- patients do not become tolerant over time;
- there is no psychomotor impairment;
- there is better safety and tolerability;
- there is no interaction with alcohol;
- there is no potential for abuse (zolpidem is a schedule IV drug); and
- there is no 'rebound' of symptoms (to worse than baseline) once the therapy is stopped.

Nevertheless, DORAs induce some side effects due to their inhibition of orexin 1 pathways. These side effects are related to motor control and to rapid eye movement, or REM, sleep and thus can induce night walking, vivid dreams or nightmares.

Key Differentiating Attributes of MIN-202

We believe that a key differentiating factor for a new insomnia drug for primary and secondary insomnia would be the preservation or restoration of sleep physiology, particularly preservation of REM sleep and restoration of deep sleep. The restoration of physiological sleep should occur without residual daytime functioning side effects, particularly preserved cognition and no daytime sedation or psychomotor impairment.

MIN-202 is among the most advanced molecules to treat insomnia, and is known as a selective orexin receptor antagonist, or SORA, that targets orexin 2 pathways only. In addition to potentially having better efficacy and safety as compared to current drug therapies, such as GABAergic drugs, we believe that MIN-202, a SORA, could have a number of differentiating factors as compared to DORAs:

- equal or superior efficacy, as only the orexin 2 pathway is required to be blocked in order to induce and maintain sleep, and the orexin 1 receptors counteract orexin 2 pathway blockades;
- less residual sedation and impaired daytime functioning; and
- preservation of appropriate levels of REM sleep, as initial studies indicate that DORAs increase REM sleep in animals and humans. The effects produced by DORAs on REM sleep explain the motor effects and other side effects seen with suvorexant.

Clinical and Pre-clinical Experience

Phase I

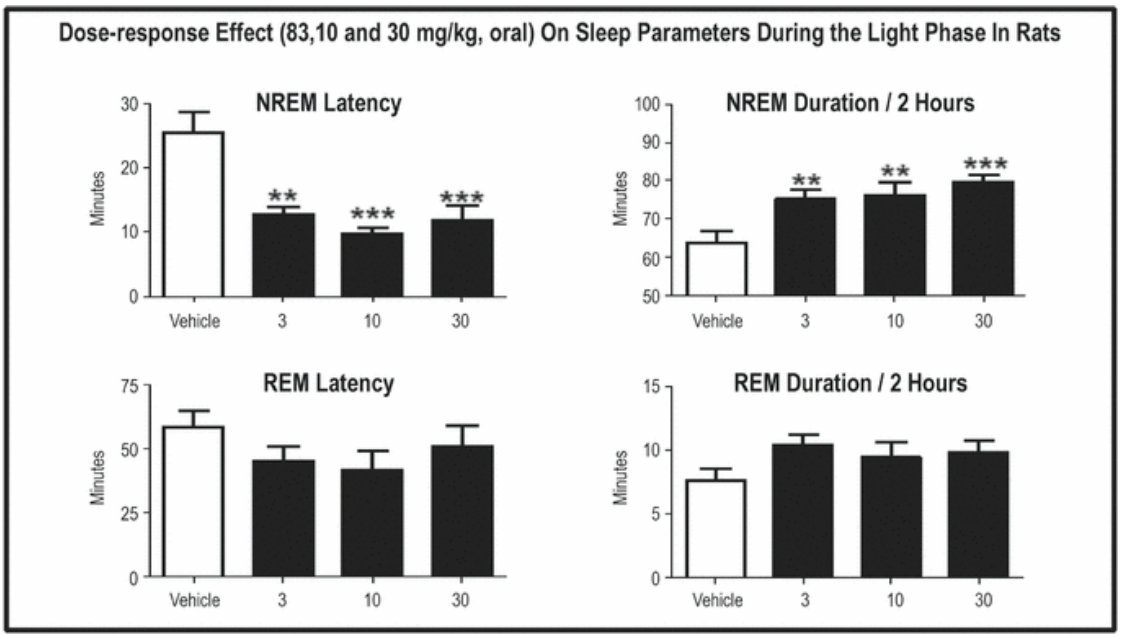
A single ascending dose trial of MIN-202 was carried out by Janssen in young healthy males in 2011. 57 subjects were enrolled in the trial, and received at least one dose of medication, and were included in the PD and safety analyses. 38 actively treated subjects were included in the PK analysis. The objectives of the study were to investigate the safety, tolerability, pharmacokinetics and maximum tolerated dose of MIN-202. The safety and tolerability profile of the drug was good. In terms of PK characteristics, the time to maximum concentration was reached in 30 minutes and some sedative effects of the drug lasted from four to six hours and the effects were demonstrated to be dose dependent. The PK and PD parameters enabled sleep induction and sleep maintenance without major impairment of daytime performance.

Janssen also investigated the effect of MIN-202 in this Phase I clinical trial, measuring alertness using the Stanford Sleepiness Scale, or SSS, which ranges from 1 (alert) to 7 (sleep onset imminent). The observed effects of the drug showed that as the dose of MIN-202 was increased, there was a dose-proportionate increase in the sedation levels of subjects as measured by the SSS.

Pre-clinical

Janssen conducted extensive pre-clinical testing on MIN-202. In terms of safety, a one-month toxicological study was conducted in rodents, evaluating biological and clinical aspects. The study showed a good safety profile.

In terms of activity, extensive work has been done in animals to explore the impact on sleep and wake cycles of several doses (3 mg/kg, 10 mg/kg and 30 mg/kg) of MIN-202. The data from these studies suggests that MIN-202 acts in the manner desired by reducing the time to achieve deep non-REM sleep and increasing the duration of non-REM sleep without increasing or impairing REM sleep. Increasing or impairing REM sleep can induce vivid dreams and nightmares, which are often induced by REM sleep-modifying DORAs. The figure below shows the effect, expressed in minutes, of 3, 10, and 30 mg/kg oral doses of MIN-202 on REM sleep and non-REM, or NREM, sleep parameters in rats. For each parameter both the latency to the occurrence of the first episode of REM and NREM sleep and the duration of the REM and NREM sleep over a two hour period are shown. The figure demonstrates that MIN-202 significantly shortened the latency of the first NREM episode and significantly increased the overall duration of NREM sleep during a two hour period in rats. MIN-202 had no significant impact on REM sleep. We believe this data supports our belief that MIN-202 will result in a restorative sleep pattern. The vertical axis shows the minutes of latency to the first REM and NREM episode and the duration of REM and NREM sleeping in minutes over a two hour period for the MIN-202 vehicle, acting as a placebo and three different doses of MIN-202. Decreased latency and increased duration indicates potentially positive sleep effects.



Latency to Nonrapid Eye Movement (NREM) and Rapid Eye Movement (REM) sleep and Duration of NREM and REM sleep were calculated for 2 hours after compound and vehicle administration. ** p<0.01 and *** p<0.001 versus vehicle.

Development Strategy

MIN-202 clinical development planning is undertaken by a joint steering committee which consists of three members from our co-development partner Janssen and three of our members.

Our development partner Janssen initiated a Phase Ib study in December 2013 in 20 MDD patients suffering from secondary insomnia. The results of this study are expected to be available in the fourth

quarter of 2014. Following the review of these results, and subject to our preparing and obtaining necessary regulatory and ethical approvals in the European Union, in the third quarter of 2014, in conjunction with Janssen, we will undertake a PK/safety study to evaluate MIN-202 in healthy volunteers over a treatment duration period of ten days. This study will be designed to explore the safety and tolerability of the drug as well as efficacy on primary and secondary insomnia after repeated administration of several doses of the drug for approximately four weeks. In this trial, sleep will be assessed after acute and sub-chronic dosing. Furthermore, we plan to explore the hormones involved in stress control using several samples over 24 hours. A pre-clinical study observed MIN-202's impact on stress hormones in animals and the objective is now to confirm such an effect in humans. We anticipate that the results from this study will be available in late 2015.

MIN-301

MIN-301 is a soluble recombinant form of the NRG-1β1 that we are developing for the treatment of Parkinson's disease. We believe MIN-301 has the potential to slow the onset of, and restore the brain tissue damage caused by, the disease. Currently, we are planning pre-clinical studies in a primate model of Parkinson's disease to seek to confirm the results observed in non-primate animals and to validate certain biomarkers that could be applied to the first Phase I human trials during the first half of 2015. To initiate a human study of MIN-301, we will need to submit an application for regulatory and ethical approval in the European Union; no IND approval for MIN-301 exists at present.

Background of the Disease

Parkinson's disease is caused by the death of dopamine-generating cells in the brain and is a progressive and incurable disease that leads to disability and lower quality of life. It is the second most common neurologic disease after Alzheimer's disease. According to Datamonitor, there were nearly 800,000 cases in the United States in 2012, and Parkinson's disease was identified as the 14th leading cause of death by the Centers for Disease Control and Prevention in 2011. An increase in incidence is expected throughout the United States, Japan and the five major European Union markets as the population ages. According to Datamonitor, prevalence of this disease rises from 1% of the population in patients over 60 years of age to 4% of the population over 80 years of age.

There is a lack of a reliable diagnostic test for Parkinson's disease, which affects both the ability to diagnose early stages of the disease and establish an explicit prevalence rate. According to the World Health Organization, patients meet the clinical diagnosis for Parkinson's disease when they exhibit two of the four cardinal features of the disease. These are:

- bradykinesia or slowness of movement;
- rigidity or stiffness of the limbs and trunk;
- tremor of the hands, arms, legs, jaw and face; and
- postural instability or impaired balance and coordination.

Early-stage patients are estimated to constitute approximately 35% to 42% of all cases, and are often undiagnosed and untreated. Age is the largest risk factor for Parkinson's, though a genetic predisposition is strong in patients under 50. One third of patients develop dementia during later stages of the disease and patients with Parkinson's have a shorter life expectancy than that of the general population. According to Decision Resources, there was $2.3 billion in drug sales related to Parkinson's disease in the United States, Japan and five major European Union markets in 2012.

Current Treatment Options and Limitations of Therapy

Current treatments for Parkinson's improve the symptoms of patients, but, at this time, none have been proven to slow or prevent the progression of the disease or reverse its effects. The goal of existing therapies is essentially to reduce symptoms, balanced against the side effects of treatment as the disease progresses, rather than slowing down or reversing the course of the disease. Approved drug treatment options fall into

five broad categories: levodopa and dopaminergics, COMT-Inhibitors, dopamine agonists, Monoamine Oxidase B, or MAO-B, Inhibitors and anticholinergics.

The cornerstone of Parkinson's therapy is levodopa, as it is the most effective therapy for reducing symptoms of Parkinson's disease. Levodopa is a precursor to dopamine that can cross the blood-brain barrier and be converted to dopamine, thus addressing the key deficiency in the disease. While it is the 'gold standard' of therapy in Parkinson's, as an oral therapy it needs to be delivered in large doses, which cause unpleasant systemic side effects such as involuntary movements called dyskinesias. To manage these side effects, dopaminergics such as dopa-decarboxylase inhibitors, or DDI, have been formulated to increase the effect of levodopa while maintaining a constant dose. They are available as controlled-release systems (Sinemet CR, Madopar HBS), oral tablets (Parcopa) and gel (Duodopa). Levodopa and dopaminergics have a high initial response rate; patients will commonly experience a satisfactory response to levodopa during the first one to five years of treatment. As this initial therapeutic response window closes, symptoms become increasingly difficult to control, they experience a pattern of motor complications that include motor fluctuations, dyskinesias, off-period dystonia, freezing and falls. While levodopa and dopaminergics are highly effective, there are advantages to deferring their use to later stages of the disease, or using them with complementary classes of therapy to reduce the side effects of motor fluctuations and dyskinesia that 50% of levodopa patients experience.

Complementary therapies such as the COMT (Catechol-O-methyltransferase)-Inhibitors extend the clinical benefit of levodopa, but offer no benefit on their own. Comtan, Tasmar and Stalevo are three examples, but are used more frequently in second-line therapy.

Dopamine agonists can be used as first-line monotherapy or in combination with levodopa. They directly stimulate dopamine receptors and are able to compensate for low dopamine levels associated with Parkinson's. Leading products are available in patch (Neupro) and self-injection (Apokyn) formulation. Serious side effect of this class are the development of impulse-control disorders and psychotic effects, such as hallucinations and delusions.

MAO-B Inhibitors may also be used as monotherapy in early stages of treatment or adjunct therapy for motor fluctuations. Leading products include Eldepryl, Azilect and Zelapar. The main side effect of such an approach is an increase in blood pressure necessitating strict dietetic control.

Anticholinergics are primarily used in younger Parkinson's patients for controlling tremors and may be used as first-line monotherapy or adjunct therapy. They are not recommended for patients older than 60 because they impair patient cognition.

Key Differentiating Attributes of MIN-301

Because current treatments do not delay or change the course of the disease, there is an unmet need in Parkinson's disease for disease modifying treatment.

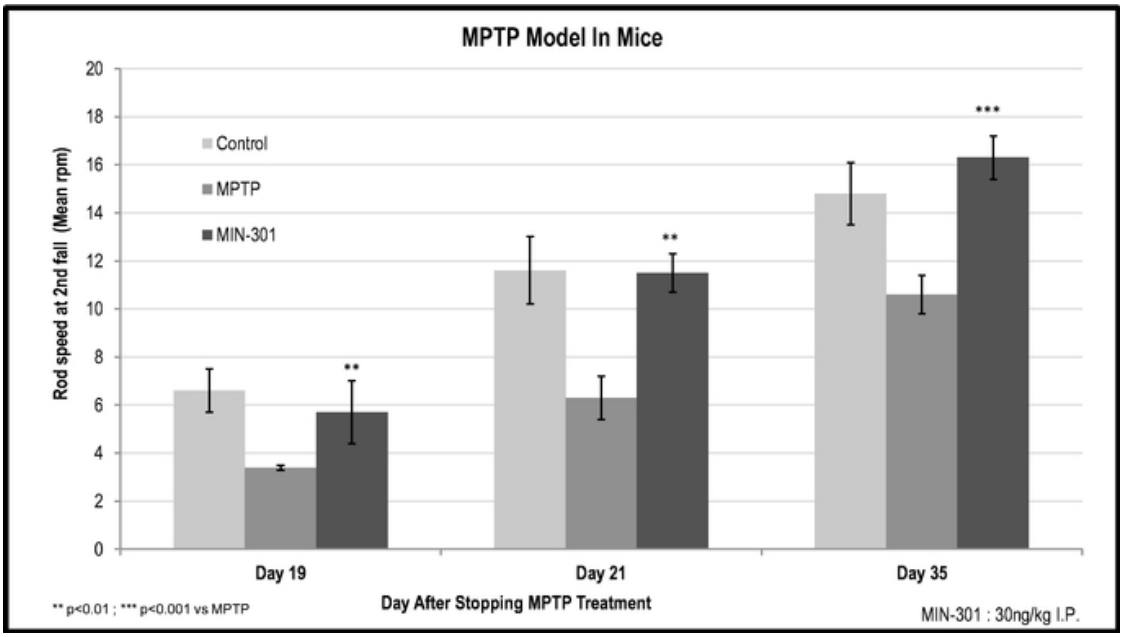
MIN-301 is a recombinant protein comprised of the extracellular domain of NRG-1β1. The NRG-1β1 protein is involved in brain maturation and offers an alternative mechanism of action for the treatment of Parkinson's disease. This protein demonstrates activation of the ErbB4 target in brain tissues, offering not only cognitive improvement but also both neuroprotective and neurorestorative effects. By offering functional improvement without direct dopaminergic effects, MIN-301 represents an opportunity to improve cognitive function without the side effects observed with existing therapies. MIN-301 demonstrated activity in both 6-OH-dopamine and 1-methyl-4-phenyl-1, 2, 3, 6 tetrahydropyridine, or MPTP, animal models of Parkinson's disease, each of which induce Parkinson's-like syndromes and are among the key models to be applied in pre-clinical explorations.

Because MIN-301 offers a novel mechanism of action that targets neurological deficits, we believe that it has the potential, if approved for marketing, to be used not only as an early-stage monotherapy, but also as either a monotherapy or a complementary therapy to existing treatments in later stages of the disease.

Pre-clinical Experience

Prior to our acquisition of Mind-NRG, Mind-NRG explored MIN-301 in pre-clinical safety studies in non-primate models of Parkinson's disease and in experiments focusing on its mechanism of action and its brain penetration capabilities. In terms of safety, a preliminary one-month toxicological study has been performed with a dose 50 times higher than the expected therapeutic dose. The results of these studies showed a good safety profile.

In behavioral and functional animal models of Parkinson's disease using a rotarod treadmill as a functional read out, 6-OH-dopamine and MPTP were used to induce Parkinson's disease-like symptoms. A faster rod speed means that the animal has better coordination and endurance. The rod speed is documented by the time when the animal fell from the treadmill. An animal with poor coordination will not be able to tolerate increased speeds and will fall at a lower rod speed than an animal with normal coordination. These rod speeds, measured by the mean revolutions per minute at the animals' second fall, are shown on the vertical axis of the figure below. As can be seen, on days nineteen, twenty-one, and thirty-five after MPTP administration, animals administered MPTP had suppressed rod speeds as compared to the animals in which Parkinson's disease-like symptoms were not induced, simulating Parkinson's symptoms. Animals that had Parkinson's disease-like symptoms induced with MPTP but which were also treated with MIN-301 (specifically the 30 ng/kg dose) had increased rod speeds, as measured by the mean revolutions per minute, as compared to animals that did not receive MIN-301. These increased rod speeds were comparable to the control animals. The observed improvements seen in the MPTP model have also been observed in the 6-OH-dopamine model, another common model for Parkinson's disease. This suggests that MIN-301 may be able to provide relief from Parkinson's disease-like symptoms that are related to coordination.



The recovery in motor function described above occurred without preservation of TH cells that is observed with existing treatments. Consequently, the mechanism of action of MIN-301 may not just be caused by the preservation of the dopaminergic TH cells. Preliminary results indicate that the drug may have a positive effect on oxidative stress and metabolism (ATP levels are dose dependently increased after MIN-301 administration). These effects suggest that this compound has neuroprotective and neurorestorative effects. In animal models, improvement in cognition and attention was also evident following administration of MIN-301.

The mechanism of action of MIN-301 is still under further investigation, but we believe our protein has important characteristics, such as effects on oxidative stress reversal, effects on cell metabolism particularly ATP (adenosine triphosphate) and effects on GABA and glutamate. Taken together, we believe the effects described above could protect dopaminergic neurons, which is a key element in the cause of Parkinson's disease, and possibly on other sub-types of neurons and other brain cells such as gilial cells. This indicates that MIN-301 may have a novel neuro-protecting and neuro-restorative profile. In view of this MIN-301 mechanism of action and based on a number of other studies performed by other research labs on neuregulin, we believe several other indications of the molecule may be pursued, such as for Alzheimer's disease and other neuro-degenerative disorders, such as multiple sclerosis, and for other psychological disorders, such as schizophrenia, stroke and traumatic brain injury.

Development Strategy

Our next steps for the development of MIN-301 are to complete the regulatory toxicological package. In parallel, some models of Parkinson's disease in primates will also be carried out in order to further confirm the effects seen in small animals and also validate some biomarkers which could be applied during the clinical pharmacology studies of the drug. We expect to conduct the first in man trial in healthy volunteers during the first half of 2015, subject to our ability to obtain necessary regulatory and ethical approvals in Europe with results expected to be available in the second half of 2015 and a follow on trial in the second half of 2015 with results available in the first half of 2016. We expect to conduct a Phase I trial in patients with Parkinson's Disease in the first quarter of 2016.

License Agreements

MIN-101 License Agreement with MTPC

We have entered into a license agreement with MTPC dated as of August 30, 2007, as amended, or the MIN-101 License Agreement. Under the terms of the MIN-101 License Agreement, we acquired an exclusive license to the lead compound known as CYR-101 (subsequently renamed MIN-101), and other compounds with a similar structure and intended purpose and other data included within the valid claims of certain patents licensed to us under the MIN-101 License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. We will pay MTPC a tiered royalty for net sales of product by us or any of our affiliates or sublicensees containing the licensed compound at a range of percentages of the high single digits to the low teens depending on net sales of products under the License Agreement. The initial $1.0 million licensing fee paid in 2007 was expensed as research and development expense as was an additional payment of $0.5 million in 2008 upon the onset of a Phase IIa study. We were also required to make certain milestone payments upon the achievement of certain development and commercial milestones, potentially up to $57.5 million for MIN-101 and up to $59.5 million for additional products.

In January 2014, we renegotiated the structure of the license for MIN-101 such that we are required to make milestone payments upon the achievement of one development milestone totaling $0.5 million and certain commercial milestones, which could total up to $47.5 million. In addition, in the event that we sell the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low thirties. Under the terms of the amended agreement, we are required to meet a certain diligence obligation to commence a clinical pharmacology study of the licensed compound by the end of April 2015. We may extend this deadline for an additional year by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. If we fail to achieve this development milestone by end of April 2015 or make an extension payment, the licensor may elect to terminate the agreement. This license agreement has a term of the later of 12 years from the launch of the product in each country in our territory, or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up, non-exclusive, perpetual, irrevocable license. Our obligation to pay royalties continues, on a country-by-country basis, until the expiration of the last-to-expire patent that covers MIN-101 in each country in our territory.

MIN-117 License Agreement with MTPC

Sonkei entered into a license agreement with MTPC dated September 1, 2008, as amended, or the MIN-117 License Agreement. Under the terms of the MIN-117 License Agreement, we acquired an exclusive license to the lead compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to us under the MIN-117 License Agreement. Sonkei paid MTPC an initial license fee of $500 thousand. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. We will pay a tiered royalty for net sales of product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. Through the date of the agreement, as amended, we were required to make payments up to $57.5 million upon the achievement of certain commercial milestones.

In January 2014, we renegotiated the structure of the license for MIN-117 such that we are required to make certain milestone payments upon the achievement of certain commercial milestones up to $47.5 million. In addition, in the event that we sell the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low thirties. Under the terms of the amended agreement, we are required to meet a certain diligence obligation to initiate either a Phase II(a) or Phase II(b) study with the licensed compound in patients suffering major mood disorders, where initiation is defined as first patient enrolled in the study by the end of April 2015. If we fail to achieve this milestone, we may elect to extend the timeline to achieve the milestone in one year increments by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. If we fail to achieve this development milestone by end April 2015 or make an extension payment, the licensor may elect to terminate the agreement. This license agreement has a term of the later of 10 years from the launch of the product in each country in our territory, or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up, non-exclusive, perpetual, irrevocable license. Our obligation to pay royalties continues, on a country-by-country basis, until the expiration of the last-to-expire patent that covers MIN-117 in each country in our territory.

MIN-202 Co-Development and License Agreement with Janssen

Subject to the completion of this offering, we have entered into a co-development and license agreement with Janssen, dated as of February 12, 2014, pursuant to which, among other things, Janssen has granted us an exclusive license (even as to Janssen), with the right to sublicense, in the European Union, Switzerland, Liechtenstein, Iceland and Norway, referred to as the Minerva Territory, under certain Janssen patent and patent applications to sell products containing any orexin 2 compound, controlled by Janssen and claimed in a Janssen patent right, as an active ingredient, or MIN-202, for any use in humans. In addition, upon regulatory approval in the Minerva Territory (and earlier if certain default events occur), we will have rights to manufacture or have a third party manufacture MIN-202. We have granted to Janssen an exclusive license, with the right to sublicense, under all patent rights and know-how controlled by us related to MIN-202 to sell MIN-202 outside the Minerva Territory. The Janssen license will become effective simultaneously with the closing of this offering and the payment of the initial upfront payment described below. If the closing of this offering does not occur by September 30, 2014, the agreement will not become effective. Once effective, this agreement will be in place until we have no further payment obligations, upon which we will have a non-exclusive, fully paid-up and royalty-free license in the Minerva Territory. We will also have the right of first negotiation for any sublicense that Janssen pursues in certain Asian and Latin American countries and the United States. Our obligation to pay royalties begins upon the first commercial sale of a licensed product in each country in which we have licensing rights and continues until the later of 10 years, the expiration of the last to expire intellectual property right owned by Janssen or the end of the period during which the licensed product is subject to regulatory exclusivity in each country.

In consideration of the licenses granted, we will make an initial upfront payment of $22.0 million upon the closing of this offering and will pay a quarterly royalty in the high single digits (subject to certain customary adjustments) on the aggregate net sales for MIN-202 products sold by us, our affiliates and sublicensees in

the European Union. Janssen will pay a quarterly royalty in the high single digits (subject to certain customary adjustments) on the aggregate net sales for MIN-202 products sold by Janssen outside the European Union.

We will pay 40% of MIN-202 development costs related to the joint development of any MIN-202 products. However, subject to certain exceptions, our share of aggregate development costs may not exceed (i) $5.0 million for the period beginning from the effective date of the Janssen license and ending following the completion of certain Phase Ib clinical trials and animal toxicology studies and (ii) $24.0 million for the period beginning from the effective date of the Janssen license and ending following the completion of certain Phase II clinical trials.

Janssen has a right to opt out at the end of certain development milestones, with the first milestone being the completion of a single day Phase I clinical trial in patients with MDD. Upon opt out, Janssen will not have to fund further development of MIN-202 and the Minerva Territory will be expanded to also include all of North America. We would then owe Janssen a reduced royalty in the mid single digits for all sales in the Minerva Territory.

We have the right to terminate the Janssen license following certain development milestones, the first of which is the completion of a certain Phase Ib clinical trial in patients with insomnia and certain toxicology studies in animals. If we terminate the Janssen license within 45 days of this milestone, we must pay Janssen a termination fee equal to $3.0 million. If we terminate the Janssen license at any time following the last development milestone involving a certain Phase IIb clinical trial, we will be entitled to a royalty in the mid single digits from sales of MIN-202 by Janssen.

Janssen may also terminate the agreement for our material breach or certain insolvency events, including if we are unable to fund our portion of the development costs.

MIN-301 Assignment Agreement with ProteoSys

Mind-NRG has acquired the rights to MIN-301 pursuant to an assignment agreement with ProteoSys. In connection with the Mind-NRG Acquisition, Mind-NRG and ProteoSys agreed that a final license payment of €0.5 million (or $0.7 million, as converted) to ProteoSys will be paid upon the closing of this offering, after which we will have no further obligations under this agreement.

Competition

The biopharmaceutical industry is highly competitive. We face competition from many different sources, including biopharmaceutical companies, generic drug and biosimilar companies, drug delivery companies and academic and research institutions. Many of our potential competitors have substantially greater financial, technical and human resources and greater experience in the development of product candidates, obtaining EMA, FDA and other regulatory approvals of products and the commercialization of those products. Consequently, our competitors may develop products for the treatment of the neuropsychiatric diseases that we are targeting that are more effective, better tolerated, more useful and less costly. Further, the cause and pathophysiology of neuropsychiatric diseases are not fully understood, and additional scientific understanding and future drug or non-drug therapies may make our product candidates obsolete. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic and biosimilar products. Generic products are currently on the market for the indications we are pursuing, and additional products are expected to become available on a generic basis over the coming years. If our product candidates achieve marketing approval, we expect that they will be priced at a significant premium over competitive generic products and potentially biosimilars.

We have described in more detail below the expected primary competition that each of our product candidates will face, if any are approved.

MIN-101: Competition in the Pharmaceutical Market for the Treatment of Schizophrenia

Current drug therapies for the treatment of schizophrenia mainly target the positive symptoms of the disease. When patients present positive symptoms and require treatment, they are typically given either conventional "first-generation" antipsychotic medication, such as GlaxoSmithKline's Thorazine Sanofi-Aventis's Largactil (chlorpromazine) and Johnson & Johnson's Haldol (haloperidol), or second-generation "atypical antipsychotics," such as Novartis's Clozaril (clozapine), Johnson & Johnson's Risperdal (risperidone), AstraZeneca's Seroquel (quetiapine), Eli Lilly's Zyprexa (olanzapine) and Bristol-Myers Squibb's Abilify (aripiprazole).

Both types of existing therapies have significant limitations. They have limited ability to improve negative symptoms, cognitive symptoms and insomnia. In addition, existing therapies have extensive side effects such as weight gain, metabolic syndrome, sedation, nausea, movement disorders, restlessness, insomnia, impairment of cognitive skills, and prolactin increase. Since schizophrenia has a wide range of symptoms, multiple therapeutics are often prescribed in an attempt to address all aspects of the disease, compounding these side effects.

Given the focus of current drug therapies on positive symptoms and their side effect profiles, we believe current drug therapies are unlikely to be directly competitive with MIN-101, which is intended to target the spectrum of schizophrenia symptoms. However, new drug therapies in addition to MIN-101 are being developed to address the limitations of current therapies. Two new pharmacological approaches have been investigated. One targets a neurotransmitter called glutamate and the other targets a neurotransmitter called nicotine. Glutamate is the most predominant neurotransmitter system in maintaining the brain in an active state and is involved in maintaining accurate vigilance, attention and contributing to some cognitive skills. Nicotine is among the most predominant neurotransmitter system involved in learning and some other cognitive skills. Even though there are several compounds still under development, recent clinical data of the most advanced molecules following these two mechanisms of action have shown limited effectiveness. In addition, the product candidates with these mechanisms of action need to be co-administered with existing atypical antipsychotics.

A large part of the remaining late-stage pipeline for schizophrenia are additional atypical antipsychotics focused on the treatment of positive symptoms. There are also several mid-stage product candidates that offer novel mechanisms of action to address negative and cognitive symptoms that, if successful in clinical trials and approved, would compete directly with MIN-101.

MIN-117: Competition in the Pharmaceutical Market for the Treatment of MDD

The pharmaceutical market for the treatment of MDD is largely comprised of SSRIs, SNRIs and atypical antipsychotics. By the time of MIN-117's estimated launch, if approved by the FDA, a number of these high-selling antidepressants will be generic, and would be key competitors to MIN-117. These products include Forest's Lexapro/Cipralex (escitalopram), Pfizer's Zoloft (sertraline), GlaxoSmithKline's Paxil/Seroxat (paroxetine), Eli Lilly's Prozac (fluoxetine), Forest's Viibryd (vilazodone), Pfizer's Effexor (venlafaxine), Pfizer's Pristiq (desvenlafaxine), Eli Lilly's Cymbalta (duloxetine), AstraZeneca's Seroquel (quetiapine) and Bristol-Myers Squibb's Abilify (aripiprazole).

Both SSRIs and SNRIs have significant limitations. SSRIs may lead to varying levels of weight gain and the impairment of cognitive skills and sexual function. In some cases, SNRIs have a worse safety and tolerability profile compared to SSRIs, in particular with respect to cardiovascular side effects. In addition, SSRIs and SNRIs are effective in only a part of the MDD patient population. Over one-third of patients fail to respond to two or more successive lines of antidepressant therapy.

Patients with TRMD often require treatment with several antidepressants, such as an SSRI or SNRI, combined with an "adjunct" therapy such as an antipsychotic or mood stabilizer. These antipsychotic compounds, such as AstraZeneca's Seroquel (quetiapine) and Bristol-Myers Squibb's Abilify (aripiprazole), and mood stabilizers, such as Janssen Pharmaceuticals' Topamax (topiramate), cause some slight improvements in efficacy but often have unacceptable side effects, including motor symptoms, sedation, lack of concentration, and weight gain.

The current drug therapies also generally do not begin to take effect until a few weeks after initiating treatment, with no noticeable improvement before four weeks. It is during this lag period that the risk of suicide can in fact be higher than prior to initiation of therapy. While ketamine and related compounds are now being used to address this slow onset of action, the long term efficacy and safety of this approach has not been confirmed. Ketamine is also not appropriate for chronic therapy due to the risk of hallucinations and delusions, as well as its potential for abuse.

MIN-117 may have a faster onset of action, fewer side effects than existing treatments, and could benefit non- or partial-responders, but a number of products in development could also compete with MIN-117. Lundbeck's Vortioxetine (Brintellix), an SSRI with additional 5-HT receptor modulation activity, has been developed as a monotherapy and was recently approved by the FDA for use as a second-line therapy. Brintellix has been shown to have fewer side effects, in particular less impact on cognition, than existing therapies, though it does not show improved efficacy on depressive symptoms. In addition, Eli Lilly's edivoxetine, a norepinephrine reuptake inhibitor, and Naurex's GL4X-13 and AstraZeneca's AZD6765, both targeting the NMDA receptor, are expected to have a faster onset of therapeutic effect as compared to currently available therapies.

MIN-202: Competition in the Pharmaceutical Market for the Treatment of Insomnia

Most of the pharmaceuticals on the market for insomnia target neurotransmitter pathways involved in depressing the brain activity, such as the histamine and GABA pathways, to induce a decrease in vigilance and attention, leading to sedation and sleep induction. The leading molecule among the current third generation of GABAergic drugs is Sanofi's zolpidem, often marketed under the name Ambien, and is available in generic form. However, zolpidem requires careful utilization to avoid tolerance and drug abuse and extensive sleep studies have demonstrated that zolpidem does not restore physiological sleep and does not allow restorative sleep, which prevents good daytime performance.

Unlike existing therapies, MIN-202, if approved, is expected to inhibit wakefulness-promoting neurotransmitters, rather than activating sleep-promoting neurotransmitters. However, there are other drugs in development that also inhibit wakefulness-promoting neurotransmitters, including Merck & Co's DORA suvorexant, which may be launched in the near future, pending any additional trials that may be requested by the FDA. We believe that suvorexant would be the only new insomnia pharmaceutical product to launch significantly in advance of MIN-202's launch. However, if approved, we believe MIN-202, which is a SORA that targets orexin 2 pathways only, will have equal or superior efficacy, less residual sedation and impaired daytime functioning, and superior preservation of appropriate levels of REM as compared to suvorexant.

MIN-301: Competition in the Pharmaceutical Market for the Treatment of Parkinson's Disease

Current treatments for Parkinson's disease are intended to improve the symptoms of patients. The cornerstone of Parkinson's therapy is levodopa, as it is the most effective therapy for reducing symptoms of Parkinson's disease. However, levodopa may cause unpleasant systemic side effects, such as dyskinesias, and is often used with dopaminergics, such as DDIs, to manage these side effects. While initially effective, symptoms become increasingly difficult to control over time, and patients experience a pattern of motor complications that include motor fluctuations, dyskinesias, off-period dystonia, freezing and falls. Accordingly, there are advantages to deferring their use to later stages of the disease, or using them with other therapies to reduce the side effects of motor fluctuations and dyskinesia that 50% of levodopa patients experience.

Unlike currently available therapies, MIN-301, if approved, is intended to delay the onset of the disease, slow or prevent the progression of the disease or reverse its effects. Since MIN-301 is expected to target Parkinson's disease, rather than merely its symptoms, and current therapies are not fully effective at improving the symptoms of Parkinson's disease without side effects, we believe that levodopa and other currently available generic products may not be directly competitive with MIN-301. While there are other drug therapies in development, such as gene and stem cell therapy and A2A receptor agonists, that also will target the disease, the greatest number of products in development for Parkinson's disease are still in the pre-clinical stage.

Intellectual Property

We strive to protect the proprietary products and technologies that we believe are important to our business, including seeking and maintaining patent protection intended to cover the composition of our product candidates, their methods of use, related technology and other inventions that are important to our business, to the extent such protection is available. As more fully described below, patent applications have been filed by us or our licensors covering compositions of matter for and methods of using our product candidates MIN-101, MIN-117, MIN-202 and MIN-301, and other inventions. We also rely on trade secrets and careful monitoring of our proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business, defend and enforce our patents, maintain our licenses to use intellectual property owned by third parties, preserve the confidentiality of our trade secrets and operate without infringing valid and enforceable patents and other proprietary rights of third parties. We also rely on trade secrets and continuing technological innovation to develop, strengthen and maintain our proprietary position in the field of treatment of neurological, psychological, and sleep disorders.

One or more third parties may hold intellectual property rights, including patent rights, that are important or necessary to the development of our products. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our products, in which case we would be required to obtain a license from these third parties on commercially reasonable terms. If we were not able to obtain a license, or were not able to obtain a license on commercially reasonable terms, our business could be harmed, possibly materially.

Our intellectual property estate consists of patents and patent applications that are owned by us or licensed to us, as described more fully below. We plan to continue to expand our intellectual property estate by pursuing patent applications directed to dosage forms, methods of treatment, and manufacturing processes. We anticipate continuing to seek patent protection in the United States and internationally, when appropriate, for compositions of matter, the use of these compounds in a variety of therapies, and formulations and the processes for manufacturing these compounds.

The patent positions of biopharmaceutical companies like us are generally uncertain and involve complex legal, scientific and factual questions. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and the patent's scope can be modified after issuance. Consequently, we do not know whether any of our product candidates will remain protected by enforceable patents. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. Any patents that we hold may be challenged, circumvented or invalidated by third parties.

Because many patent applications in the United States and certain other jurisdictions are maintained in secrecy for 18 months, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain that we will be able to obtain patent protection for the inventions disclosed and/or claimed in our pending patent applications. Moreover, we may have to participate in interference proceedings declared by the United States Patent and Trademark Office or a foreign patent office to determine priority of invention or in post-grant challenge proceedings, such as oppositions, inter-partes review, post grant review or a derivation proceeding, that challenge our entitlement to an invention or the patentability of one or more claims in our patent applications or issued patents. Such proceedings could result in substantial cost, even if the eventual outcome is favorable to us.

The patent portfolios for our product candidates are summarized below.

MIN-101 (Formerly Developed by Cyrenaic Pharmaceuticals)

Our Owned Patent Applications Directed to MIN-101

We own several patent applications that claim methods of use of MIN-101 to treat schizophrenia, treat or diminish symptoms of schizophrenia, treat disorders or parameters of sleep, treat sigma-2 mediated disorders or conditions, and treat symptoms of sigma-2 mediated disorders or conditions. These applications include two international applications filed under the Patent Cooperation Treaty, or PCT, and published as International Publication Nos. WO 2012/012542 and WO 2012/012543 Applications, based on these two international applications or the associated priority applications, are pending as national applications in Brazil, Canada, China, Europe, Hong Kong, Indonesia, Japan, Korea, Russia, Taiwan and the United States.

If granted, the patent terms are expected to expire no earlier than July 20, 2031.

MIN-101 Patents and Applications Licensed to Us

Our MIN-101 patent portfolio further consists of licensed patent rights. We are the exclusive licensee of U.S. Patent No. 7,166,617, or the U.S. '617 patent, which claims a genus of compositions of matter that encompasses MIN-101. The '617 patent is licensed to us by MTPC. As part of the license agreement, we may make, sell, and import products related to the MIN-101 compound in the rest of the world except in MTPC's territory. For purposes of clarity, MTPC's territory covers the Asia-Pacific region and specifically consists of the countries of Bangladesh, Brunei, India, Indonesia, Japan, Malaysia, Pakistan, the People's Republic of China (including Hong Kong), the Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, and Vietnam.

The U.S. '617 patent is expected to expire no earlier than May 17, 2021.

For the owned patent applications and the U.S. '617 patent, patent term extensions of up to five years may be available in the United States, for one patent.

We are also the exclusive licensee of European Patent No. 1260512, or the EP '512 patent, which protects pharmaceutical compositions of MIN-101 and methods of treating central nervous system diseases using MIN-101 that can be treated by the nerve controlling function of a sigma ligand.

The EP '512 patent is validated in the following EU states: Albania, Austria, Belgium, The Republic of Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Monaco, The Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, Turkey, and The United Kingdom.

The patents validated in the above countries, based on EP '512 patent, are expected to expire no earlier than February 26, 2021.

Other licensed patents with similar coverage have been granted in Canada, Australia, New Zealand, the Russian Federation, and Israel.

Ongoing development and clinical studies may lead to additional patent applications.

MIN-117 (Formerly Developed by Sonkei Pharmaceuticals)

Our Owned Patent Applications Directed to MIN-117

We own three U.S. provisional patent applications that claim low dose compositions and rapid onset methods of using MIN-117 to treat depression without cognition impairment. These applications have not yet been published or converted to PCT filings. Anticipated national applications may be filed in Australia, Brazil, Canada, Chile, China (including Hong Kong), Colombia, Europe, India, Israel, Japan, South Korea, Mexico, New Zealand, Peru, Russia, South Africa, Taiwan and the United States.

If granted, the patent terms are expected to expire no earlier than 2034.

For the owned patent applications, patent term extensions of up to five years may be available in the United States.

MIN-117 Patents and Applications Licensed to Us

Our MIN-117 patent portfolio also consists of licensed patent rights. We are the exclusive licensee of U.S. Patent No. 6,720,320, or the U.S. '320 patent, which claims pharmaceutical compositions and uses of MIN-117 to treat depression. The U.S. '320 patent is licensed to Sonkei by MTPC. Sonkei owns an exclusive license to develop, sell, and import products related to MIN-117 under the U.S. '320 patent in the rest of the world, except in MTPC's territory. For purposes of clarity, MTPC's territory covers the Asia-Pacific region and specifically consists of the countries of Bangladesh, Brunei, India, Indonesia, Japan, Malaysia, Pakistan, the People's Republic of China (including Hong Kong), Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, and Vietnam.

The U.S. '320 patent is expected to expire no earlier than August 13, 2020.

We are also the exclusive licensee of European Patent No. 1188747, or the EP '747 patent, which protects pharmaceutical compositions and uses of MIN-117 to treat depression, and is expected to expire no earlier than May 22, 2020. The EP '747 patent is validated in the following countries: Germany, Spain, France, Italy, the Netherlands, and the United Kingdom. Canadian Patent No. 2375008 similarly protects pharmaceutical compositions and methods of using MIN-117 to treat depression.

The European patents are predicted to expire no earlier than May 22, 2020.

Ongoing development and clinical studies may lead to additional patent filings.

MIN-202

Our MIN-202 patent portfolio consists of patent rights licensed from Janssen Pharmaceutica N.V. We are the exclusive licensee of European Patent Application EP 2491038 A1, which claims a genus of compositions of matter that encompasses MIN-202 and other orexin receptor modulators, and methods of using these compositions to treat diseases, including diseases mediated by orexin receptor activity. If granted, the patent term is expected to expire no earlier than October 21, 2030.

MIN-301

Our MIN-301 patent portfolio includes four families of patents and patent applications directed to MIN-301 and its use in the treatment of neurologic and psychiatric diseases. The MIN-301 portfolio was assigned to Mind-NRG SA by ProteoSys, Inc.

The first family of patents and patent applications has claims directed to certain isolated neuregulin-β isoforms and methods of using these isoforms as diagnostic indicators. The issued patents include U.S. Patent Nos. 7,538,197, 7,919,582, and 8,546,086 and the corresponding EP Patent No. 1252186. U.S. Patent No. 7,538 is expected to expire no earlier than June 20 2022, with the other patents estimated to expire no earlier than February 9, 2021. An application is pending in Canada.

A second patent family includes patents and applications directed to methods of screening for agents. U.S. Patent No. 7,824,923 claims a method of screening for agents that increase or decrease the expression level of a specific neuregulin-β isoform, comprising certain steps. This patent expires no earlier than December 16, 2022. This family also includes two pending European applications (EP 1 417 230 and EP 2 418 218), which if granted are also expected to expire no earlier than August 6, 2022. The patent application EP 2 418 218 is directed at the use of specific neuregulin-β isoforms for the diagnosis of a neuronal degenerative disease.

A third patent family is based on PCT International Publication No. WO 2009/062750. Patents and patent applications belonging to this family have claims that are mainly directed at the medical use of a specific neuregulin isoform as well as compositions comprising said neuregulin isoform and a further medicament.

The third patent family includes European Patent No. EP2 219 662 B1, Australian patent No. AU 2008323169 B2 and Russian Patent No. 2491955. The European patent was validated in the following EPC member states: Austria, Switzerland, Germany, Denmark, Spain, France, United Kingdom, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, Belgium and Turkey.

The third family also includes pending U.S. Patent Application No. 12/742,983 and corresponding patent applications Brazil, Canada, China, Japan, and Mexico.

If granted, the patent terms are expected to expire no earlier than November 17, 2028. Patent term extensions may be available in some countries.

A fourth patent family is based on PCT application WO 2011/147981 A2 and includes applications in the United States, Australia, Brazil, Canada, China, Europe, India, Japan, Korea, Mexico, Russia, New Zealand, South Africa and Israel.

The applications have claims directed to a polypeptide composition, a pharmaceutical composition based on the polypeptide, use of the polypeptide to treat neurological conditions and diagnostic methods.

Ongoing development and clinical studies may lead to additional patent filings. The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a PCT application or a non-provisional patent application, subject to any disclaimers or extensions. The term of a patent in the United States can be adjusted and extended due to delays in the patent examination process by the United States Patent and Trademark Office. In the United States, the patent term of a patent that covers an FDA-approved drug that contains an active ingredient or salt or ester of the active ingredient that has not previously been marketed may also be eligible for patent term extension, which permits patent term restoration to account for a portion of the patent term lost during the FDA regulatory review process.

The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is based upon one half of the time between the IND effective date and a company's initial submission of a marketing application, plus the entire time between the submission of the marketing application and FDA's approval of the application. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. The amount of patent term restoration that a company is eligible for may further be reduced by any time the company did not act with due diligence in development of the drug. Similar provisions are available in Europe and other non-United States jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when any of our pharmaceutical product candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those products. Although, we intend to seek patent term extensions to any of our issued patents in any jurisdiction where these are available, there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions.

Moreover, one or more of our product candidates may qualify as a new chemical entity, or NCE, and following submission and approval of an NDA, if we are the first applicant to obtain NDA approval, we may be entitled to five years of data and market exclusivity in the United States with respect to such NCEs. Analogous data and market exclusivity provisions, of varying duration, may be available in Europe (for example, 10 years data exclusivity in Europe), and other foreign jurisdictions. If MIN-301 is regulated as a biologic under the PHSA, and the FDA approves a BLA, the product may be eligible for twelve years of exclusivity.

We also rely on trade secret protection for our confidential and proprietary information. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. Thus,

we may not be able to meaningfully protect our trade secrets. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived by the individual, and which are related to our current or planned business or research and development or made during normal working hours, on our premises or using our equipment or proprietary information, are our exclusive property.

Manufacturing

We do not have any manufacturing facilities or personnel. We currently rely, and expect to continue to rely, on third parties for the manufacturing of our product candidates for pre-clinical and clinical testing, as well as for commercial manufacturing if our product candidates receive marketing approval. Our product candidates are manufactured in reliable and reproducible synthetic processes from readily available starting materials. The chemistry does not require unusual equipment in the manufacturing process. We expect to continue to develop product candidates that can be produced cost-effectively at contract manufacturing facilities.

Commercialization

We have not yet established a sales, marketing or product distribution infrastructure. We have global, except for most of Asia, commercialization rights for two of our product candidates, MIN-101 and MIN-117, and European Union commercialization rights for MIN-202. We have worldwide rights for MIN-301. We believe that it will be possible for us to access European and, in the case of MIN-101, MIN-117 and MIN-301, the United States and Latin America markets through a focused, specialized task force where the population dynamics would prove efficient. Alternatively, we may enter into distribution and other marketing arrangements with third parties for any of our drug candidates that obtain marketing approval.

Subject to receiving marketing approvals, we expect to commence commercialization activities by building a focused sales and marketing organization in the United States, EU and Latin America to sell our product candidates. We believe that such an organization will be able to target the community of physicians who are the key specialists in treating the patient populations for which our product candidates are being developed.

We also plan to build a marketing and sales management organization to create and implement marketing strategies for any products that we market through our own sales organization and to oversee and support our sales force. In parallel with building this organization, we plan to develop educational initiatives with respect to approved products and relationships with thought leaders in relevant fields of medicine. As part of our commitment to supporting optimal patient care and sustainable healthcare systems globally, we recognize the importance of fully understanding the needs of the patient communities we serve. We have learned that one of the best ways to accomplish this is by working with patient organizations, who are closely connected to patients' most important concerns and interests.

Government Regulation and Product Approval

Obtaining a Marketing Authorization in the European Union

Under European Union regulatory systems, a company may not market a medicinal product without marketing authorization.

There are three procedures for submitting a Marketing Authorization Application (MAA) in the EU: (i) the mutual recognition procedure (MRP); (ii) the decentralized (DCP) and (iii) the centralized procedure (CP). The submission strategy for a given product will depend on the nature of the product, the target indication(s), the history of the product, and the marketing plan. The centralized procedure is compulsory for medicinal products which are produced by biotechnology processes, advanced therapy medicinal

products and orphans. Besides the products falling under the mandatory scope, the centralized procedure is also open for other innovative products are new active substances or other medicinal products that constitute a significant therapeutic, scientific or technical innovation i.e. new active substances or other medicinal products that constitute a significant therapeutic, scientific or technical innovation,.

The centralized procedure leads to approval of the product in all 27 EU member states and in Norway, Iceland and Liechtenstein. Submission of one MAA thus leads to one assessment process and one authorization that allows access to the market of the entire EU. The process of the centralized procedure is triggered when the applicant sends the letter announcing the intent to submit a MAA (letter of intent). The letter of intent also initiates the assignment of the Rapporteur and Co-Rapporteur, who are the two appointed members of the Committee for Human Medicinal Products (CHMP) representing two EU member states.

When using the MRP or DCP, the applicant must select which and how many EU member states in which to seek approval. In the case of an MRP, the applicant must initially receive national approval in one EU member state. This will be the so-called reference member state (RMS) for the MRP. Then, the applicant seeks approval for the product in other EU member states, the so-called concerned member states (CMS) in a second step: the mutual recognition process. For the DCP, the applicant will approach all chosen member states at the same time. To do so, the applicant will identify the RMS that will assess the submitted MAA and provide the other selected member states with the conclusions und results of the assessment.

Early Market Access Procedures

At the EU level, there are essentially two routes to obtaining an authorization from the EMA to place a product on the market more quickly than through the usual marketing authorization route. The first is an application for a conditional authorization that is available where clinical trials have not been fully completed. This is not a full marketing authorization, but, as its name suggests, has conditions attached. The intention is that once the conditions are fulfilled, the authorization can become a full and unconditional marketing authorization. The other route is through an application to the EMA for an accelerated or exceptional authorization. For this application, full data is available and a full marketing authorization is obtained, but the decision-making process occurs more quickly. In addition to these EU routes, many individual member states have their own legislation allowing products, subject to controls, to be used without a full marketing authorization in specified circumstances — for instance on compassionate use or named patient basis.

Regulatory Data Protection

The rationale for granting data and market exclusivity is to compensate the innovator company for the investment it has put in to generating the data required to obtain a marketing authorization. The regulatory regime permits generic companies, who subsequently wish to gain their own approval for the same drug substance, to rely on information filed by the innovator company that made the first application. In order to be able to benefit from the data provided by the innovator in their regulatory filings for that medicinal product — the "reference medicinal product" — a generic company must show that their product has the same qualitative and quantitative composition as that product and that it is bioequivalent.

However an innovator company enjoys a period of "data exclusivity" during which their pre-clinical and clinical trials data may not be referenced in the regulatory filings of another company (typically a generic company) for the same drug substance.

Data exclusivity in Europe is 8 years from the date of first authorization in Europe with an additional period of 2 years of "market exclusivity." This is the period of time during which a generic company may not market an equivalent generic version of the originator's pharmaceutical product. An additional 1 year may be obtained in where the innovator company is granted a marketing authorization within the above 8-year period for a significant new indication for the relevant medicinal product.

Orphan Drug Designation

Orphan Drug Designation is available from the EMA for therapies addressing chronic debilitating or life-threatening conditions that affect five or fewer out of 10,000 persons or are financially not viable to develop. The market exclusivity period is for ten years, although that period can be reduced to six years if, at the end of the fifth year, available evidence establishes that the product is sufficiently profitable not to justify maintenance of market exclusivity. The market exclusivity may be extended to 12 years if sponsors complete a pediatric investigation plan agreed upon with the relevant committee of the EMA. Orphan drug status must be applied for before the application for the marketing authorization.

Pediatric Rights and Obligations

The Pediatric Regulation provides that an application for a new marketing authorisation must include the results of all studies performed and details of all information collected in compliance with an agreed paediatric investigation plan (PIP) unless a specific exemption is granted on the basis that paediatric use is not relevant — also the requirement can be deferred by agreement.

When the application for marketing authorisation is made, the competent authority responsible for granting a marketing authorisation must verify whether the application complies with the relevant requirements, including compliance with the agreed PIP. Assuming it does, the marketing authorisation may be granted and the relevant results are included in the summary of product characteristics (SmPC) for the product, along with a statement indicating compliance with the agreed PIP. The applicant then receives the six month extension to the SPC. It is not necessary for the product actually to be indicated for use in the paediatric population (for example, if the results show that that would not be appropriate).

Bribery/Sunshine Laws

While there is no EU-wide harmonized laws on bribery or influencing healthcare professional all EU countries are members of the OECD Anti-bribery Convention and there are widespread national laws For instance the UK Bribery Act came into force in July 2011. This act has extensive extra-territorial application, implements significant changes to existing UK anti-bribery legislation and broadens the scope of statutory offences and the potential applicable penalties, including, organizational liability for any bribe paid by persons or entities associated with an organization where the organization failed to have adequate preventative procedures in place at the time of the offence. There is also an increase in the maximum applicable penalties for bribery, including up to 10 years' imprisonment and unlimited fines. There have also been increased enforcement efforts in the UK by the Serious Fraud Office. In addition the French government has recently introduced a law requiring healthcare professional benefits and agreements be publicly available.

FDA Approval Process

In the United States, pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act, or the FDCA, and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, packaging, storage, recordkeeping, approval, labeling, advertising, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending investigational New Drug Applications, or INDs, and NDAs, withdrawal of a marketing approval, imposition of clinical holds or termination of clinical trials, or issuance of Warning, Cyber, or Untitled Letters, product recalls, product seizures, refusal to allow imports or exports total or partial suspension of production or distribution, debarment, injunctions, fines, refusal of government contracts, exclusion from participation in federal and state healthcare programs, restitution, disgorgement, civil penalties and criminal prosecution, including criminal fines and imprisonment.

FDA approval is required before any new unapproved drug or dosage form, including a new use of a previously approved drug, can be marketed in the United States. Pharmaceutical product development in the United States typically involves, among other things, pre-clinical laboratory and animal tests, the

submission to the FDA of an IND, which must become effective before clinical testing may commence, and adequate and well-controlled clinical trials to establish the safety and effectiveness of the drug for each indication for which FDA approval is sought. Satisfaction of FDA pre-market approval requirements typically takes many years and significant financial investment, and the actual time and cost required may vary substantially based upon the type, complexity and novelty of the product or disease indicated for treatment.

Pre-clinical tests include laboratory evaluation of product chemistry, pharmacology, stability, formulation and toxicity, as well as animal trials to assess the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements including good laboratory practices. The results of pre-clinical testing are submitted to the FDA as part of an IND along with other information including information about product chemistry, manufacturing and controls, any available clinical data or literature, and a proposed clinical trial protocol, among other items. Certain pre-clinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may be conducted after the IND is submitted. A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has not placed a clinical hold on the IND within this 30-day period, the clinical trial proposed in the IND may begin. Should FDA place a clinical hold on the IND, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial may begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of a qualified investigator. Clinical trials must be conducted in compliance with federal regulations, good clinical practices, or GCP, which include the ethical principles that all research subjects provide their informed consent in writing for their participation in any clinical trial, and that all trials be approved and monitored on an ongoing basis by an institutional review board, or IRB. Clinical trials must also be conducted under protocols detailing the objectives of the trial, trial procedures, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated, and a statistical analysis plan. Each protocol involving testing in U.S. subjects and subsequent protocol amendments must be submitted to the FDA as part of the IND. The study protocol and informed consent information for subjects in clinical trials, along with all amendments, must also be submitted to an IRB for approval.

Clinical trials to support NDAs for marketing approval are typically conducted in three sequential phases, but the phases may overlap. In Phase I, the initial introduction of the drug into healthy human subjects or subjects with the target disease or condition, the drug is tested to assess safety, metabolism, pharmacokinetics, pharmacological actions, side effects associated with increasing doses and, if possible, early evidence of effectiveness. Phase II usually involves trials in a limited subject population with the target disease or condition to evaluate the effectiveness of the drug for a particular indication or indications, dosage tolerance and optimum dosage, and identify possible adverse effects and safety risks. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in Phase II evaluations, generally two adequate and well-controlled Phase III trials are undertaken to obtain additional information about clinical efficacy and safety in a larger number of subjects, typically at geographically dispersed clinical trial sites, to establish the overall benefit-risk relationship of the drug and to provide adequate information for the labeling of the drug. In some cases, the FDA may condition approval on the sponsor's agreement to conduct additional clinical trials to further assess the drug's safety and effectiveness after approval. Such post-approval studies are typically referred to as Phase IV studies. Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Information about certain clinical trials, including a description of the study and study results must also be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their clinicaltrials.gov website.

The manufacture of investigational drugs for the conduct of human clinical trials is subject to the cGMPs. Investigational drugs and active pharmaceutical ingredients, imported into the United States are also subject to regulation by FDA relating to their labeling and distribution. Further, the export of investigational

drug products outside of the United States is subject to regulatory requirements of the receiving country as well as United States export requirements under the Federal Food, Drug, and Cosmetic Act.

Sponsors of INDs may request a Special Protocol Assessment, or SPA, from the FDA. Under an SPA, IND sponsors meet with the FDA to reach an agreement on the design and size of a clinical trial that will form the primary basis of an efficacy claim in an NDA. If an agreement is reached, the FDA reduces the agreement to writing and makes it part of the administrative record. The agreement may not be changed by either the sponsor or the FDA after the clinical trial begins except with the written agreement of both the sponsor and the FDA or if the director of the FDA reviewing division determines that a substantial scientific issue essential to determining the safety or effectiveness of the drug was identified after the clinical trial testing began.

Phase I, Phase II and Phase III clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA may suspend or terminate a clinical trial, or impose other sanctions, at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk or if it believes that the clinical trials are not being conducted in accordance with FDA requirements. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to subjects, or may impose other conditions on the conduct of the research. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group regularly reviews accumulated data and advises the study sponsor regarding the continuing safety of trial subjects, potential trial subjects, and the continuing validity and scientific merit of the clinical trial. Sponsors may also suspend or terminate a clinical trial based on safety concerns, a lack of evidence of drug efficacy, evolving business objectives and/or competitive climate.

After completion of the required clinical testing, an NDA is prepared and submitted to the FDA. FDA approval of the NDA is required before marketing of the product may begin in the United States. The NDA must include the results of all pre-clinical, clinical and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture and controls, and proposed labeling, among other things. The cost of preparing and submitting an NDA is substantial. Under federal law, the submission of most marketing applications is additionally subject to a substantial application user fee, and the manufacturer and/or sponsor under an approved application are also subject to annual product and establishment fees per product and per establishment. These fees are typically increased annually. Application user fees must be filed at the time of the first submission of the application, even if the application is being submitted on a rolling basis. A waiver from the application user fee may be sought by an applicant. One basis for a waiver of the application user fee is if the applicant employs fewer than 500 employees, including employees of affiliates, the applicant does not have a drug product that has been approved under a human drug application and introduced or delivered for introduction into interstate commerce, and the applicant, including its affiliates, is submitting its first human drug application.

In addition, under the Pediatric Research Equity Act, or PREA, a marketing application or supplement to a marketing application for a new active ingredient, indication, dosage form, dosage regimen or route of administration must contain data that are adequate to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Unless otherwise required by regulation, the pediatric data requirements do not apply to products with orphan designation.

The FDA also may require submission of a risk evaluation and mitigation strategy, or REMS, either during the application process or after the approval of the drug to mitigate any identified or suspected serious risks, and to identify any new risks that were not apparent in clinical investigations. The REMS plan could

include medication guides, physician communication plans, assessment plans, and elements to assure safe use, such as restricted distribution methods, patient registries or other risk minimization tools.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product's continued safety, quality and purity.

Under the Prescription Drug User Fee Act the FDA has agreed to certain performance goals in the review of NDAs. The FDA has a goal of reviewing ninety percent of applications for non-priority drug products within 10 months of the FDA's acceptance of the full application for filing. The review process may be extended by the FDA under certain circumstances.

Under the FDCA and FDA guidance, before approving a drug for which no active ingredient (including any ester or salt of the active ingredients) has previously been approved by the FDA or a first-of-a-kind, first-in-class biologic, FDA must either refer that drug to an external advisory committee or provide in an action letter, a summary of the reasons why FDA did not refer the drug to an advisory committee. The external advisory committee review may also be required for other drugs because of certain other issues, including clinical trial design, safety and effectiveness, and public health questions. An advisory committee is a panel of independent experts, including clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Additionally, the FDA will inspect the facility or the facilities at which the drug is manufactured. The FDA will not approve the product unless the facility, and all of its subcontractors and contract manufacturers, demonstrate compliance with current Good Manufacturing Practices, or cGMPs, and provide adequate assurance that they can consistently produce the product within required specifications, and the NDA contains data that provides substantial evidence that the drug is safe and effective for the indication sought in the proposed labeling. Additionally, the FDA will typically inspect one or more clinical trial sites to assure compliance with GCPs before approving a marketing application. After the FDA evaluates the marketing application and the manufacturing facilities, it may issue an approval letter, or a complete response letter. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA may issue an approval letter. The FDA has a review goal of completing its review of 90% of such resubmissions within two to six months of receipt depending on the type of information included.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. As a condition of NDA approval, the FDA may require substantial post-approval testing and surveillance to monitor the drug's safety or efficacy and may impose other conditions, including labeling restrictions, limitations on the approved indications, contraindications, warnings or precautions, such as black boxed warnings, distribution restrictions or other risk-management mechanisms under a REMS which can materially affect the potential market and profitability of the drug. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. Further, if there are any modifications to the drug, including changes in indications, labeling, manufacturing processes or facilities, or new safety issues arise, a new or supplemental NDA or a post-implementation notification or other report may be required or requested depending on the change, which may require additional data or additional pre-clinical studies and clinical trials. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Special FDA Expedited Review and Approval Programs

The FDA has various programs, including fast track designation, priority review and breakthrough designation, that are intended to expedite or simplify the process for the development and FDA review of drugs that are intended for the treatment of serious or life threatening diseases or conditions, and demonstrate the potential to address unmet medical needs or present a significant improvement over existing therapy. The purpose of these programs is to provide important new drugs to patients earlier than under standard FDA review procedures.

To be eligible for a fast-track designation, the FDA must determine, based on the request of a sponsor, that a product is intended to treat a serious or life threatening disease or condition and demonstrates the potential to address an unmet medical need. The FDA will determine that a product will fill an unmet medical need if the product will provide a therapy where none exists or provide a therapy that may be potentially superior to existing therapy based on efficacy, safety, or public health factors. If fast-track designation is obtained, drug sponsors may be eligible for more frequent development meetings and correspondence with the FDA. In addition, the FDA may initiate review of sections of an NDA before the application is complete. This "rolling review" is available if the applicant provides and the FDA approves a schedule for the remaining information. In some cases, a fast track product may be eligible for priority review.

The FDA may give a priority review designation to drugs that are intended to treat serious conditions and provide significant improvements in the safety or effectiveness of the treatment, diagnosis, or prevention of serious conditions. A priority review means that the goal for the FDA is to review a full application in six months, rather than the standard review of ten months under current PDUFA guidelines. These six and ten month review periods are measured from the "filing" date rather than the receipt date for NDAs, which typically adds approximately two months to the timeline for review and decision from the date of submission. Products that are eligible for fast-track designation may also be considered appropriate to receive a priority review.

Moreover, under the provisions of the new Food and Drug Administration Safety and Innovation Act, or FDASIA, enacted in 2012, a sponsor can request designation of a product candidate as a "breakthrough therapy." A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Drugs designated as breakthrough therapies are eligible for the fast track designation features as described above, intensive guidance on an efficient drug development program beginning as early as Phase I trials, and a commitment from the FDA to involve senior managers and experienced review staff in a proactive collaborative, cross-disciplinary review.

Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion, and reporting of adverse experiences with the product and drug shortages. After approval, most changes to the approved product, such as adding new indications, manufacturing changes or other labeling claims, are subject to further testing requirements and prior FDA review and approval. There also are continuing annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies list drugs manufactured at their facilities with FDA, and are subject to periodic announced and unannounced inspections by the FDA and these state agencies for compliance with cGMP and other regulatory requirements. Changes to the manufacturing process are strictly regulated and may require prior FDA approval or notification before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market.

Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in mandatory revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, Untitled Letters, Warning Letters, Cyber Letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of administrative civil or criminal penalties, including fines and imprisonment.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Although physicians, in the practice of medicine, may prescribe approved drugs for unapproved indications if in their professional medical judgment they believe it to be appropriate, pharmaceutical companies may only market and promote their drug products for the FDA approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws prohibiting the marketing and promotion of off-label uses, and a company that is found to have improperly marketed or promoted off-label uses may be subject to significant liability, including, among others, criminal and civil penalties under the FDCA and False Claims Act, exclusion from participation in federal healthcare programs, and mandatory compliance programs.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Moreover, the recently enacted Drug Quality and Security Act imposes new obligations on manufacturers of pharmaceutical products, among others, related to product and tracking and tracing. Among the requirements of this new legislation, manufacturers will be required to provide certain information regarding the drug products to individuals and entities to which product ownership is transferred, label drug product with a product identifier, and keep certain records regarding the drug product. The transfer of information to subsequent product owners by manufacturers will eventually be required to be done electronically. Manufacturers will also be required to verify that purchasers of the manufacturers' products are appropriately licensed. Further, under this new legislation, manufactures will have drug product investigation, quarantine, disposition, and FDA and trading partner notification responsibilities related to

counterfeit, diverted, stolen, and intentionally adulterated products, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences of death.

Federal and State Fraud and Abuse, Data Privacy and Security and Transparency Laws

In addition to FDA restrictions on marketing and promotion of pharmaceutical products, other federal and state laws restrict business practices in the biopharmaceutical industry. These laws include, without limitation, anti-kickback and false claims laws, data privacy and security laws , as well as state and federal transparency laws regarding payments or other items of value provided to healthcare providers.

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any good, facility, item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, formulary managers, and beneficiaries on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all its facts and circumstances. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the Anti-Kickback Statute has been violated.

Additionally, the intent standard under the Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, collectively PPACA, also known as the Affordable Care Act, to a stricter standard such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, PPACA codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act. The federal civil False Claims Act prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment or approval to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. The civil False Claims Act also applies to false submissions that cause the government to be paid less than the amount to which it is entitled, such as a rebate. Intent to deceive is not required to establish liability under the civil False Claims Act. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of products for unapproved, and thus non — covered, uses. In addition, federal healthcare programs require drug manufacturers to report drug pricing information, which is used to quantify discounts and establish reimbursement rates. Several pharmaceutical and other healthcare companies have been prosecuted for reporting allegedly false pricing information, which caused the manufacturer to understate rebates owed or, when used to determine reimbursement rates, caused overpayment to providers. The government may further prosecute conduct constituting a false claim under the criminal False Claims Act. The criminal False Claims Act prohibits the

making or presenting of a claim to the government knowing such claim to be false, fictitious, or fraudulent and, unlike the civil False Claims Act, requires proof of intent to submit a false claim.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created new federal criminal statutes that prohibit among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Like the Anti-Kickback Statute PPACA amended the intent standard for certain healthcare fraud under HIPAA such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

The civil monetary penalties statute imposes penalties against any person or entity that, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their respective implementing regulations, including the final omnibus rule published on January 25, 2013, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH, through its implementing regulations, makes certain of HIPAA's privacy and security standards directly applicable to "business associates," defined as a person or organization, other than a member of a covered entity's workforce, that creates, receives, maintains or transmits protected health information for or on behalf of a covered entity for a function or activity regulated by HIPAA. In addition to HIPAA criminal penalties, HITECH created four new tiers of civil and monetary penalties and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Additionally, the federal Physician Payments Sunshine Act within PPACA, and its implementing regulations, require that certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members. Certain states also require implementation of commercial compliance programs and compliance with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government, or otherwise restrict payments or the provision of other items of value that may be made to healthcare providers and other potential referral sources; impose restrictions on marketing practices; require the registration of sales representatives; or require drug manufacturers to track and report information related to payments, gifts and other items of value to physicians and other healthcare providers.

Also, many states have similar fraud and abuse statutes or regulations that may be broader in scope and may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs.

If our operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal and civil and/or administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government healthcare programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Coverage and Reimbursement

The commercial success of our product candidates and our ability to commercialize any approved product candidates successfully will depend in part on the extent to which governmental authorities, private health insurers and other third-party payors provide coverage for and establish adequate reimbursement levels for our product candidates, once approved.

Government health administration authorities, private health insurers and other third-party payors generally decide which drugs they will pay for and establish reimbursement levels for healthcare. In particular, in the United States, private health insurers and other third-party payors often provide reimbursement for products and services based on the level at which the government (through the Medicare or Medicaid programs) provides reimbursement for such treatments. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products. Sales of our product candidates will therefore depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by health maintenance organizations, managed care organizations, pharmacy benefit and similar healthcare management organizations, and reimbursed by government health administration authorities, such as Medicare and Medicaid, private health coverage insurers and other third-party payors. The market for our product candidates will depend significantly on access to third-party payors' formularies without prior authorization, step therapy, or other limitations such as approved lists of treatments for which third-party payors provide coverage and reimbursement. Also, third-party payors are developing increasingly sophisticated methods of controlling healthcare costs. Coverage and reimbursement for therapeutic products can differ significantly from payor to payor. A third-party payors' decision to provide coverage for a medical product or service does not imply that an adequate reimbursement rate will be approved. One third-party payor's decision to cover a particular medical product or service does not ensure that other payors will also provide coverage for the medical product or service, or will provide coverage at an adequate reimbursement rate. As a result, the coverage determination process will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that adequate coverage and reimbursement will be obtained.

In the United States, the European Union and other potentially significant markets for our product candidates, government authorities and other third-party payors are developing increasingly sophisticated methods of controlling healthcare costs and are increasingly imposing additional requirements and restrictions on coverage. For example, in the United States, federal and state governments reimburse covered prescription drugs at varying rates. Some U.S. federal programs also impose de facto price controls, such as through mandatory ceiling prices on purchases by certain federal agencies and certain hospitals and clinics and through requiring rebates on certain prescriptions paid by Medicaid and by TRICARE, all of which place downward pressure on prescription drug prices in the United States. These restrictions and limitations influence the purchase of healthcare services and products, and can affect profit margins as well as market share. Legislative proposals to reform healthcare or reduce costs under government programs may result in lower reimbursement for our product candidates or exclusion of our product candidates from

coverage. Our ability to take commercial price increases in the future is also hindered by the imposition of anti-inflation penalties by certain federal programs in the form of additional rebates and discounts.

Further, the increased emphasis on managed healthcare in the United States and on country and regional pricing and reimbursement controls in the European Union will put additional pressure on product pricing, reimbursement and utilization, which may adversely affect our future product sales and results of operations. These pressures can arise from rules and practices of managed care organizations, competition within therapeutic classes, availability of generic equivalents or biosimilars, judicial decisions and governmental laws related to Medicare, Medicaid and healthcare reform, pharmaceutical coverage and reimbursement policies and pricing in general. The cost containment measures that healthcare payors and providers are instituting and the effect of any healthcare reform implemented in the future could significantly reduce our revenues from the sale of any approved product candidates. We cannot provide any assurances that we will be able to obtain and maintain governmental or private third-party coverage or adequate reimbursement for our product candidates in whole or in part.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or MMA, imposed new requirements for the distribution and pricing of outpatient prescription drugs dispensed to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities which provide coverage of outpatient prescription drugs pursuant to federal regulations. Part D plans include both stand-alone prescription drug benefit plans and prescription drug coverage as a supplement to Medicare Advantage plans. Unlike Medicare Part A and B, Part D coverage is not standardized. In general, Part D prescription drug plan sponsors have flexibility regarding coverage of Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class, with certain exceptions. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for our products for which we receive marketing approval. However, any negotiated prices for our future products covered by a Part D prescription drug plan will likely be discounted, thereby lowering the net price realized on our sales to pharmacies. Moreover, while the MMA applies only to pharmacy benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own pharmacy payment rates. Any reduction in payment that results from Medicare Part D may result in a similar reduction in payments from non-governmental payors.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. A plan for the research will be developed by the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear what effect, if any, the research will have on the sales of any product, if any such product or the condition that it is intended to treat is the subject of a study. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidates, once approved. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

The United States and some foreign jurisdictions are considering enacting or have enacted a number of additional legislative and regulatory proposals designed to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the

pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives, including, most recently, PPACA, which has potential to substantially change healthcare financing and delivery by both governmental and private insurers, and significantly impact the pharmaceutical industry. Among other things, PPACA expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate for singlesource, multiple source, innovator and non-innovator drugs, effective the first quarter of 2010 and revising the definition of "average manufacturer price," or AMP, for calculating and reporting Medicaid drug rebates on outpatient prescription drug prices. This could increase the amount of Medicaid drug rebates manufacturers are required to pay to states. The legislation also extended Medicaid drug rebates, previously due only on fee-for-service utilization, to Medicaid managed care utilization, and created an alternate rebate formula for new formulations of certain existing products that is intended to increase the amount of rebates due on those drugs. Also effective in 2010, PPACA expanded the types of entities eligible for the 340B drug discount program that mandates discounts to certain hospitals, community centers and other qualifying providers. With the exception of children's hospitals, these newly eligible entities will not be eligible to receive discounted 340B pricing on orphan drugs. In addition, because 340B pricing is determined based on AMP and Medicaid drug rebate data, the revisions to the Medicaid rebate formula and AMP definition described above could cause the required 340B discounts to increase. Furthermore, as of 2011, PPACA established the Medicare Part D coverage gap discount program by requiring manufacturers to provide a 50% point-of-sale-discount off the negotiated price of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D. Finally, PPACA establishes an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents and expands Medicaid benefits. In the future, there may continue to be additional proposals relating to the reform of the United States healthcare system, some of which could further limit the prices we are able to charge or the amounts of reimbursement available for our product candidates once they are approved.

Additionally, the Veterans Health Care Act of 1992 requires manufacturers of "covered drugs" to offer them for sale to certain federal agencies, including but not limited to, the Department of Veterans Affairs, on the Federal Supply Schedule, which requires compliance with applicable federal procurement laws and regulations and subjects manufacturers to contractual remedies as well as administrative, civil and criminal sanctions.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act, or the FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. Activities that violate the FCPA, even if they occur wholly outside the United States, can result in criminal and civil fines, imprisonment, disgorgement, oversight, and debarment from government contracts.

Exclusivity and Approval of Competing Products

Hatch-Waxman Patent Exclusivity. In seeking approval for a drug through an NDA, applicants are required to list with the FDA each patent with claims that cover the applicant's product or a method of using the product. Upon approval of a drug, each of the patents listed in the application for the drug is then published in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book. Drugs listed in the Orange Book can, in turn, be cited by potential competitors in support of approval of an abbreviated new drug application, or ANDA, or 505(b)(2) NDA. Generally, an

ANDA provides for marketing of a drug product that has the same active ingredients in the same strengths, dosage form and route of administration as the listed drug and has been shown to be bioequivalent through *in vitro* or *in vivo* testing or otherwise to the listed drug. ANDA applicants are not required to conduct or submit results of pre-clinical or clinical tests to prove the safety or effectiveness of their drug product, other than the requirement for bioequivalence testing. Drugs approved in this way are commonly referred to as "generic equivalents" to the listed drug, and can often be substituted by pharmacists under prescriptions written for the reference listed drug. 505(b)(2) NDAs generally are submitted for changes to a previously approved drug product, such as a new dosage form or indication.

The ANDA or 505(b)(2) NDA applicant is required to provide a certification to the FDA in the product application concerning any patents listed for the approved product in the FDA's Orange Book, except for patents covering methods of use for which the applicant is not seeking approval. Specifically, the applicant must certify with respect to each patent that:

- the required patent information has not been filed;
- the listed patent has expired;
- the listed patent has not expired, but will expire on a particular date and approval is sought after patent expiration; or
- the listed patent is invalid, unenforceable, or will not be infringed by the new product.

Generally, the ANDA or 505(b)(2) NDA cannot be approved until all listed patents have expired, except when the ANDA or 505(b)(2) NDA applicant challenges a listed patent or indicates that it is not seeking approval of a patented method of use. A certification that the proposed product will not infringe the already approved product's listed patents or that such patents are invalid or unenforceable is called a Paragraph IV certification.

If the ANDA or 505(b)(2) NDA applicant has provided a Paragraph IV certification to the FDA, the applicant must also send notice of the Paragraph IV certification to the NDA and patent holders once the application has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the Paragraph IV certification. The filing of a patent infringement lawsuit within 45 days after the receipt of notice of the Paragraph IV certification automatically prevents the FDA from approving the ANDA or 505(b)(2) NDA until the earlier of 30 months, expiration of the patent, settlement of the lawsuit, decision in the infringement case that is favorable to the ANDA applicant or such shorter or longer period as may be ordered by a court.

Hatch-Waxman Non-Patent Exclusivity. Market and data exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications for competing products. The FDCA provides a five-year period of non-patent data exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the therapeutic activity of the drug substance. During the exclusivity period, the FDA may not accept for review an ANDA or a 505(b)(2) NDA submitted by another company that contains the previously approved active moiety. However, an ANDA or 505(b)(2) NDA may be submitted after four years if it contains a certification of patent invalidity or non-infringement.

The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA, or supplement to an existing NDA or 505(b)(2) NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant, are deemed by the FDA to be essential to the approval of the application or supplement. Three-year exclusivity may be awarded for changes to a previously approved drug product, such as new indications, dosages, strengths or dosage forms of an existing drug. This three-year exclusivity covers only the conditions of FDA approval associated with the new clinical investigations and, as a general matter, does not prohibit the FDA from approving ANDAs or 505(b)(2) NDAs for generic versions of the original, unmodified drug product. Five-year and three-year exclusivity will not delay the submission

or approval of a full NDA; however, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the pre-clinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Orphan Drug Exclusivity. The Orphan Drug Act provides incentives for the development of drugs intended to treat rare diseases or conditions, which generally are diseases or conditions affecting less than 200,000 individuals annually in the United States, or affects more than 200,000 in the United States and for which there is no reasonable expectation that the cost of developing and making the drug available in the United States will be recovered from United States sales. If there is a previously approved drug on the market which is chemically the same drug and is intended to treat the same orphan indication, the applicant must also show that the new drug is clinically superior to the previously approved drug. If a sponsor demonstrates the orphan drug requirements, the FDA grants orphan drug designation to the product for that use. The benefits of orphan drug designation include qualification for research and development tax credits and exemption from user fees. A drug that is approved for the orphan drug designated indication is granted seven years of orphan drug exclusivity. During that period, the FDA generally may not approve any other application for the same product for the same indication, although there are exceptions, most notably when the later product is shown to be clinically superior to the product with exclusivity.

Pediatric Exclusivity. Pediatric exclusivity is another type of non-patent marketing exclusivity in the United States and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing regulatory exclusivity, including the non-patent and orphan drug exclusivity periods described above. This six-month exclusivity may be granted if a sponsor submits pediatric data that fairly respond to a written request from the FDA for such data. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by FDA within the statutory time limits, whatever statutory or regulatory periods of exclusivity, or patent protection, which, in the case of drugs is listed in the Orange Book, are extended by six months. This is not a patent term extension, but it effectively extends the regulatory period during which the FDA cannot approve an ANDA or 505(b)(2) application or biosimilar product owing to regulatory exclusivity or listed patents.

Regulation of Biologics

Our product candidate, MIN-301, is a protein, and, as a protein, will likely be considered to be a biologic by FDA. Biologics are regulated under the PHSA and FDCA. Because biologics also meet the FDCA's definition of a drug, many aspects of the FDA's regulation of biologics are the same as or similar to drugs, though there are some differences. As with drugs, a product sponsor must conduct pre-clinical testing, obtain an IND for the conduct of clinical studies, and conduct clinical studies in accordance with FDA's requirements to support a marketing application. Following completion of clinical testing, however, the product sponsor usually will be required to submit a BLA to FDA. Rather than demonstrating safety and efficacy, as in the case of an NDA, a BLA must demonstrate that the biologic is safe, pure and potent. Accordingly, different information must be included in the BLA to meet the FDA's approval standards. Similarly, following product approval, biologics are subject to many of the same regulatory requirements as drugs, including requirements pertaining to record keeping, periodic reporting, distribution, labeling, post-approval studies, REMS, advertising and promotion, reporting of adverse experiences and product shortages, and the manufacture of products in accordance with cGMPs. Unlike drugs, biologics are also subject to lot-release requirements, which require submission of product samples and testing information to the FDA. The products may not be distributed until the lot is released by the FDA. Biologics are further subject to the same fraud and abuse, data privacy, security, and transparency laws as drugs. Generally, brand biologics are covered and reimbursed by government and commercial health plans as single-source drugs.

A key difference between drugs and biologics are the PHSA's provisions pertaining to the entry of competing products on the market and exclusivity. Following the approval of a BLA, other companies may pursue

approval of similar biologic products using an abbreviated pathway. This abbreviated pathway is available to products with a showing of biosimilarity. A biosimilar product is a product that is highly similar to the reference product, notwithstanding minor differences in clinically inactive components and for which there are no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency. Biosimilarity is demonstrated through data from analytical, animal, and clinical studies. Biosimilar products can also be deemed to be interchangeable with the reference product. To meet the higher standard of interchangeability, an applicant must show biosimilarity and demonstrate that the product can be expected to produce the same clinical results as the reference product, and, if intended for repeated dosing, the safety or diminished efficacy risk of switching between the product and reference product is no greater than using the reference product without switching. Interchangeable products may be substituted for a reference product without the intervention of the prescribing healthcare provider. The FDA has not yet promulgated regulatory standards for determining interchangeability and the naming of biosimilars. In addition, there are state laws governing the prescribing of biosimilars by pharmacies.

The PHSA also includes provisions to protect reference products that have patent protection. The biosimilar product sponsor and reference product sponsor must exchange certain patent and product information for the purpose of determining whether there should be a legal patent challenge. Based on the outcome of negotiations surrounding the exchanged information, the reference product sponsor may bring a patent infringement suit and injunction proceedings against the biosimilar product sponsor.

For biologics, market and data exclusivity under the PHSA can delay the submission and approval of certain competing products. The PHSA provides for twelve years of non-patent exclusivity for biologics licensed via a BLA. During this time, a biosimilar product approval may not be made effective by the FDA. Moreover, the FDA may not accept such an application until four years after the reference product is first approved.

Approval Outside the United States

In order to market any product outside of the United States, we must comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales and distribution of our products broadly reflecting the issues addressed by the FDA above. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from and be longer than that required to obtain FDA approval. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may negatively impact the regulatory process in others.

To date, we have not initiated any discussions with the European Medicines Agency or any other foreign regulatory authorities with respect to seeking marketing approval for any indication in Europe or in any other country outside the United States. As in the United States, the marketing approval process in Europe and in other countries is a lengthy, challenging and inherently uncertain process.

If we fail to comply with applicable foreign regulatory requirements, we may be subject to fines, suspension or withdrawal of marketing approvals, product recalls, seizure of products, operating restrictions and criminal prosecution. While not reiterating the stages of development, approval and post approval, which in the European Union follow the same broad structure as those set out in the foregoing section in relation to the US, we review below some key features of the EU regime. Generally the procedures are harmonized throughout the European Union in accordance with Directive 2001/83 and (for the Centralized Procedure) Regulation 726/2004 with detailed guidance found in the Notice to Applicants. However there is limited harmonization in relation to national pricing and reimbursement practices.

Clinical Trials in the European Union

In Europe, a clinical trial application, or CTA, must be submitted to the competent national regulatory authority and to independent ethics committees in each country in which we intend to conduct clinical

trials. Once the CTA is approved in accordance with that country's requirements, clinical trial development may proceed in that country. In all cases, the clinical trials must be conducted in accordance with good clinical practices and other applicable regulatory requirements.

A clinical trial may only be undertaken subject to certain conditions. The relevant ethics committee must give its opinion, before a clinical trial commences, on any issue requested. Clinical trials information must be entered into a European database. There are strict requirements in relation to the labeling and packaging of our product candidates, the verification of compliance with the provisions on good clinical and manufacturing practice and the notification of adverse events and serious adverse reactions.

Facilities

Our principal executive offices are located in Cambridge, Massachusetts. We intend to add new facilities or expand existing facilities as we add employees, and we believe that suitable additional or substitute space will be available as needed to accommodate any such expansion of our operations.

Employees

As of June 10, 2014, we had six full-time employees. In addition, we are or have engaged with a number of consultants and companies, including Pharma Partnering in Research & Strategy SAS (PPRS), that provide expertise in the key functions involved with the development of our products. None of our employees is subject to a collective bargaining agreement and we consider our relationship with our employees to be good.

Legal Proceedings

From time to time, we may be subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Although the results of litigation and claims cannot be predicted with certainty, as of the date of this prospectus, we do not believe we are party to any claim or litigation, the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

MANAGEMENT

Board of Directors and Executive Officers

The following table sets forth information concerning the members of our board of directors and executive officers as of the date of this prospectus:

NAME	AGE	POSITION
Executive Officers		
Rogerio Vivaldi Coelho, MD, MBA.	50	Director, President and Chief Executive Officer
Geoff Race	53	Executive Vice President and Chief Financial Officer
Joseph Reilly	39	Chief Business Officer
Remy Luthringer, PhD	53	Executive Vice President and Head of Research and Development
Non-Management Directors		
Marc D. Beer	49	Director, Chairman of the Board of Directors
Jan van Heek[(1)]	65	Director, Chairman of Audit Committee
Francesco de Rubertis, PhD	44	Director
Michèle Ollier, MD.	56	Director
Lorenzo Pellegrini, PhD	46	Director

(1) Mr. van Heek will join our board of directors upon the closing of this offering.

The following is information about the experience and attributes of the members of our board of directors as of the date of this prospectus.

Executive Officers

Rogerio Vivaldi Coelho, MD, MBA. Dr. Vivaldi has served as our President and Chief Executive Officer and a member of our board of directors since November 2013. Prior to joining us, from October 2011 to October 2013, Dr. Vivaldi was the Senior Vice President — Head of Rare Diseases Business Unit at Genzyme, a Sanofi pharmaceutical company. From July 2010 to September 2011, he was the Senior Vice President — Head of Renal and Endocrinology Business Unit at Genzyme and from January 2004 to June 2010 he was the Senior Vice President — Head of Genzyme Latin America. Prior to 2004, Dr. Vivaldi founded Genzyme in Brazil in 1997. Dr. Vivaldi holds a medical degree from the University of Rio de Janeiro (Brazil) and his M.B.A. from Federal University of Rio de Janeiro (Brazil). Our board of directors believes that Dr. Vivaldi's medical knowledge as well as his extensive experience in the life sciences industry qualifies him to serve on our board of directors.

Geoff Race Mr. Race has provided services to us since July 2010, first as a consultant and then as an employee beginning in May 2014. Mr. Race was named our Executive Vice President and Chief Financial Officer in March 2014. From June 2010 to November 2013, he served as the Chief Executive Officer and acting Chief Financial Officer of Funxional Therapeutics Ltd., a clinical stage pharmaceutical company which was spun out of Cambridge University, UK. Funxional Therapeutics' lead program was sold to Boehringer Ingelheim in 2012. Prior to that he served as Chief Financial Officer of the PanGenetics Group, an antibody development company, from September 2006 to May 2010 and Chief Executive Officer from May 2010 to March 2011. PanGenetics 110 BV was sold to Abbot Laboratories in December 2009. From August 2003 to April 2006, Mr. Race served as Chief Executive Officer of CareX SA, a French biopharmaceutical company specializing in the discovery and development of drugs to treat metabolic diseases. Mr. Race was also CEO of Adprotech Ltd, a spin-out from Smithkline Beecham, from December 2000 to May 2003 and CFO of Bioprocessing Ltd, a chromatography reagent developer, from May 1997 to

March 2000 which was sold to Millipore Inc. Mr. Race is a Fellow of the Institute of Chartered Management Accountants and holds an M.B.A. from Durham University Business School (UK).

Joseph Reilly Mr. Reilly has served as our Chief Business Officer since January 2014. Prior to joining Minerva, Mr. Reilly was Vice President and Head of Commercial Strategy and Operations at Genzyme, a Sanofi pharmaceutical company, from August 2012 to December 2013. In more than a decade at Genzyme, he also served as Vice President of Global Business Operations from July 2011 to August 2012, Vice President of Commercial Operations in the Personalized Genetic Health Division from March 2010 to July 2011 and Vice President of Business Unit Finance from November 2007 to March 2010. He earned a B.S. in Finance at Boston College and his M.S. in Finance from the Wallace E. Carroll Graduate School of Management at Boston College.

Remy Luthringer, PhD Dr. Luthringer has provided services to us since July 2010, first as a consultant and then as an employee beginning in May 2014. Dr. Luthringer was named our Executive Vice President and Head of Research and Development in March 2014. Since December 2010, Dr. Luthringer has served as the Chief Medical Officer and been employed as a venture partner at Index Ventures, a venture capital firm providing investment advice to the Index Funds. Prior to that he was the Chief Executive Officer and President of the FORENAP Institute for Research in Neurosciences and Neuropsychiatry in France, from 2005 until September of 2010. He serves on the board of directors for various private medical technology and life sciences companies. Dr. Luthringer received his Ph.D. in Pharmacology and Neurosciences from University Louis Pasteur (France), a Master in Functional Explorations from University Paris VI (France), and a nursing degree in Psychiatry from Rouffach Hosptial (France).

Non-Management Directors

Marc D. Beer Mr. Beer has served on our board of directors since December 2013. Since August 2010, Mr. Beer has served as Chief Executive Officer and a member of the board of directors of Aegerion Pharmaceuticals. Inc., a publicly traded pharmaceutical company. From November 2007 to August 2010, Mr. Beer served as an independent consultant and member of the board of directors for a number of private life sciences companies. From April 2000 to November 2007, he served as the President and Chief Executive Officer of ViaCell, Inc., a cellular therapy company. Prior to that, from April 1996 to 2000, he held marketing and business development roles at Genzyme Corporation, Sanofi pharmaceutical company, most recently serving as Vice President of Global Marketing. Mr. Beer serves as a member of the board of directors for Erytech Pharma, a publicly traded biopharmaceutical company and the Emerging Companies section of BIO, a trade organization. Mr. Beer holds a B.S. from Miami University (Ohio). Our board of directors believes that Mr. Beer's extensive experience in the life sciences industry and as a member of the board of directors for various life sciences companies qualifies him to serve on our board of directors and as our chairman.

Jan van Heek Upon the closing of this offering, Mr. van Heek will become a member of our board of directors and chair of the audit committee. Since 2009, Mr. van Heek has been a Principal and Partner at BioPoint Group, a business development consulting company, where he advises biotechnology and other healthcare companies in commercial strategy development, financing and business development. Prior to establishing BioPoint in 2009, Mr. van Heek spent more than 18 years at Genzyme Corporation, a Sanofi pharmaceutical company, most recently as an Executive Vice President and Senior Advisor to the chief executive officer and senior management team. Mr. van Heek is currently a board member of Amarin Corporation, a publicly traded biopharmaceutical company. He was also a board member and Chairman of the Audit Committee of ViaCell Corporation, a public company, from 2002 until it was sold to Perkin Elmer Corporation in 2007. He received an M.B.A. from St. Gallen University in Switzerland and an executive degree from Stanford Business School. Our board of directors believes that Mr. van Heek's experience in the biotechnology industry and his executive experience, specifically his experience in executive officer positions at other companies in the biotechnology industry, as well as his service on other boards of directors, qualifies him to serve as a member of our Board.

Francesco de Rubertis, PhD Dr. de Rubertis has served as a member of our board of directors since our inception in August 2007. Dr. de Rubertis has been a Founder Partner of Index Venture Management LLP, a venture capital firm since July 2009, which provides investment advice to the Index Funds. He was also a co-founder of the firm's life sciences practice. Prior to that, from 1998 to July 2009, he served as a Senior Partner in Index Venture Management, SA, in the same capacity. Dr. de Rubertis has also served and continues to serve on the boards of directors of various private life sciences companies including, Molecular Partners Limited, Versartis Inc., and Profibrix BV. Dr. de Rubertis received his Laurea from the University of Pavia (Italy) and a Ph.D. from the University of Geneva (Italy). Our board of directors believes that Dr. de Rubertis' experience as a member of various boards of directors of life sciences companies combined with his historic knowledge of our company qualifies him to serve on our board of directors.

Michèle Ollier, MD Dr. Ollier has served as a member of our board of directors since our inception in August 2007. Dr. Ollier is a Life Science partner at Index Ventures, a venture capital firm, whose investments are focused in information technology and life science companies, including the Index Funds, which she joined in February 2006. From January 2003 to January 2006, Dr. Ollier was Director of Investment in Life Sciences at Edmond de Rothschild Investment Partners in Paris. Prior to that, Dr. Ollier held various positions relating to strategy, development and commercialization of pharmaceutical products at several biotechnology and pharmaceutical companies, including International CNS Product Manager at Sanofi, Lipid Lowering Agents Group Director at Bristol Myers Squibb France, International Oncology Director at Rhone Poulenc Rorer/RPR Gencell and International Vice President Reproductive Health at Serono. Dr. Ollier also serves as a member of the board of directors for Aegerion Pharmaceuticals Inc., a publicly traded pharmaceutical company and various private life sciences companies. Dr. Ollier holds a medical degree from Paris-Ouest University (France). Our board of directors believes that Dr. Ollier's extensive experience in evaluating and advising life sciences companies qualifies her to sit on our board of directors.

Lorenzo Pellegrini, PhD Dr. Pellegrini has been a member of our board of directors since our inception in August 2007. Dr. Pellegrini has been a partner of Care Capital LLC, a life sciences venture capital firm and affiliate of ours, since December 2008. He also serves as a member of the board of directors of various life sciences companies including Agile Therapeutics, Inc. and Sentinella Pharmaceuticals, both pharmaceutical companies. Dr. Pelligrini conducted pre- and post-doctoral research in the Department of Cell Biology at Yale University and at the Max Planck Institute for Brain Research in Frankfurt am Main. Dr. Pelligrini holds a Laurea in Chemistry from the University of Padova (Italy), a Ph.D. in Biochemistry from the Max Plank Institute for Brain Research (Germany) and an M.B.A. from the Wharton School of the University of Pennsylvania. Our board of directors believes that Dr. Pelligrini's perspective, scientific domain expertise and experience as a board member of various life sciences companies, together with his knowledge of finance and transactions and historic knowledge of the company qualifies him to serve on our board of directors.

Composition of Board of Directors

Our board of directors is currently comprised of five directors. Each director is currently elected to the board of directors for a one-year term, to serve until the election and qualification of successor directors at the annual meeting of stockholders, or until the director's earlier removal, resignation or death.

Upon the closing of this offering, we will have six directors. Each of our current directors was elected to serve as a member of our board of directors pursuant to an investor rights agreement, dated August 29, 2007, as amended on December 20, 2013, by and among us and certain of our stockholders. Pursuant to the investor rights agreement, Dr. Pellegrini, Dr. de Rubertis, Dr. Ollier, Dr. Vivaldi, Mr. Beer and Mr. van Heek were selected to serve on our board of directors. Mr. van Heek will join our board of directors upon the closing of this offering. Dr. Pellegrini was designated by Care Capital LLC. Dr. de Rubertis and Dr. Ollier were designated by Index Ventures III (Delaware), L.P. Dr. Vivaldi was selected to serve on our board of directors as the director then serving as chief executive officer of our company. Mr. Beer and Mr. van Heek

were selected as independent directors with relevant experience in our industry. The rights to be appointed to our board of directors pursuant to the investor rights agreement will terminate upon the closing of this offering and we will have no further contractual obligations regarding the election of our directors. Members of our board of directors previously elected to our board of directors pursuant to the investor rights agreement will continue to serve as directors until their successors are duly elected and qualified by holders of our common stock. There are no family relationships among any of our directors or executive officers.

Upon consummation of this offering, our board of directors will be divided into three classes. The members of each class will serve staggered, three-year terms (other than with respect to the initial terms of the Class I and Class II directors, which will be one and two years, respectively). Upon the expiration of the term of a class of directors, directors in that class will be elected for three-year terms at the annual meeting of stockholders in the year in which their term expires. Upon consummation of this offering:

- Dr. Pellegrini and Dr. Ollier will be Class I directors, whose initial terms will expire at the 2015 annual meeting of stockholders;
- Dr. de Rubertis and Dr. Vivaldi will be Class II directors, whose initial terms will expire at the fiscal 2016 annual meeting of stockholders; and
- Messrs. Beer and van Heek will be Class III directors, whose initial terms will expire at the fiscal 2017 annual meeting of stockholders.

Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of our directors. This classification of our board of directors may have the effect of delaying or preventing changes in control.

Our amended and restated bylaws provide that the authorized number of directors may be changed only by resolution of our board of directors. Our amended and restated bylaws also provide that our directors may be removed for cause only by the affirmative vote of 50% of votes that all our stockholders would be entitled to cast in an annual election of directors.

Director Independence

NASDAQ Marketplace Rule 5615(b)(1) requires a majority of a listed company's board of directors to be comprised of independent directors within one year of the effectiveness of this registration statement. We intend to comply with this rule within one year of the effectiveness of this registration statement. In addition, NASDAQ rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent and that audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our board of directors has undertaken a review of the independence of the directors and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his responsibilities. Based upon information requested from and provided by each director concerning such director's background, employment and affiliations, including family relationships, our board of directors determined that Jan van Heek, Marc Beer, Francesco de Rubertis, Michèle Ollier, and Lorenzo Pellegrini representing five of our six directors, are "independent directors" as defined under applicable stock exchange rules and the independence requirements contemplated by Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Committees of our Board of Directors

Upon completion of this offering, our board of directors will have three standing committees: an audit committee, a compensation committee and a nominating and corporate governance committee.

Audit Committee

Our board of directors has established an audit committee to be effective upon completion of this offering. The audit committee will consist of Messrs. van Heek and Beer and Dr. Ollier, with Mr. van Heek serving as chairperson. Our board of directors has determined that Mr. van Heek qualifies as an "audit committee financial expert" as such term is defined in Item 407(d)(5) of Regulation S-K and that Messrs. van Heek and Beer are independent as independence is defined in Rule 10A-3 of the Exchange Act and under the NASDAQ listing standards. Dr. Ollier is not considered an independent director in connection with her service on the audit committee. Under NASDAQ rules, we are permitted to phase in our compliance with the independent audit committee requirements set forth in NASDAQ Marketplace Rule 5605(C). Within one year of our listing on The NASDAQ Global Market, we are required to have an audit committee comprised of entirely independent directors. The principal duties and responsibilities of our audit committee will be as follows:

- to prepare the annual audit committee report to be included in our annual proxy statement;
- to oversee and monitor our financial reporting process;
- to oversee and monitor the integrity of our financial statements and internal control system;
- to discuss, oversee and monitor policies with respect to risk assessment and risk management;
- select a qualified firm to serve as the independent registered public accounting firm to audit our financial statements on an annual basis;
- to oversee and monitor the independence, retention, performance and compensation of our independent registered public accounting firm;
- to discuss the scope and results of the audit with the independent registered public accounting firm, and review, with management and the independent accountants, our interim and year-end operating results;
- to develop procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- to review our policies on risk assessment and risk management;
- to review related party transactions;
- to obtain and review a report by the independent registered public accounting firm at least annually, that describes our internal quality-control procedures, any material issues with such procedures, and any steps taken to deal with such issues;
- to approve (or, as permitted, pre-approve) all audit and all permissible non-audit services, other than de minimis non-audit services, to be performed by the independent registered public accounting firm; and
- to provide regular reports to our board of directors.

Our audit committee will operate under a written charter, to be effective immediately prior to the completion of this offering, that satisfies the applicable rules of the SEC and the listing standards of The NASDAQ Stock Market. Our audit committee will also have the authority to retain counsel and advisors to fulfill its responsibilities and duties and to form and delegate authority to subcommittees.

Compensation Committee

Our board of directors has established a Compensation Committee to be effective upon completion of this offering. The compensation committee will consist of Dr. de Rubertis, Mr. Beer and Dr. Pellegrini, each of whom is a non-employee member of our board of directors as defined in Rule 16b-3 under the Exchange Act and an outside director as that term is defined in Section 162(m) of the Internal Revenue Code of 1986, or the Code. Dr. de Rubertis is the chairperson of the compensation committee. The composition of our compensation committee meets the requirements for independence under current NASDAQ Stock Market listing standards and SEC rules and regulations. The principal duties and responsibilities of the compensation committee will be as follows:

- to review, evaluate and make recommendations to the board of directors regarding our compensation policies and programs;
- to review and approve the compensation of our chief executive officer, other officers and key employees, including all material benefits, option or stock award grants and perquisites and all material employment agreements, confidentiality and non-competition agreements;
- to review and recommend to the board of directors a succession plan for the chief executive officer and development plans for other key corporate positions as shall be deemed necessary from time to time;
- to administer incentive compensation and equity-related plans; and
- to set and review the compensation of members of the board of directors.

Our compensation committee will operate under a written charter, to be effective immediately prior to the completion of this offering, that satisfies the applicable rules of the SEC and the listing standards of The NASDAQ Stock Market.

Nominating and Corporate Governance Committee

Our board of directors has established a nominating and corporate governance committee effective upon completion of this offering. The nominating and corporate governance committee will consist of Dr. Ollier, and Mr. van Heek, with Dr. Ollier serving as chairperson. The principal duties and responsibilities of the nominating and corporate governance committee will be as follows:

- to identify candidates qualified to become directors of the company, consistent with criteria approved by our board of directors;
- to recommend to our board of directors nominees for election as directors at the next annual meeting of stockholders or a special meeting of stockholders at which directors are to be elected, as well as to recommend directors to serve on the other committees of the board;
- to recommend to our board of directors candidates to fill vacancies and newly created directorships on the board of directors;
- to identify best practices and recommend corporate governance principles, including giving proper attention and making effective responses to stockholder concerns regarding corporate governance;
- to develop and recommend to our board of directors guidelines setting forth corporate governance principles applicable to us; and
- to oversee the evaluation of our board of directors and senior management.

Our nominating and governance committee will operate under a written charter, to be effective immediately prior to the completion of this offering, that satisfies the applicable rules of the SEC and the listing standards of The NASDAQ Stock Market.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all of our officers, directors and employees, including our principal executive officer, principal financial officer and principal accounting officer, or persons performing similar functions. These standards are designed to deter wrongdoing and to promote honest and ethical conduct. Our Code of Business Conduct and Ethics will be posted on our website: *www.minervaneurosciences.com* under "Investor Relations." Any substantive amendment to, or waiver from, any provision of the Code of Business Conduct and Ethics with respect to any senior executive or financial officer will also be posted on our website. The information contained on or accessible from our website is not part of this prospectus.

EXECUTIVE AND DIRECTOR COMPENSATION

Summary Compensation Table

The following table presents information regarding the total compensation earned in 2013 by our chief executive officer and our two other most highly compensated service providers. Although we refer to these individuals as our "named executive officers," we did not have any executive officer other than our chief executive officer as of December 31, 2013.

NAME AND PRINCIPAL POSITION	SALARY ($)	OPTION AWARDS[1] ($)	STOCK AWARDS ($)	ALL OTHER COMPENSATION ($)	TOTAL ($)
Rogerio Vivaldi Coelho, MD, MBA[2] *Chief Executive Officer*	70,833	4,373,064	—	—	$ 4,443,897
Geoff Race[3] *Consultant*	271,500[4]	—	232,526[5]	—	504,026
Remy Luthringer, PhD[6] *Consultant*	196,000	—	—	168,100[7]	364,100

(1) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during 2013 computed in accordance with FASB ASC Topic 718. The aggregate grant date fair value does not take into account any estimated forfeitures related to service-vesting conditions. Assumptions used in the calculation of these amounts are included in Note 2 to our financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that will be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options or the sale of the common stock underlying such stock options.

(2) Dr. Vivaldi joined the company as our chief executive officer in November 2013. Prior to Dr. Vivaldi's hire, we did not have any employees or executive officers and our board of directors performed all executive functions for the company. Amounts shown represents the compensation earned by or awarded to Dr. Vivaldi during 2013 from and after his November 1, 2013 start date.

(3) Mr. Race provided business development and other related services to us as a consultant during 2013. Mr. Race also performed consulting services with Sonkei prior to its merger with the company.

(4) Comprised of $233,500 paid pursuant to Mr. Race's consulting agreement with us and $36,000 paid pursuant to his consulting agreement with Sonkei.

(5) On December 20, 2013, Mr. Race purchased 24,516 shares of common stock at a purchase price of $8.58, which was at a discount of $9.49 from the fair value per share of common stock on the purchase date. The disclosed amount reflects the difference between the purchase date fair value and the price actually paid by Mr. Race for the shares, in accordance with FASB ASC Topic 718. None of the shares purchased by Mr. Race are subject to vesting.

(6) Dr. Luthringer provided product development and strategy services to us as a consultant during 2013.

(7) On December 20, 2013, Dr. Luthringer purchased, through a corporation of which he is the sole stockholder, 27,925 shares of common stock at a purchase price of $3.50 per share by issuing a non-recourse promissory note to the company. Pursuant to FASB ASC Topic 718, we have accounted for the purchase as the grant of a stock option and the amount reported reflects the aggregate grant date fair value of the option on the date of purchase. However, as no option was actually granted to Dr. Luthringer in 2013, and as the shares have been issued and may be voted, this amount is being reported as "All Other Compensation."

Arrangements with Our Named Executive Officers

Each of our named executive officers is party to a written employment agreement with us. Before becoming our employees, Dr. Luthringer and Mr. Race provided services to us under consulting agreements.

Rogerio Vivaldi Coelho, MD, MBA

Dr. Vivaldi entered into an employment agreement with us on October 4, 2013, as amended on December 30, 2013, and commenced employment with us on November 1, 2013. His employment agreement provides for an initial annual base salary of $425,000, subject to periodic review and increases at the discretion of the board of directors. Beginning with calendar year 2014, Dr. Vivaldi will be considered annually for a bonus target of up to 50% of his then-current base salary based on the attainment of performance goals, as determined by the board of directors, provided that the board of directors may award an annual bonus to Dr. Vivaldi in excess of 50% of his base salary based on his performance. In addition, upon the closing of this offering, Dr. Vivaldi will be paid a special bonus of $250,000.

In connection with the commencement of his employment, we granted an initial option to Dr. Vivaldi under our Amended and Restated 2013 Equity Incentive Plan to purchase 540,722 shares of common stock. Twenty five percent (25%) of the shares subject to the initial option will vest and become exercisable upon Dr. Vivaldi's completion of one year of service measured from November 1, 2013, and the balance of the option shares will vest and become exercisable in a series of twelve equal quarterly installments upon Dr. Vivaldi's completion of each quarter of service over the three year period thereafter. On the date that the underwriting agreement for this offering is executed, Dr. Vivaldi will be granted an additional option for a number of shares such that, upon the closing of this offering, together with the initial option Dr. Vivaldi will hold options to purchase an aggregate number of shares equal to 5% of the number of fully diluted shares of the company expected to be outstanding on the date of the closing of this offering. Such additional option will have an exercise price equal to the price per share at which our common stock is issued to the public in connection with this offering and shall vest and become exercisable after the closing of this offering as follows: (i) 25% of the shares subject to the option will become exercisable upon Dr. Vivaldi's completion of one year of service measured from November 1, 2013, and (ii) the balance of the option shares will become exercisable in a series of twelve equal quarterly installments upon Dr. Vivaldi's completion of each quarter of service over the three year period thereafter.

Dr. Vivaldi's employment is at will. In the event of a termination of Dr. Vivaldi's employment by us without cause (and not by reason of Dr. Vivaldi's disability) or by him for good reason, Dr. Vivaldi will be entitled to receive (i) continuation of his base salary for a period of twelve months after the effective date of termination, (ii) reimbursement for his COBRA premiums on a grossed-up basis, less the amount active employees pay for health coverage, for a period of twelve months after termination, (iii) a pro-rata portion of his annual bonus (assuming that the annual bonus payment was equal to 50% of his base salary in effect at the time of termination), and (iv) immediate vesting of any unvested options or other equity awards that are outstanding at the time of termination and which, but for the termination, would have become vested during the twelve month period following the date of termination. The payments and accelerated vesting described in the preceding sentence are subject to the execution and non-revocation of a release agreement and continued compliance of certain covenants set forth in Dr. Vivaldi's employment agreement.

Under Dr. Vivaldi's employment agreement, the terms used above are generally defined as follows:

> "*Cause*" means: (i) conviction of (x) a felony or (y) a misdemeanor involving moral turpitude (other than a minor traffic violation), (ii) committing an act of fraud or embezzlement against the company or its affiliates, (iii) materially breaching his employment agreement and failure to cure such breach within thirty days, (iv) materially violating any written policy of the company and failing to cure such violation within thirty days, (v) materially failing or refusing to substantially perform his duties or to implement directives of the Board consistent with his position and failing to cure such failing or refusal within thirty days, (vi) willfully engaging in conduct or willfully omitting to take any action, resulting in material injury to the company or its affiliates, monetarily or otherwise, or (vii) materially breaching his fiduciary duties as an officer or director of the company; and
>
> "*Good Reason*" means termination of employment by Dr. Vivaldi after the occurrence of any of the following without his consent: (i) the material diminution in the nature or scope of his responsibilities,

duties or authority, (ii) a reduction in base salary or maximum annual bonus potential, (iii) a relocation of his principal work location of more than 50 miles, or (iv) a material breach of his employment agreement by the company.

Geoff Race

Through our Swiss subsidiary, Mind-NRG SA, we entered into an employment agreement to employ Mr. Race starting on May 1, 2014. Mr. Race's principal place of work is in Cambridge, United Kingdom. Pursuant to the terms of his employment agreement, Mr. Race's initial annual base salary is $315,000, subject to periodic review and increases at the discretion of the board of directors. Mr. Race will be eligible for an annual bonus of up to 50% of his then-current base salary based upon the achievement of performance targets, as determined by the board of directors or a committee thereof. The targets for Mr. Race's 2014 annual bonus have not yet been set. In addition, within 7 days following the closing of this offering, Mr. Race will be paid a special bonus of $175,000.

Pursuant to the terms of his employment agreement, on the date that the underwriting agreement for this offering is executed, Mr. Race will be granted an option, the Initial Option, to purchase 97,143 shares of common stock. The Initial Option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering and will be fully vested and exercisable on the date of grant. On the date that the underwriting agreement for this offering is executed, Mr. Race will also be granted an option, the IPO Option, to purchase a number of shares equal to 1.2% of the number of fully diluted shares of the company expected to be outstanding on the day after the closing of this offering, as determined on or prior to the grant date. The IPO Option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering and shall vest and become exercisable as follows: (i) 25% of the shares subject to the IPO Option will become exercisable upon Mr. Race's completion of one year of service measured from November 12, 2013, and (ii) the balance of the option shares will become exercisable in a series of twelve equal quarterly installments over the 3 year period thereafter, subject to Mr. Race's service through such vesting dates.

Mr. Race's employment may be terminated by us or Mr. Race with 6 months' written notice. Unless Mr. Race terminates his employment, the IPO Option will continue to vest during the 6 month notice period. In lieu of the required notice period, we may terminate Mr. Race's employment at any time and with immediate effect by providing a payment equal to the amount of base salary and pension contributions that Mr. Race would have received during the foregone notice period. In addition, upon Mr. Race's termination by us, 25% of the unvested shares subject to the IPO Option will accelerate and vest effective upon such termination, and the Initial Option and, to the extent vested at termination, the IPO Option, will remain exercisable for a period of 12 months following termination (but in no event later than the original expiration date). Notwithstanding the foregoing, our Swiss subsidiary may immediately terminate Mr. Race, and Mr. Race will not be entitled to any payment from our Swiss subsidiary or any ongoing or accelerated vesting or extended exercise period, if he (i) commits any act of gross misconduct; (ii) commits any material or persistent breach of the terms of his employment agreement; (iii) is convicted of any criminal offense (other than a minor traffic offense); (iv) commits any act which constitutes an offense under the U.K. Bribery Act 2010; (v) has a bankruptcy order made against him or enters into a voluntary arrangement with his creditors; or (vi) is disqualified from holding office in the company or any other company under the U.K. Insolvency Act 1986 or the U.K. Company Directors Disqualification Act 1986 or disqualified or disbarred from membership of, or subject to serious disciplinary action by, any professional or other body which undermines the confidence of the board in Mr. Race's continued employment with our Swiss subsidiary. In addition, if Mr. Race terminates his employment, Mr. Race will not be entitled to any extended exercise period for either the Initial Option or the IPO Option.

Prior to May 1, 2014, Mr. Race provided business development and other related services to us as a consultant pursuant to a consulting agreement dated September 1, 2011. The consulting agreement provided for payment of $1,500 per day of services, up to a maximum of $12,000 per month. However,

beginning in July 2013, Mr. Race was paid for each day of service to us with no maximum cap. In addition to his consulting relationship with the company, Mr. Race also performed business development and related services for Sonkei as a consultant. Pursuant to his Sonkei consulting agreement, Mr. Race was paid $1,500 per day of services provided to Sonkei, up to a maximum of $3,000 per month.

Pursuant to the terms of his consulting agreement with us, Mr. Race was issued 98,901 shares of our common stock on December 21, 2011. Mr. Race was issued an additional 6,410 and 24,516 shares of our common stock on June 6, 2012 and December 20, 2013, respectively. In addition, Mr. Race was issued 113,520 shares of Sonkei common stock pursuant to his consulting agreement with Sonkei, all of which were exchanged for 43,487 shares of our common stock in connection with the Sonkei merger. All of the shares held by Mr. Race are subject to a call option in our favor, which will be terminated in connection with the completion of this offering. For further information regarding the call option, please see "Certain Relationships and Related Party Transactions."

Remy Luthringer, PhD

Through our Swiss subsidiary, Mind-NRG SA, we entered into an employment agreement to employ Dr. Luthringer starting on May 1, 2014. Dr. Luthringer's principal place of work is in Geneva, Switzerland. Pursuant to the terms of his employment agreement, Dr. Luthringer's initial annual base salary will be 302,273 Swiss francs (CHF) (or $337,924 based on a June 1, 2014 exchange rate of CHF 0.8945:$1.00), subject to periodic review and increases at the discretion of the board of directors or a committee thereof. Dr. Luthringer will also be eligible for an annual bonus of up to 50% of his then-current base salary based on the achievement of performance targets, as determined by the board of directors of Mind-NRG SA. Dr. Luthringer's target annual bonus for the 2014 calendar year is CHF 160,000 (or $178,871 based on a June 1, 2014 exchange rate of CHF 0.8945: $1.00). The performance targets for Dr. Luthringer's 2014 annual bonus have not yet been set.

Pursuant to the terms of his employment agreement, on the date that the underwriting agreement for this offering is executed, Dr. Luthringer will be granted an option to purchase 441,973 shares of common stock. Such option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering and will be fully vested and exercisable on the date of grant. On the date that the underwriting agreement for this offering is executed, Dr. Luthringer will also be granted an option, or the IPO Option, to purchase a number of shares equal to 1% of the number of fully diluted shares of the company expected to be outstanding on the day after the closing of this offering, as determined on or prior to the grant date. The IPO Option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering and shall vest and become exercisable as follows: (i) 25% of the shares subject to the IPO Option will become exercisable immediately Dr. Luthringer's completion of one year of service measured November 12, 2013, and (ii) the balance of the option shares will become exercisable in a series of twelve equal quarterly installments over the 3 year period thereafter, subject to Dr. Luthringer's service through such vesting dates.

Dr. Luthringer's employment may be terminated by Mind-NRG SA or Dr. Luthringer at any time with 6 months' written notice or immediately for valid reasons under Article 337 of the Swiss Code of Obligations. If Dr. Luthringer is terminated by us for a reason other than a termination with immediate effect with good cause as set forth in Article 337 of the Swiss Code of Obligations, the number of shares subject to the IPO Option which, but for Dr. Luthringer's termination, would have vested over the 12 month period measured from the termination date will accelerate and vest effective upon his termination.

Prior to May 1, 2014 Dr. Luthringer provided product development and strategy services to us as a consultant pursuant to a consulting agreement dated January 11, 2011, as amended on September 11, 2011. The consulting agreement provided for payment of $14,100 per month with a target of providing 40 hours of service to us over each two-week period during the term of the agreement.

In connection with his consulting relationship, Dr. Luthringer purchased 821,429 shares of our common stock in April 2012 through a wholly-owned corporation, Wint2felden Holding SA, or Wint2felden. In December 2013, Wint2felden purchased an additional 27,925 shares of our common stock. In addition, Dr. Luthringer, through Wint2felden, purchased 1,112,500 shares of Sonkei common stock in March 2012, all of which were exchanged for 426,176 shares of our common stock in connection with the Sonkei merger. All of shares of our common stock held by Wint2felden were initially subject to non-recourse promissory notes issued to us and are subject to a call option in our favor. We repurchased 348,926 of the shares of common stock from Dr. Luthringer in March 2014 at $13.51 per share in full settlement of the non-recourse promissory notes. The call option will be terminated in connection with the completion of this offering. For further information regarding the non-recourse promissory notes, and the call option, please see "Certain Relationships and Related Party Transactions."

Payments Upon a Change in Control

Pursuant to the terms of our Amended and Restated 2013 Equity Incentive Plan, if one or more of the options granted to our named executive officers are not assumed or otherwise continued in effect by the successor corporation in the event of a change in control, such options would automatically accelerate and vest in full immediately prior to the change in control. For further information regarding the treatment of stock options in the event of a change in control, please see "—Amended and Restated 2013 Equity Incentive Plan—Change in Control."

Confidentiality and Assignment Agreements

Each of the employment agreements with our named executive officers contains provisions with respect to confidential information and assignment of inventions. Among other things, each agreement obligates each named executive officer to refrain from disclosing any of our proprietary information received during the course of employment or service with us and to assign to us any inventions conceived or developed during the course of employment or service with us.

Outstanding Equity Awards at Fiscal Year-End

The following table summarizes, for each of the named executive officers, the number of outstanding equity awards held by each of our named executive officers as of December 31, 2013.

	OPTION AWARDS			
NAME	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS (#) EXERCISABLE	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS (#) UNEXERCISABLE	OPTION EXERCISE PRICE ($)	OPTION EXPIRATION DATE
Rogerio Vivaldi Coelho, MD, MBA.	—	540,722(1)	$ 9.49	12/19/23
Geoff Race	—	—	—	—
Remy Luthringer, PhD	—	—	—	—

(1) The shares subject to the option shall become exercisable as follows: (i) 25% of the option shares will vest and become exercisable upon Dr. Vivaldi's completion of one year of service measured from November 1, 2013, and (ii) the balance of the option shares will vest and become exercisable in a series of twelve equal quarterly installments upon Dr. Vivaldi's completion of each quarter of service through October 31, 2017. If Dr. Vivaldi is terminated without cause or resigns for good reason, the option shall become immediately exercisable for the number of shares that, but for his termination, would have become exercisable during the twelve-month period following his termination date.

Director Compensation

The following table presents the total compensation for each person other than our chief executive officer who served as a member of our board of directors during 2013. Other than as set forth in the table and described more fully below, we did not pay any compensation, reimburse any expense of, make any equity awards or non-equity awards to, or pay any other compensation to any of the non-employee members of our board of directors in 2013.

NAME	FEES EARNED OR PAID IN CASH ($)	OPTION AWARDS ($)[1]	TOTAL ($)
Marc D. Beer[2]	2,260	635,200	637,460
Michèle Ollier, MD.	—	—	—
Francesco de Rubertis, PhD	—	—	—
Robert R. Seltzer[3]	—	—	—
Lorenzo Pellegrini, PhD	—	—	—

(1) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during 2013 computed in accordance with FASB ASC Topic 718. The aggregate grant date fair value does not take into account any estimated forfeitures related to service-vesting conditions. Assumptions used in the calculation of these amounts are included in Note 2 to our financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that will be realized by director upon the vesting of the stock options, the exercise of the stock options or the sale of the common stock underlying such stock options.

(2) Mr. Beer joined our board of directors on December 20, 2013. As of December 31, 2013, Mr. Beer held an option to purchase 80,356 shares of common stock of the Company.

(3) Mr. Seltzer resigned from our board of directors effective April 24, 2014.

In 2013, we did not maintain any standard fee arrangements for the non-employee members of our board of directors for their service as directors.

Letter Agreement with Marc D. Beer

On October 16, 2013, the company entered into a letter agreement offering Mr. Beer appointment to the board of directors of the company as chairman of the board of directors. Mr. Beer's appointment to the board of directors became effective on December 20, 2013. Pursuant to the letter agreement, Mr. Beer is entitled to compensation for service as a board member in the amount of $75,000 per year, to be paid on a quarterly basis commencing in 2014. In 2013, Mr. Beer earned a pro rata amount of such annual fee for his board service during the 11 days of December.

In accordance with the terms of his letter agreement, Mr. Beer was granted an option to purchase 80,356 shares of common stock on December 20, 2013, the date of his appointment to the board of directors. 25% of the shares subject to the option will vest and become exercisable upon the closing of this offering, and the remaining 75% of the shares subject to the option will vest and become exercisable in a series of 36 equal monthly installments through December 20, 2016 subject to Mr. Beer's continued service with us on each applicable vesting date. In addition to his initial option grant, the letter agreement provides that Mr. Beer will be granted an additional option to purchase shares of the company's common stock on the date that the underwriting agreement for this offering is executed. The additional option will be for a number of shares such that, upon the closing of this offering, Mr. Beer will hold options to purchase a number of shares which in the aggregate will represent 1% of the number of fully diluted shares of the company expected to be outstanding on the date of closing, as determined on or prior to the grant date. The additional option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering. The additional option will vest and become exercisable after the closing in a series of 36 equal monthly installments measured from December 20, 2013 through

December 20, 2016 (subject to Mr. Beer's continued service with us on each applicable vesting date), such that a portion of the shares attributed to the time period between December 20, 2013 and the closing of this offering will be immediately exercisable upon grant of the additional option. The letter agreement further provides that the initial option and the additional option, as well as any annual option grants that may be made to Mr. Beer as a non-employee director, will vest in full in the event of a change in control.

Letter Agreement with Jan van Heek

On December 11, 2013, the company entered into a letter agreement offering Mr. van Heek appointment to the board of directors of the company and as chairman of the audit committee of the board of directors. Mr. van Heek's appointment to the board of directors will become effective upon the closing of this offering. Pursuant to the letter agreement, Mr. van Heek is entitled to an annual retainer for his service as a member of the board of directors and chairman of the audit committee in the amounts of $25,000 and $10,000 per year, respectively, to be paid on a quarterly basis.

In accordance with the terms of his letter agreement, Mr. van Heek will be granted an option to purchase shares of the company's common stock on the date that the underwriting agreement for this offering is executed. The option will be for a number of shares equal to 0.25% of the number of fully diluted shares of the company expected to be outstanding on the date of closing, as determined on or prior to the grant date. The option will have an exercise price equal to the price per share of our common stock issued to the public in connection with this offering. The option will vest and become exercisable after the closing in a series of 48 equal monthly installments measured from the date of the closing of this offering, subject to Mr. van Heek's continued service with us on each such vesting date. The letter agreement further provides that the option, as well as any annual option grants that may be made to Mr. van Heek as a non-employee director, will vest in full in the event of a change in control.

Amended and Restated 2013 Equity Incentive Plan

Our board of directors adopted, and our stockholders approved, our 2013 Equity Incentive Plan, or the Plan, on December 20, 2013. The Plan became effective upon adoption by the board. On April 29, 2014, the board of directors adopted, and our stockholders approved, an amendment and restatement of the plan. Under the Plan, employees, non-employee directors, consultants and advisors may, at the discretion of the plan administrator, be granted options, stock appreciation rights, stock awards, and restricted stock units. The principal features of each type of award are described below.

Administration. The compensation committee of our board of directors will have the exclusive authority to administer the Plan with respect to awards made to our executive officers and non-employee board members and will also have the authority to make awards to all other eligible individuals. However, our board of directors may at any time appoint a secondary committee of one or more board members to have authority to make awards under the Plan to individuals other than executive officers and non-employee board members. The term "plan administrator," as used in this summary, will mean our compensation committee or any secondary committee, to the extent each such entity is acting within the scope of its administrative authority under the Plan.

Eligibility. Employees, including officers, and non-employee directors, as well as consultants and independent advisors, in our employ or service or in the employ or service of our parent or subsidiary companies (whether now existing or subsequently established) will be eligible to participate in the Plan.

Securities Subject to Plan. We have reserved 3,543,754 shares of our common stock for issuance under the Plan. The share reserve will automatically increase on the first trading day of January each calendar year during the term of the Plan, beginning with calendar year 2015, by an amount equal to 4% of the total number of shares of our common stock outstanding on the last trading day in the immediately preceding calendar month. In no event, however, will any such annual increase exceed 750,000 shares.

The shares of our common stock subject to outstanding awards made under the Plan will be available for subsequent award and issuance to the extent those awards subsequently expire, are forfeited or cancelled or terminate for any reason prior to the issuance of the shares of common stock subject to those awards. Unvested shares issued under the Plan and subsequently forfeited or repurchased by us will be added back to the reserve and available for subsequent award and issuance under the Plan. Should the exercise price of an option be paid in shares of our common stock (whether through the withholding of a portion of the otherwise issuable shares or through the tender of outstanding shares), then the number of shares reserved for issuance under the Plan will be reduced by the net number of shares issued under the exercised option. Upon the exercise of any stock appreciation right granted under the Plan, the share reserve will be reduced by the net number of shares actually issued upon such exercise. Should shares of common stock otherwise issuable under the Plan be withheld by us in satisfaction of the withholding taxes incurred in connection with the issuance, exercise, vesting or settlement of an award under the Plan, then the number of shares of common stock available for issuance under the Plan will be reduced by the net number of shares actually issued after any such share withholding.

Award Limitations. A participant in the Plan may not receive (i) stock options and stand-alone stock appreciation rights that are settled in shares of more than 750,000 shares of our common stock in the aggregate in any calendar year or (ii) awards other than stock options and stand-alone stock appreciation rights that are settled in shares of more than 750,000 shares of our common stock in the aggregate in any calendar year.

In addition, the maximum number of shares of our common stock that may be issued under our Plan pursuant to stock options intended to qualify as incentive stock options under the federal tax laws may not exceed 3,543,754 shares. This share limitation, however, will automatically be increased on the first trading day in January of each calendar year, beginning with calendar year 2015, by the number of shares of our common stock added to the share reserve on that day pursuant to automatic share increase feature described above, not to exceed 750,000 shares per year.

Awards. The plan administrator will have complete discretion to determine which eligible individuals are to receive awards, the time or times when those awards are to be granted, the number of shares subject to each such award, the vesting and exercise schedule (if any) to be in effect for the award, the cash consideration (if any) payable per share subject to the award, the settlement of the awards, the maximum term for which the award is to remain outstanding and the status of any granted option as either an incentive stock option or a non-statutory option under the federal tax laws.

Options. Each granted option will have an exercise price per share determined by the plan administrator, but the exercise price will not be less than one hundred percent of the fair market value of the option shares on the grant date. No granted option will have a term in excess of ten years. Each option will generally vest and become exercisable for the underlying shares in one or more installments over a specified period of service measured from the grant date, provided however that the plan administrator will have complete discretion to award stock options that are immediately exercisable upon grant. Upon cessation of service other than for misconduct, the optionee will have a limited period of time in which to exercise his or her outstanding options to the extent they are at the time exercisable for vested shares. The plan administrator will have complete discretion to extend the period following the optionee's cessation of service during which his or her outstanding options may be exercised, provide for continued vesting during the applicable post-service exercise period and/or to accelerate the exercisability or vesting of such options in whole or in part. Such discretion may be exercised at any time while the options remain outstanding.

Stock Appreciation Rights. The Plan allows the issuance of two types of stock appreciation rights:

- Tandem stock appreciation rights granted in conjunction with stock options which provide the holders with the right to surrender the related option grant for an appreciation distribution from us in an amount equal to the excess of (i) the fair market value of the vested shares of common stock subject to the surrendered option over (ii) the aggregate exercise price payable for those shares.

- Stand-alone stock appreciation rights which allow the holders to exercise those rights as to a specific number of shares of our common stock and receive in exchange an appreciation distribution from us in an amount equal to the excess of (i) the fair market value of the shares of common stock as to which those rights are exercised over (ii) the aggregate exercise price in effect for those shares. The exercise price per share may not be less than the fair market value per share of our common stock on the date the stand-alone stock appreciation right is granted, and the right may not have a term in excess of ten years.

The appreciation distribution on any exercised tandem or stand-alone stock appreciation right may be paid in (i) cash, (ii) shares of our common stock or (iii) a combination of cash and shares of our common stock. Upon cessation of service, the holder of a stock appreciation right will have a limited period of time in which to exercise such right to the extent exercisable at that time. The plan administrator will have complete discretion to extend the period following the holder's cessation of service during which his or her outstanding stock appreciation rights may be exercised, provide for continued vesting during the applicable post-service exercise period and/or to accelerate the exercisability or vesting of those stock appreciation rights in whole or in part. Such discretion may be exercised at any time while the stock appreciation right remains outstanding.

Repricing. The plan administrator has the discretionary authority to: (i) cancel outstanding options or stock appreciation rights in return for new options or stock appreciation rights with a lower exercise or base price per share, (ii) cancel outstanding options or stock appreciation rights under the Plan with exercise or base prices per share in excess of the then current fair market value per share for consideration payable in cash or in equity securities, and (iii) reduce the exercise or base price in effect for outstanding options or stock appreciation rights.

Stock Awards and Restricted Stock Units. Shares may be issued under the Plan subject to performance or service vesting requirements established by the plan administrator. Shares may also be issued as a fully-vested bonus for past services without any cash outlay required of the recipient.

Shares of our common stock may also be issued under the Plan pursuant to restricted stock units which entitle the recipients to receive those shares upon the attainment of designated performance goals or the completion of a prescribed service period or upon the expiration of a designated time period following the vesting of those units, including (without limitation), a deferred distribution date following the termination of the recipient's service with us. Restricted stock units subject to performance vesting may be structured so that the award converts into shares of our common stock at a rate based on the attainment level of performance for each performance objective.

Outstanding stock awards will be forfeited and restricted stock units will automatically terminate if the performance goals or service requirements established for such awards are not attained. However, the plan administrator will have the discretionary authority to vest or make payments in satisfaction of one or more outstanding awards as to which the designated performance goals or service requirements are not attained.

Restricted stock units may be settled in cash, shares of our common stock or a combination of both, as determined by the plan administrator. Dividend equivalents may be paid or credited, whether in cash or in actual or phantom shares of our common stock, on outstanding restricted stock units, upon such terms and conditions as determined by the plan administrator.

Change in Control. In the event we experience a change in control, each outstanding award may be assumed or otherwise continued in effect by the successor corporation or replaced with a cash incentive program which preserves the intrinsic value of the award and provides for the subsequent vesting and payout of that value in accordance with the same vesting schedule in effect for that award. In the absence of such assumption, continuation or replacement of the award, the award will automatically accelerate and vest in full immediately prior to the change in control. The plan administrator will have complete discretion to grant one or more awards which will vest upon a change in control or in the event the individual's service

with us or the successor entity terminates within a designated period following a change in control transaction.

Unless the definition of change in control is otherwise set forth in an individual award agreement, a "change in control" will be deemed to occur in the event of our change in ownership or control due to the following: (a) a merger, consolidation, or other reorganization approved by our stockholders, unless securities representing at least 50% of the total combined voting power of the successor corporation are thereafter beneficially owned, directly or indirectly and in substantially the same proportion, by the persons who beneficially owned our outstanding voting securities immediately prior to the transaction, (b) the sale, transfer, or disposition of all or substantially all of our assets, (c) the closing of any transaction or series of related transactions pursuant to which any person or group of related persons acquires directly or indirectly beneficial ownership of securities possessing (or convertible into or exercisable for securities possessing) more than fifty percent (50%) of the total combined voting power of our outstanding securities or (d) the composition of our board changes over a period of twelve (12) consecutive months or less such that a majority of the board ceases to be comprised of individuals who either (1) have been board members continuously since the beginning of such period, or (2) have been elected or nominated for election as board members during such period by at least a majority of the board members described in clause (1) who were still in office at the time the board approved such election or nomination.

Recapitalization. In the event any change is made to the outstanding shares of our common stock by reason of any stock split, stock dividend, recapitalization, combination of shares, exchange of shares, spin-off transaction or other change affecting the outstanding common stock as a class without our receipt of consideration or should the value of our outstanding shares of common stock be substantially reduced by reason of a spin-off transaction or extraordinary dividend or distribution, or should there occur any change in control transaction or any other merger, consolidation or other reorganization, equitable adjustments will be made to: (i) the maximum number and/or class of securities issuable under the Plan; (ii) the maximum number and/or class of securities for which any one person may be granted stock options or stand-alone rights that are settled in shares under the Plan in any calendar year; (iii) the maximum number and/or class of securities for which any one person may be granted awards (other than stock options or stand-alone rights that are settled in shares) under the Plan in any calendar year; (vi) the maximum number and/or class of securities that may be issued pursuant to incentive stock options; (v) the number and/or class of securities and the exercise or base price per share in effect under each outstanding award under the Plan and the consideration (if any) payable per share; and (vi) the number and/or class of securities subject to outstanding repurchase rights under the Plan and repurchase price payable per share. Such adjustments will be made in such manner as the plan administrator deems appropriate, and such adjustments will be final, binding and conclusive.

Transferability and Shareholder Rights. Awards are generally not transferable and may only be exercised by the participant. No participant will have any shareholder rights with respect to any award until such award is exercised or vests and the underlying shares are issued.

Amendment and Termination. Our board of directors may amend or modify the Plan at any time subject to any stockholder approval required under applicable law or regulation or pursuant to the listing standards of the stock exchange on which our common stock is at the time primarily traded.

Unless sooner terminated by our board of directors, the Plan will terminate on the earliest of (i) December 19, 2023, (ii) the date on which all shares available for issuance under the Plan have been issued as fully-vested shares or (iii) the termination of all outstanding awards in connection with certain changes in control or ownership.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than the compensation agreements and other arrangements described under "Executive and Director Compensation" in this prospectus and the transactions set forth below, since January 1, 2011, there has not been any transaction or series of transactions to which we were or are a party in which the amount involved exceeded or exceeds $120 thousand and in which any director, executive officer, holder of more than 5% of any class of our voting securities or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest. We believe the transactions set forth below were executed on terms no less favorable to us than we could have obtained from unaffiliated third parties.

Merger with Sonkei

On November 12, 2013, Sonkei was merged with and into us. Each share of Sonkei common stock was automatically converted into the right to receive 0.383 shares of our common stock, for a total of 2,423,368 shares of our common stock. Entities affiliated with Care Capital, entities affiliated with Index Ventures, an entity owned by Dr. Luthringer and Mr. Race were the only stockholders of each company.

Acquisition of Mind-NRG

On February 11, 2014, we entered into a share purchase agreement with Mind-NRG and the shareholders of Mind-NRG pursuant to which, among other things, we acquired all of the capital stock of Mind-NRG from the Mind-NRG shareholders and Mind-NRG became our wholly-owned subsidiary. As consideration for all of the capital stock of Mind-NRG, we issued 1,481,583 shares of common stock to the Mind-NRG shareholders, 10% of which, or the holdback shares, were held back from the consideration at closing to provide for the satisfaction of indemnification claims. The holdback shares will be released, subject to any reduction for indemnification claims, twelve months after the closing of the Mind-NRG Acquisition. An additional 25% of the shares issued to each of the stockholders of Mind-NRG, including some of the Index Venture Funds, one of our principal investors, are subject to a proxy agreement granting voting rights to Care Capital, our other principal investor, such that the voting rights of Care Capital and Index Ventures shall remain equal following the Mind-NRG Acquisition and the release of the holdback shares. The proxy agreement terminates at the closing of this offering. As a condition to the closing of the Mind-NRG Acquisition, Mind-NRG was required to have a minimum net working capital of $1.4 million as of the closing date, provided, however, certain Mind-NRG shareholders, including an affiliate of Index Ventures, provided Mind-NRG with a loan agreement, under which Mind-NRG may borrow up to $600 thousand to offset any difference between the actual net working capital at closing and the minimum net working capital of $1.4 million, with at least $250 thousand available as of closing, $250 thousand available as of February 28, 2014 and the remainder available within 10 days upon written demand. On April 30, 2014, Mind-NRG repaid all outstanding borrowings and we entered into a loan agreement, the April Bridge Loan, with certain Mind-NRG shareholders under these same terms pursuant to which we borrowed $0.6 million. The balance on the April Bridge Loan will accrue interest at a rate of 8% per annum and shall become due and payable at the earlier to occur of (1) the closing of this offering, (2) December 1, 2015 or (3) an event of default, as described in the April Bridge Loan.

Dr. Luthringer and Michèle Ollier were directors of Mind-NRG immediately prior to our acquisition of Mind-NRG.

May Bridge Loan

On May 19, 2014, we entered into a loan agreement with Index Ventures V (Jersey), L.P., Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P., Index Ventures IV (Jersey), L.P., Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., Index Ventures III (Delaware), L.P., Index Ventures III (Jersey), L.P., Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P., Yucca (Jersey), SLP, Limburgse Reconversiemaatschappij NV, KMOFIN 2 NV, Care Capital Investments III LP, and Care Capital Offshore

Investments III LP, each of which are or are affiliates of certain of our stockholders, under which we may borrow up to $1.0 million of which we have borrowed $0.5 million as of June 10, 2014. We expect to draw down the remaining $0.5 million prior to the closing of this offering. The balance of the May Bridge Loan will accrue interest at a rate of 8% per annum and shall become due and payable at the earlier to occur of (1) the closing of this offering, (2) December 1, 2015 or (3) an event of default, as described in the May Bridge Loan.

Mind-NRG Investment

We have entered into a common stock purchase agreement with certain former shareholders of Mind-NRG, including one of the Index Venture Funds, dated as of February 11, 2014, pursuant to which, among other things, they agreed to purchase from us up to $4.0 million of our common stock in a private placement at a price equal to the price set forth on the cover of this prospectus. This investment will be consummated simultaneously with the closing of this offering.

JJDC Investment

We have entered into a common stock purchase agreement with Johnson & Johnson Development Corporation, JJDC, an affiliate of Janssen, dated as of February 12, 2014, pursuant to which, among other things, JJDC has agreed to purchase from us up to $26.0 million of our common stock in a private placement concurrent with the closing of this offering at a price equal to the price set forth on the cover of this prospectus. This investment will be consummated simultaneously with the closing of this offering.

Participation in this Offering

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering.

Issuance and Assumption of Convertible Notes

In November 2013, we sold convertible promissory notes, or other Issued Notes in an aggregate principal amount of $1.3 million to entities affiliated with Care Capital and Index Ventures. Each note bears a stated interest rate of 8% per annum and is payable by us on June 30, 2014. We have not paid any accrued interest on the Issued Notes to date. In November 2013, prior to our merger with Sonkei, Sonkei issued convertible promissory notes, or the Assumed Notes, in an aggregate principal amount of €519 thousand (or $702 thousand, as converted) to its stockholders, including entities affiliated with Care Capital and Index Ventures, which Assumed Notes we assumed at the time of our merger with Sonkei. Each note also bears a stated interest rate of 8% per annum and is payable by us on June 30, 2014. Neither we, nor Sonkei prior to our merger with them, have paid any accrued interest on the Assumed Notes to date. Upon completion of this offering, the outstanding principal balance of the Issued Notes and the Assumed Notes and accrued but unpaid interest thereon will convert into the common stock sold in this offering at a conversion price equal to the initial public offering price per share set forth on the cover of this prospectus. For more information regarding the Issued Notes and the Assumed Notes, see "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Promissory Notes."

The following table sets forth the loan amounts provided by our directors, executive officers and principal stockholders, or affiliates or immediate family members of our directors, executive officers and principal stockholders in the November 2013 issuance.

NAME	ISSUED NOTES AMOUNT	ASSUMED NOTES AMOUNT
Entities affiliated with Care Capital	$ 650,000[1]	€259,259.25 (or $351 thousand, as converted)[3]
Entities affiliated with Index Ventures	$ 650,000[2]	€259,259.25 (or $351 thousand, as converted)[4]

(1) Consists of Issued Notes in an aggregate principal amount of (a) $639 thousand provided by Care Capital Investments III LP and (b) $11 thousand provided by Care Capital Offshore Investments III LP.

(2) Consists of Issued Notes in an aggregate principal amount of (a) $210 thousand provided by Index Ventures III (Jersey), L.P., (b) $427 thousand provided by Index Ventures III (Delaware), L.P., (c) $8 thousand provided by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P., and (d) $5 thousand provided by Yucca (Jersey) SLP.

(3) Consists of Assumed Notes in an aggregate principal amount of (a) €255 thousand (or $345 thousand, as converted) provided by Care Capital Investments III LP and (b) €4 thousand (or $6 thousand, as converted) provided by Care Capital Offshore Investments III LP.

(4) Consists of Assumed Notes in an aggregate principal amount of (a) €235 thousand (or $318 thousand, as converted) provided by Index Ventures IV (Jersey), L.P., (b) €22 thousand (or $30 thousand, as converted) provided by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., and (c) €2 thousand (or $3 thousand, as converted) provided by Yucca (Jersey) SLP.

At March 31, 2014, we had $2.0 million of outstanding convertible promissory notes under these arrangements.

Nonrecourse Notes with Dr. Luthringer

Between 2009 and 2012, we issued 821,429 warrants to Archimedon, a company owned by Dr. Luthringer, at an exercise price of $3.71 per share. In April 2012, these warrants were cancelled and we issued 821,429 shares of common stock to Wint2felden Holding SA, or Wint2felden, a company owned by Dr. Luthringer, in exchange for a nonrecourse note payable of $3.1 million (or approximately $3.71 per share). The note bore interest at a rate of 0.19% per annum and was secured solely by the underlying common stock. We have the option (a call option) to repurchase the shares at the original purchase price. This option has not been exercised and will terminate upon the closing of this offering.

In March 2012, Sonkei issued 1,112,500 shares of Sonkei common stock to Wint2felden in exchange for a nonrecourse note payable of €1.1 million (or $1.5 million, as converted) which we exchanged for 426,176 of our common shares when Sonkei merged into us. The note was payable in a single installment on April 30, 2015, bore an interest rate of 0.19% per annum and is secured solely by the underlying common stock. We have the option (a call option) to repurchase the shares if Dr. Luthringer ceases to provide services to us at the original purchase price. This option has not been exercised and will terminate upon the closing of this offering.

In December 2013, we issued 27,925 shares of common stock to Wint2felden in exchange for a non-recourse note payable of $98 thousand (approximately $3.50 per share). The note was payable in a single installment on May 31, 2014, bore interest at a rate of 0.19% per annum and is secured solely by the underlying common stock. We have the option (a call option) to repurchase the shares if Dr. Luthringer ceases to provide services to us at the original purchase price. This option has not been exercised and will terminate upon the closing of this offering.

In March 2014, we repurchased 348,926 of the shares of common stock from Wint2felden at $13.51 per share in full settlement of the nonrecourse notes.

Stock Purchase Agreement

From 2007 through 2013, we sold shares of common stock at $3.50 per share over several closings to entities affiliated with Care Capital and Index Ventures in equal proportion pursuant to a Stock Purchase Agreement among us and certain of our shareholders, raising approximately $14.0 million. The Stock Purchase Agreement provided for several closings of the share purchases depending on the success of clinical milestones. If this offering is not completed by December 31, 2014, Care Capital and Index Ventures will have a right to purchase additional shares of common stock under the Stock Purchase Agreement.

Employment and Consultancy Agreements

We have entered into employment agreements with our named executive officers, each of which provides for certain severance benefits, among other things. Prior to entering into employment agreements with Dr. Luthringer and Mr. Race, each had been engaged as consultants with us. We paid $113 thousand and $179 thousand to Dr. Luthringer and Mr. Race, respectively, during the period they were our stockholders for the fiscal year ended December 31, 2012. We paid $169 thousand and $306 thousand to Dr. Luthringer and Mr. Race, respectively, during the fiscal year ended December 31, 2013. Dr. Luthringer and Mr. Race were also engaged as consultants by Sonkei prior to our merger with Sonkei. Sonkei paid $42 thousand to Mr. Race during the period he was a shareholder of Sonkei for the fiscal year ended December 31, 2012. Sonkei paid $47 thousand to Mr. Race during the fiscal year ended December 31, 2013. For more information regarding these agreements, see the section entitled "Executive and Director Compensation — Arrangements with Our Named Executive Officers."

Pursuant to the terms of his consulting agreement, we issued 98,901 shares of common stock to Mr. Race on December 21, 2011. We issued Mr. Race an additional 6,410 and 24,516 shares of common stock on June 6, 2012 and December 20, 2013, respectively. In addition, Mr. Race was issued 113,520 shares of common stock of Sonkei pursuant to his consulting agreement with Sonkei, all of which were exchanged for 43,487 shares of our common stock in connection with the Sonkei merger. All of our shares held by Mr. Race are subject to a call option in our favor, which will be terminated in connection with the completion of this offering.

Payments for Services

In connection with services provided to us, beginning in November 2013, we pay $5 thousand monthly to Care Capital LLC, an affiliate of Care Capital. Prior to November 2013, representatives of Care Capital historically provided service separately to Sonkei prior to our merger with Sonkei and Sonkei paid $5 thousand monthly to Care Capital LLC, an affiliate of Care Capital, one of its largest shareholders, in connection with services provided to them.

Expense Reimbursement

We reimburse Care Capital for certain expenses we pay on its behalf. For the year ended December 31, 2012 and 2013, these reimbursements were $16 thousand and $111 thousand, respectively. Prior to our merger with Sonkei in November 2013, Sonkei reimbursed Care Capital for certain expenses paid by it on behalf of Sonkei. For the year ended December 31, 2012 and 2013, these reimbursements were $16 thousand and $6 thousand, respectively.

Stock Option Awards

For more information regarding stock option awards granted to our named executive officers and directors, see the sections entitled "Executive and Director Compensation — Outstanding Equity Awards at Fiscal Year End" and "— Director Compensation."

ProteoSys Assignment

Under our assignment agreement with ProteoSys we are obligated to pay ProteoSys a final license payment with respect to MIN-301 of €0.5 million (or $0.7 million, as converted) payable in connection with the closing of this offering. ProteoSys is one of our 5% stockholders.

Indemnification Agreements

We intend to enter into indemnification agreements with each of our directors and certain of our executive officers. These agreements will require us to indemnify these individuals and, in certain cases, affiliates of such individuals, to the fullest extent permitted under Delaware law against liabilities that may arise by reason of their service to us, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified.

Registration Rights

After the expiration of the 180-day period following the completion of this offering (as may be extended under certain circumstances), funds affiliated with Care Capital and Index Ventures are party to investor rights agreements providing for rights to register under the Securities Act certain shares of our capital stock. JJDC is party to a Registration Rights Agreement providing for rights to register under the Securities Act shares of our capital stock. For more information regarding the registration rights granted pursuant to these agreements, see the section entitled "Description of Capital Stock — Registration Rights."

Related Party Transaction Policy and Procedures

Our management is responsible for the review and approval of all related party transactions. We believe management's review is fair, in line with industry standards and on similar terms as could have been obtained from an unaffiliated third party. While we do not have a written policy for review and approval of related party transactions, we will have such a policy prior to the consummation of this offering. We plan to adopt a policy that our executive officers, directors, nominees for election as a director, beneficial owners of more than 5% of our common stock, and any members of the immediate family of any of the foregoing persons are not permitted to enter into a related person transaction with us without the prior consent of our audit committee. Any request for us to enter into a transaction with an executive officer, director, nominee for election as a director, beneficial owner of more than 5% of our common stock, or any member of the immediate family of any of the foregoing persons, in which the amount involved exceeds $120 thousand and such person would have a direct or indirect interest must first be presented to our audit committee for review, consideration and approval. In approving or rejecting any such proposal, our audit committee is to consider the material facts of the transaction, including, but not limited to, whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related person's interest in the transaction. We did not have a formal review and approval policy for related party transactions at the time of any of the transactions described above.

PRINCIPAL STOCKHOLDERS

The following table provides certain information regarding the beneficial ownership of our outstanding capital stock as of June 10, 2014, and after giving effect to the offering, for:

- each person or group who beneficially owns more than 5% of our capital stock on a fully diluted basis;
- each of the directors and named executive officers in the Summary Compensation Table; and
- all of our current executive officers and directors as a group.

The percentage of ownership indicated before this offering is based on 8,520,925 shares of common stock outstanding on June 10, 2014 which includes 926,604 shares of common stock issued and held by one of our stockholders that are not considered outstanding for accounting purposes. The percentage of ownership indicated after this offering is based on 16,894,529 shares, including the shares offered by this prospectus. The number of shares and percentage ownership information after the offering is based on the sale of 5,454,545 shares in this offering and takes into account (i) the automatic conversion of the 2013 Notes including accrued interest thereon into 191,787 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, (ii) the issuance of $26.0 million in shares of common stock to JJDC or 2,363,636 shares, in a concurrent private placement assuming a price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus and (iii) the issuance of $4.0 million of shares of common stock to certain former shareholders of Mind-NRG, or 363,636 shares, in a concurrent private placement, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover page of this prospectus. Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering. The information set forth in the table below does not reflect these or any other potential purchases of shares of our common stock by these existing stockholders or any of our directors or officers in this offering as described in "Underwriting."

Beneficial ownership of shares is determined under the rules of the Securities and Exchange Commission and generally includes any shares over which a person exercises sole or shared voting or investment power. Except as indicated by footnote, each person identified in the table possesses sole voting and investment power with respect to all shares of common stock held by them. Shares of common stock that may be acquired by an individual or group within 60 days of June 10, 2014, pursuant to the exercise of options are deemed to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table.

Unless otherwise noted, the business address for each director and executive officer is c/o Minerva Neurosciences, Inc., 245 First Street, Suite 1800, Cambridge, MA 02142.

NAME OF BENEFICIAL OWNER	NUMBER OF SHARES BENEFICIALLY OWNED		PERCENTAGE OF SHARES BENEFICIALLY OWNED	
	PRIOR TO THE OFFERING	AFTER THE OFFERING	PRIOR TO THE OFFERING	AFTER THE OFFERING
Named Executive Officers and Directors:				
Rogerio Vivaldi Coelho[1]	—	—	—	—
Geoff Race[2]	173,315	270,458	2.0	1.6
Remy Luthringer[3]	926,604	1,368,577	10.9	8.1
Marc D. Beer[4]	10,044	10,044	*	*
Francesco de Rubertis[5]	3,436,898	3,714,608	40.3	22.0
Michèle Ollier[5]	3,436,898	3,714,608	40.3	22.0
Lorenzo Pellegrini[6]	2,969,711	3,065,604	34.9	18.1
All executive officers and directors as a group (8 persons)	7,381,886	7,755,491	86.6	45.9
Other 5% Stockholders:				
Funds affiliated with Care Capital[6]	2,969,711	3,065,604	34.9	18.1
Funds affiliated with Index Ventures[5]	3,436,898	3,714,608	40.3	22.0
Janssen Pharmaceutica, N.V.[7]	—	2,363,636	—	14.0
ProteoSys AG[8]	486,650	486,650	5.7	2.9

* Represents beneficial ownership of less than 1.0% of the shares of common stock.

(1) Does not include an option to be granted to Dr. Vivaldi to purchase a number of shares of common stock such that, upon the closing of this offering, Dr. Vivaldi will hold options to purchase an aggregate number of shares equal to 5.0% of the fully diluted shares of the company expected to be outstanding on the date of the closing of this offering, none of which will be vested or exercisable within 60 days of the closing of this offering.

(2) Shares beneficially owned prior to the offering do not include options to be granted to Mr. Race on the date the underwriting agreement is signed to purchase (a) 97,143 fully vested and exercisable shares of common stock, and (b) a number of shares of common stock equal to 1.2% of the fully diluted shares of the company expected to be outstanding on the day after the closing of this offering, none of which will be vested or exercisable within 60 days of the closing of this offering. Shares beneficially owned after the offering include 97,143 shares underlying the option referenced in (a) above.

(3) Consists of 926,604 shares beneficially owned by Wint2felden Holding SA, a company wholly owned by Dr. Luthringer. Shares beneficially owned prior to the offering do not include options to be granted to Dr. Luthringer on the date the underwriting agreement is signed to purchase (a) 441,973 fully vested and exercisable shares of common stock, and (b) a number of shares of common stock equal to 1.0% of the fully diluted shares of the company expected to be outstanding on the day after the closing of this offering, none of which will be vested or exercisable within 60 days of the closing of this offering. Shares beneficially owned after the offering also include the 441,973 shares underlying the option referenced in (a) above.

(4) Consists of options to purchase 10,044 shares of common stock that are exercisable within 60 days of June 10, 2014. Does not include 20,089 shares subject to an option that vest upon the closing of this offering.

(5) The number of shares beneficially owned before this offering consists of (a) 639,257 shares of common stock held by Index Ventures III (Jersey) L.P., (b) 1,298,582 shares of common stock held by Index Ventures III (Delaware) L.P., (c) 23,134 shares of common stock held by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P., (d) 45,541 shares of common stock held by Yucca (Jersey) SLP and excludes 649 shares issued in connection with the Mind-NRG Acquisition that are held in escrow for 12 months to provide for the satisfaction of indemnification claims, (e) 885,030 shares of common stock held by Index Ventures IV (Jersey) L.P., (f) 84,008 shares of common stock held by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., (g) 457,638 shares of common stock held by Index Ventures V (Jersey), L.P., 134,684 of which are subject to a proxy agreement granting voting rights to Care Capital Investments III, LP, and excludes 50,849 shares issued in connection with the Mind-NRG Acquisition that are held in escrow for 12 months to provide for the satisfaction of

indemnification claims and (h) 3,708 shares of common stock held by Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P., and excludes 412 shares issued in connection with the Mind-NRG Acquisition that are held in escrow for 12 months to provide for the satisfaction of indemnification claims. The number of shares beneficially owned after this offering includes shares (i) issuable upon (a) the automatic conversion of $5 thousand and €2 thousand (or $3 thousand, as converted) of outstanding principal plus accrued interest underlying 2013 Notes held by Yucca (Jersey) SLP into an aggregate of 768 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus and 2,254 shares of common stock to be issued to be issued to Yucca (Jersey) SLP in a concurrent private placement, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus; (b) the automatic conversion of $210 thousand of outstanding principal including accrued interest underlying 2013 Notes held by Index Ventures III (Jersey), L.P. into an aggregate of 20,089 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus, (c) the automatic conversion of $8 thousand of outstanding principal including accrued interest underlying 2013 Notes held by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P, into an aggregate of 727 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus, (d) the automatic conversion of $427 thousand of outstanding principal including accrued interest underlying 2013 Notes held by Index Ventures III (Delaware), L.P. into an aggregate of 40,809 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus, (e) the automatic conversion of €22 thousand (or $30 thousand, as converted) of outstanding principal including accrued interest underlying 2013 notes held by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., into an aggregate of 2,905 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus, (f) the automatic conversion of €235 thousand (or $320 thousand, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Index Ventures IV (Jersey), L.P. into an aggregate of 30,596 shares of our common stock, assuming an initial public offering price of $11.00 per share, the midpoint of the price range listed on the cover page of this prospectus, (g) 178,112 shares of common stock to be issued to Index Ventures V (Jersey), L.P. in a concurrent private placement, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus and (h) 1,450 shares of common stock to be issued to be issued to Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P. in a concurrent private placement, assuming an initial public offering price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus. The address of Index Ventures III (Jersey), L.P., Index Ventures III (Delaware), L.P., Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P. ("Index Ventures III"); is at PO Box 641, No.1 Seaton Place St. Helier, Jersey, JE4 8YJ, Channel Islands. The address of Index Ventures IV (Jersey), L.P., Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P. ("Index Ventures IV"); Index Ventures V (Jersey), L.P., Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P. ("Index Ventures V"); and Yucca (Jersey SLP) ("Yucca") c/o Ogier Employee Benefit Services Limited; is at Ogier House, The Esplanade, Jersey, JE4 9WG, Channel Islands. Dr. de Rubertis and Dr. Ollier, each one of our directors, share voting and investment power with respect to the foregoing shares.

(6) The number of shares beneficially owned before this offering consists of (a) 2,920,931 shares of common stock held by Care Capital Investments III, LP (b) 48,780 shares of common stock held by Care Capital Offshore Investments III, LP and (c) 134,684 shares of which Care Capital Investments III, LP has voting but not dispositive control pursuant to proxy agreements between it and certain of our shareholders, including Index Ventures V (Jersey), L.P. The number of shares beneficially owned after this offering includes shares issuable upon (a) the automatic conversion of $639 thousand and €255 thousand (or $348 thousand, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Care Capital Investments LP into an aggregate of 94,317 shares of our common stock, assuming an initial public offering price of $11.00 per share the midpoint of the price range listed on the cover page of this prospectus and (b) the automatic conversion of $10 thousand and €4 thousand (or $6 thousand, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Care Capital Offshore Investments LP into an aggregate of 1,576 shares of our common stock, assuming an initial public offering price of $11.00 per share the midpoint of the price range listed on the cover page of this prospectus. The address of Care Capital is 47 Hulfish Street, Princeton, New Jersey 08542. Dr. Pellegrini, one of our directors, shares voting and investment power with respect to the foregoing shares. Robert R. Seltzer, our former director, was appointed by Care Capital pursuant to our investor rights agreement.

(7) The number of shares beneficially owned after this offering includes 2,363,636 shares of common stock to be issued to JJDC in a concurrent private placement, assuming a price of $11.00 per share, the midpoint of the price range set forth on the cover of this prospectus.

(8) Consists of 486,651 shares issued in connection with the Mind-NRG Acquisition and excludes 54,073 shares issued in connection with the Mind-NRG Acquisition that are held in escrow for 12 months to provide for the satisfaction of indemnification claims. The address for ProteoSys AG is Carl-Zeiss-Strasse 51, 55129 Mainz, Germany.

DESCRIPTION OF CAPITAL STOCK

General

Our amended and restated certificate of incorporation authorizes us to issue up to 125,000,000 shares of common stock, $0.0001 par value per share, and 100,000,000 shares of preferred stock, $0.0001 par value per share.

As of June 10, 2014, immediately prior to the closing of this offering, there were outstanding:

- 7,594,321 shares of our common stock held by approximately 17 stockholders, including 926,604 shares of common stock held by one of our stockholders that are subject to vesting conditions and not considered outstanding for accounting purposes; and
- 646,759 shares issuable upon exercise of outstanding stock options.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws as currently in effect. Copies of these documents have been filed with the Securities and Exchange Commission as exhibits to our registration statement, of which this prospectus forms a part.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share of common stock on all matters submitted to a vote of the stockholders, including the election of directors.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate in the future. All outstanding shares of common stock are fully paid and nonassessable, and the shares of common stock to be issued under this prospectus, when they are paid for, will be fully paid and nonassessable.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to 100,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments

upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change of control of our company or other corporate action. No shares of preferred stock are currently outstanding, and we have no present plan to issue any shares of preferred stock.

Forum

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the company to us or our stockholders, any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, or any action asserting a claim governed by the internal affairs doctrine. Our amended and restated certificate of incorporation further provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the foregoing provision. Although our amended and restated certificate of incorporation includes these provisions, it is possible that a court could rule that such provisions are inapplicable or unenforceable.

Convertible Notes

We issued $1.3 million principal amount of convertible notes in November 2013 and assumed €0.5 million (or $0.7 million, as converted) principal amount of convertible notes in November 2013. These notes currently bear interest at 8% per annum and are convertible at the option of the holder into a number of common shares by dividing the principal amount of the notes (plus any accrued and unpaid interest) by $3.50 or €3.50, respectively. Upon completion of this offering, the outstanding principal balance of the notes and accrued but unpaid interest thereon will convert into 191,787 shares of our common stock in a private placement concurrent with the closing of this offering at an assumed price per share equal to $11.00, the midpoint of the price range set forth on the cover page of this prospectus.

Registration Rights

We have entered into Investor Rights Agreements with certain of our stockholders. Upon the closing of this offering, holders of a total of 6,837,315 shares of our common stock as of March 31, 2014, including for this purpose 191,787 shares of common stock issuable upon the conversion of our outstanding notes and accrued interest thereon immediately prior to the closing of this offering will have the right to require us to register these shares under the Securities Act under specified circumstances and will have incidental registration rights as described below. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act.

Demand Registration Rights

At any time after 180 days after the closing of this offering, the holders of a majority of the registrable securities may request that we register all or a portion of their common stock for sale under the Securities Act so long as the total amount of registrable securities registered has an anticipated aggregate offering price of less than $10.0 million. We will effect the registration as requested, unless in the good faith judgment of our board of directors, such registration would be seriously detrimental to the company and its stockholders and should be delayed. We are not obligated to file a registration statement pursuant to these demand provisions on more than two occasions. In addition, when we are eligible for the use of Form S-3, or any successor form, holders of a majority of the shares having demand registration rights may make up to two requests within any 12-month period that we register all or a portion of their common stock for sale under the Securities Act on Form S-3, or any successor form.

Piggyback Registration Rights

In addition, if at any time we register any shares of our common stock, the holders of all shares having registration rights are entitled to at least 30 days notice of the registration and to include all or a portion of

their common stock in the registration. With respect to this offering, the registration rights have been validly waived.

In the event that any registration in which the holders of registrable shares participate pursuant to the registration rights agreement is an underwritten public offering, the number of registrable shares to be included may, in specified circumstances, be limited due to market conditions.

Other Provisions

We will pay all registration expenses (other than underwriting discounts and selling commissions) and the reasonable fees and expenses of a single special counsel for the selling stockholders, related to any demand or piggyback registration. The registration rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them. The demand and piggyback registration rights described above will expire three years after our initial public offering or, with respect to any particular stockholder, when that stockholder can sell all of its shares under Rule 144 of the Securities Act.

Anti-Takeover Provisions

Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation provides for our board of directors to be divided into three classes, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors. Our amended and restated certificate of incorporation and amended and restated bylaws provide that all stockholder action must be effected at a duly called meeting of stockholders and not by a consent in writing, and that only our board of directors or chairman of the board may call a special meeting of stockholders.

Our amended and restated certificate of incorporation requires a $66^{2}/_{3}\%$ stockholder vote for the amendment, repeal or modification of certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws relating to the classification of our board of directors, the requirement that stockholder actions be effected at a duly called meeting, and the designated parties entitled to call a special meeting of the stockholders. The combination of the classification of our board of directors, the lack of cumulative voting and the $66^{2}/_{3}\%$ stockholder voting requirements will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of our company.

These provisions may have the effect of deterring hostile takeovers or delaying changes in control of our company or management. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage certain types of transactions that may involve an actual or threatened acquisition of us. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Such provisions may also have the effect of preventing changes in our management.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 50% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Limitations of Liability and Indemnification Matters

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by the Delaware General Corporation Law, which prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or to our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated certificate of incorporation does not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal

laws. Under our amended and restated bylaws, we will also be empowered to enter into indemnification agreements with our directors, officers, employees and other agents and to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we expect to enter into indemnification agreements with each of our current directors, officers, and some employees before the completion of this offering. These agreements provide for the indemnification of our directors, officers, and some employees for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were our agents. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors, officers and employees. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

The Nasdaq Global Market Listing

We have applied to have our common stock approved for quotation on the Nasdaq Global Market under the symbol "NERV."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock, and there can be no assurance that a significant public market for our common stock will develop or be sustained after this offering. Future sales of substantial amounts of our common stock, including shares issued upon exercise of outstanding options or warrants, in the public market following this offering could adversely affect market prices prevailing from time to time and could impair our ability to raise capital through the sale of our equity securities.

Upon completion of this offering, we will have 16,894,529 shares of common stock outstanding, assuming (i) no exercise of any options outstanding as of June 10, 2014 and (ii) no exercise of the underwriters' option to purchase additional shares from us. All shares sold in this offering, plus any shares issued upon exercise of the underwriters' option to purchase additional shares from us, will be freely tradable without restriction under the Securities Act, unless purchased by our "affiliates" as that term is defined in Rule 144 under the Securities Act or purchased by existing stockholders and their affiliated entities who are subject to lock-up agreements. The remaining 1,099,919 shares of common stock outstanding are "restricted securities" within the meaning of Rule 144 under the Securities Act. Restricted securities may be sold in the public market only if registered or if they qualify for an exemption from registration under Rule 701 or meet the safe harbor qualifications under Rule 144 under the Securities Act as summarized below. Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of shares of our common stock in this offering at the initial public offering price. Any such shares purchased by these stockholders could not be resold in the public market immediately following this offering as a result of restrictions under securities laws and lock-up agreements, but would be able to be sold following the expiration of these restrictions, in each case as described below. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering. The following discussion does not reflect potential purchases of shares of our common stock by such stockholders, or our directors or officers as described in "Underwriting."

The holders of 11,439,985 shares of outstanding common stock as of the closing of this offering and the holders of 646,759 shares of common stock underlying options as of the closing of this offering, including all of our officers and directors, have entered into lock-up agreements with the underwriters pursuant to which they have generally agreed, subject to certain exceptions, not to offer or sell any shares of common stock or securities convertible into or exchangeable or exercisable for shares of common stock for a period of 180 days from the date of this prospectus without the prior written consent of Jefferies LLC. Jefferies LLC, in its sole discretion, together may release some or all of the securities from these lock-up agreements at any time. These lock-up agreements apply to any shares allocated and purchased in this offering by existing stockholders and their affiliated entities. See "Underwriting."

Rule 144

In general, under Rule 144 under the Securities Act, as in effect on the date of this prospectus, a person who is one of our affiliates and has beneficially owned shares of our common stock for at least six months would be entitled to sell within any three month period a number of shares that does not exceed the greater of:

- one percent of the number of shares of common stock then outstanding, which will equal approximately 168,945 shares immediately after the completion of this offering; or
- the average weekly trading volume of our common stock on the Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

In general, under Rule 144 under the Securities Act, as in effect on the date of this prospectus, a person who is not deemed to have been one of our affiliates at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than an affiliate, is entitled to sell the shares without complying with the manner of sale, volume limitation or notice provisions of Rule 144, and will be subject only to the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144.

Shares of our common stock will qualify for resale under Rule 144 within 180 days of the date of this prospectus, subject to the lock-up agreements as described herein and under "Underwriting" in this prospectus, and to the extent such shares have been released from any repurchase option that we may hold.

Rule 701

Any of our employees, officers, directors or consultants who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701. Rule 701 permits affiliates to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. Rule 701 further provides that non-affiliates may sell such shares in reliance on Rule 144 without having to comply with the holding period, public information, volume limitation or notice provisions of Rule 144.

Neither Rule 144 nor Rule 701 supersedes the contractual obligations of our security holders set forth in the lock-up agreements described above.

Lock-up Agreements

We, our officers and directors and our stockholders have agreed, subject to certain exceptions, that, for a period of 180 days from the date of this prospectus, we and they will not, without the prior written consent of Jefferies LLC dispose of or hedge any shares or any securities convertible into or exchangeable for our common stock. Jefferies LLC in its sole discretion, together may release any of the securities subject to these lock-up agreements at any time.

Stock Options

As of June 10, 2014, we had outstanding options to purchase 646,759 shares of common stock, of which 34,050 shares were vested. As soon as practicable after completion of this offering, we intend to register the shares of our common stock subject to the options outstanding or reserved for issuance under our stock plans on one or more registration statements on Form S-8 under the Securities Act. Subject to the lock-up agreements and the restrictions imposed under our stock plan, shares of common stock issued pursuant to our stock plan after the effective date of the registration statements on Form S-8 will be available for sale in the public market without restriction to the extent that they are held by persons who are not our affiliates.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

The following is a general discussion of the material U.S. federal income tax considerations with respect to the acquisition, ownership and disposition of our common stock applicable to non-U.S. holders (as defined below) who purchase our common stock pursuant to this offering. This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended (referred to as the "Code"), existing and proposed U.S. Treasury regulations promulgated thereunder, and administrative rulings and court decisions in effect as of the date hereof, all of which are subject to change at any time, possibly with retroactive effect. No ruling has been or will be sought from the Internal Revenue Service, or IRS, with respect to the matters discussed below, and there can be no assurance the IRS will not take a contrary position regarding the tax consequences of the acquisition, ownership or disposition of our common stock, or that any such contrary position would not be sustained by a court.

For the purposes of this discussion, the term "non-U.S. holder" means a beneficial owner of our common stock that is not for U.S. federal income tax purposes any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source; or
- a trust if (1) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (2) it has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

It is assumed in this discussion that a non-U.S. holder holds shares of our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all aspects of U.S. federal income taxation that may be important to a non-U.S. holder in light of such holder's particular circumstances or that may be applicable to holders subject to special treatment under U.S. federal income tax laws (including, for example, financial institutions, dealers in securities, traders in securities that elect mark-to-market treatment, insurance companies, tax-exempt entities, holders who acquired our common stock pursuant to the exercise of employee stock options or otherwise as compensation, controlled foreign corporations, passive foreign investment companies, entities or arrangements treated as partnerships for U.S. federal income tax purposes, holders subject to the alternative minimum tax, certain former citizens or former long-term residents of the United States, holders deemed to sell our common stock under the constructive sale provisions of the Code and holders who hold our common stock as part of a straddle, hedge, synthetic security or conversion transaction), nor does it address any aspects of the unearned income Medicare contribution tax enacted pursuant to the Health Care and Education Reconciliation Act of 2010. In addition, except to the extent provided below, this discussion does not address U.S. federal tax laws other than those pertaining to the U.S. federal income tax, nor does it address any aspects of U.S. state, local or non-U.S. taxes. Accordingly, prospective investors are encouraged to consult with their own tax advisors regarding the U.S. federal, state, local, non-U.S. income and other tax considerations of acquiring, holding and disposing of shares of our common stock.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds shares of our common stock, the tax treatment of a partner generally will depend on the status of the partner and the activities of the partnership. Partnerships holding our common stock and partners in such partnerships are urged to consult their tax advisors as to the particular U.S. federal income tax consequences of acquiring, holding and disposing of our common stock.

THIS SUMMARY IS NOT INTENDED TO CONSTITUTE A COMPLETE DESCRIPTION OF ALL TAX CONSEQUENCES RELATING TO THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK. HOLDERS OF OUR COMMON STOCK ARE ENCOURAGED TO CONSULT WITH THEIR TAX ADVISORS REGARDING THE TAX CONSEQUENCES TO THEM (INCLUDING THE APPLICATION AND EFFECT OF ANY STATE, LOCAL, NON-U.S. INCOME AND OTHER TAX LAWS) OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK.

Information Reporting and Backup Withholding

As discussed above under "Dividend Policy," we currently have no plans to pay regular dividends on our common stock. In the event that we do pay dividends, generally we or certain financial middlemen must report annually to the Internal Revenue Service (referred to as the "IRS") and to each non-U.S. holder the amount of dividends paid to, and the tax withheld with respect to, each non-U.S. holder. These reporting requirements apply regardless of whether withholding was reduced or eliminated. Copies of this information also may be made available under the provisions of a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established.

U.S. backup withholding (currently at a rate of 28%) is imposed on certain payments to persons that fail to furnish the information required under the U.S. information reporting requirements. Dividends paid to a non-U.S. holder of our common stock generally will be exempt from backup withholding if the non-U.S. holder provides to us or our paying agent a properly executed IRS Form W-8BEN or W-8ECI (as applicable) or otherwise establishes an exemption.

Under U.S. Treasury regulations, the payment of proceeds from the disposition of our common stock by a non-U.S. holder effected at a U.S. office of a broker generally will be subject to information reporting and backup withholding, unless the beneficial owner, under penalties of perjury, certifies, among other things, its status as a non-U.S. holder or otherwise establishes an exemption. The certification procedures described in the above paragraph will satisfy these certification requirements as well. The payment of proceeds from the disposition of our common stock by a non-U.S. holder effected at a non-U.S. office of a broker generally will not be subject to backup withholding and information reporting, except that information reporting (but generally not backup withholding) may apply to payments if the broker is:

- a U.S. person;
- a "controlled foreign corporation" for U.S. federal income tax purposes;
- a foreign person, 50% or more of whose gross income from certain periods is effectively connected with a U.S. trade or business; or
- a foreign partnership if at any time during its tax year (a) one or more of its partners are U.S. persons who, in the aggregate, hold more than 50% of the income or capital interests of the partnership or (b) the foreign partnership is engaged in a U.S. trade or business.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be credited against the non-U.S. holder's U.S. federal income tax liability, if any, and any excess refunded, provided that the required information is furnished to the IRS in a timely manner.

Recent Legislation Relating to Foreign Accounts

Under the Foreign Account Tax Compliance Act (referred to as "FATCA"), a 30% withholding tax will generally apply to dividends on, or gross proceeds from the sale or other disposition of, common stock paid to a foreign financial institution unless the foreign financial institution (i) enters into an agreement with the U.S. Treasury to, among other things, undertake to identify accounts held by certain U.S. persons or U.S.-owned foreign entities, annually report certain information about such accounts, and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements or (ii) is resident in a country that has entered into an intergovernmental agreement with the

United States in relation to such withholding and information reporting and the financial entity complies with related information reporting requirements of such country. A foreign financial institution generally is a foreign entity that (i) accepts deposits in the ordinary course of a banking or similar business, (ii) as a substantial portion of its business, holds financial assets for the benefit of one or more other persons, or (iii) is an investment entity that, in general, primarily conducts as a business on behalf of customers trading in certain financial instruments, individual or collective portfolio management or otherwise investing, administering, or managing funds, money or certain financial assets on behalf of other persons. In addition, FATCA generally imposes a 30% withholding tax on the same types of payments to a foreign non-financial entity unless the entity certifies that it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner. In either case, such payments would include U.S.-source dividends and the gross proceeds from the sale or other disposition of stock that can produce U.S.-source dividends. The withholding provisions described above will generally apply to payments of dividends made on or after July 1, 2014, and payments of gross proceeds made on or after January 1, 2017.

Investors should consult their tax advisors regarding the possible impact of the FATCA rules on their investment in our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

Dividends

As discussed above under "Dividend Policy," we currently have no plans to make distributions of cash or other property on our common stock. In the event that we do make distributions of cash or other property on our common stock, generally such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from current and accumulated earnings and profits, as determined for U.S. federal income tax purposes. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and will first reduce a non-U.S. holder's adjusted basis in our common stock, but not below zero. Any excess will be treated as capital gain from the sale of our common stock in the manner described under " — Gain on Sale or Other Disposition of Our Common Stock" below.

In general, dividends, if any, paid by us to a non-U.S. holder will be subject to U.S. withholding tax at a rate of 30% of the gross amount (or a reduced rate prescribed by an applicable income tax treaty) unless the dividends are effectively connected with a trade or business carried on by the non-U.S. holder within the United States and, if required by an applicable income tax treaty, are attributable to a permanent establishment of the non-U.S. holder within the United States. Dividends effectively connected with this U.S. trade or business, and, if required by an applicable income tax treaty, attributable to such a permanent establishment of a non-U.S. holder, generally will not be subject to U.S. withholding tax if the non-U.S. holder provides us or our paying agent with certain forms, including IRS Form W-8ECI (or any successor form), and generally will be subject to U.S. federal income tax on a net income basis, in the same manner as if the non-U.S. holder were a U.S. person. A non-U.S. holder that is a corporation and receives effectively connected dividends may also be subject to an additional "branch profits tax" imposed at a 30% rate (or lower treaty rate), subject to certain adjustments.

Under applicable U.S. Treasury regulations, a non-U.S. holder is required to satisfy certain certification requirements in order to claim a reduced rate of withholding pursuant to an applicable income tax treaty (including providing us or our paying agent with an IRS Form W-8BEN, or other appropriate form, certifying such non-U.S. holder's entitlement to benefits under a treaty). Non-U.S. holders that do not timely provide the required certification, but that qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under an applicable income tax treaty.

Gain on Sale or Other Disposition of Our Common Stock

In general, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of our common stock unless:

- the gain is effectively connected with a trade or business carried on by the non-U.S. holder within the United States (in which case the branch profits tax discussed above may also apply if the non-U.S. holder is a corporation) and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment of the non-U.S. holder maintained in the United States;

- the non-U.S. holder is an individual and is present in the United States for 183 days or more in the taxable year of disposition and certain other conditions are satisfied; or

- we are or have been a U.S. real property holding corporation (referred to as a "USRPHC") for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period.

Gain described in the first bullet point above will be subject to U.S. federal income tax on a net income basis at the regular graduated U.S. federal income tax rates in much the same manner as if such holder were a resident of the United States. A non-U.S. holder that is a corporation may also be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items. Non-U.S. holders should consult any applicable income tax treaties that may provide for different rules.

Gain recognized by an individual described in the second bullet point above will be subject to U.S. federal income tax at a flat 30% rate (or such lower rate specified by an applicable income tax treaty), but may be offset by U.S. source capital losses (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe that we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our interests in real property located within the United States relative to the fair market value of our interests in real property located outside the United States and our other business assets, however, there can be no assurance that we will not become a USRPHC in the future. Even if we were or were to become a USRPHC at any time during this period, generally gains realized upon a disposition of shares of our common stock by a non-U.S. holder that did not directly or indirectly own more than 5% of our common stock during this period would not be subject to U.S. federal income tax, provided that our common stock is "regularly traded on an established securities market" (within the meaning of Section 897(c)(3) of the Code). We expect our common stock to be "regularly traded" on an established securities market, although we cannot guarantee it will be so traded.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated , 2014, between us and Jefferies LLC, as the representative of the underwriters named below and the sole book-running manager of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of shares of common stock shown opposite its name below:

UNDERWRITERS	NUMBER OF SHARES
Jefferies LLC	
Robert W. Baird & Co. Incorporated	
JMP Securities LLC	
Total	

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if any of them are purchased, other than those shares covered by the option to purchase additional shares of common stock described below. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased or the underwriting agreement may be terminated. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the completion of this offering, they currently intend to make a market in our common stock as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for our common stock, that you will be able to sell any of the shares of our common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. In addition, the underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers, which may include the underwriters, at that price less a concession not in excess of $ per share of common stock. After the offering, the initial public offering price and concession to dealers may be reduced by the representative. No such reduction will change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such

amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	PER SHARE		TOTAL	
	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES	WITHOUT OPTION TO PURCHASE ADDITIONAL SHARES	WITH OPTION TO PURCHASE ADDITIONAL SHARES
Public offering price	$	$	$	$
Underwriting discounts and commissions paid by us	$	$	$	$
Proceeds to us, before expenses	$	$	$	$

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $3.6 million, including additional fees of approximately $560,000 that we will pay the underwriters at the closing of this offering in connection with their advisory services relating to the concurrent private placements described in this prospectus. We have also agreed to reimburse the underwriters for expenses up to a maximum amount of $20,000 related to the clearance of this offering with the Financial Industry Regulatory Authority as set forth in the underwriting agreement.

Determination of Offering Price

Prior to this offering, there has not been a public market for our common stock. Consequently, the initial public offering price for our common stock will be determined by negotiations between us and the representative. Among the factors to be considered in these negotiations will be prevailing market conditions, our financial information, market valuations of other companies that we and the underwriters believe to be comparable to us, estimates of our business potential, the present state of our development and other factors deemed relevant.

We offer no assurances that the initial public offering price will correspond to the price at which our common stock will trade in the public market subsequent to the offering or that an active trading market for our common stock will develop and continue after the offering.

Listing

We have applied to have our common stock approved for listing on The NASDAQ Global Market under the trading symbol "NERV."

Option to Purchase Additional Shares

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase, from time to time, in whole or in part, up to an aggregate of 818,182 shares from us at the public offering price set forth on the cover page of this prospectus, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares proportionate to that underwriter's initial purchase commitment as indicated in the table above. This option may be exercised only if the underwriters sell more shares than the total number set forth on the cover page of this prospectus.

No Sales of Similar Securities

We, our officers, directors and holders of all or substantially all our outstanding capital stock and other securities have agreed, subject to specified exceptions, not to directly or indirectly:

- sell, offer, contract or grant any option to sell (including any short sale), lend, pledge, transfer, establish or increase an open "put equivalent position" or liquidate or decrease a "call equivalent position" within the meaning of Rule 16a-1(h) and Rule 16a-1(b) under the Exchange Act, or
- otherwise dispose of any shares of our common stock, options or warrants to acquire shares of our common stock, or securities exchangeable or exercisable for or convertible into shares of our common stock currently or hereafter owned either of record or beneficially, or
- enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of shares of our common stock, or of options or warrants to shares of our common stock, or securities or rights exchangeable or exercisable for or convertible into shares of our common stock, or
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any shares of our common stock, or of options or warrants to shares of our common stock, or securities or rights exchangeable or exercisable for or convertible into shares of our common stock, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce an intention to do any of the foregoing for a period of 180 days after the date of this prospectus without the prior written consent of the representative.

The foregoing restriction terminates after the close of trading of our common stock on and including the 180th day after the date of this prospectus and shall not apply to our issuance during the 180-day restricted period of a number of common shares not greater than 5% of the total number of common shares outstanding to one or more counterparties in connection with the consummation of any strategic transaction.

The representative may, in its sole discretion and at any time or from time to time before the termination of the 180-day period release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our stockholders who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Stabilization

The underwriters have advised us that, pursuant to Regulation M under the Exchange Act, certain persons participating in the offering may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of our common stock at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either "covered" short sales or "naked" short sales.

"Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares of our common stock in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares of our common stock or purchasing shares of our common stock in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.

"Naked" short sales are sales in excess of the option to purchase additional shares of our common stock. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward

pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriters for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, an underwriter's purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the common stock originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

The underwriters may also engage in passive market making transactions in our common stock on The NASDAQ Global Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

Electronic Distribution

A prospectus in electronic format may be made available by e-mail or on the websites or through online services maintained by one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' websites and any information contained in any other website maintained by any of the underwriters is not part of this prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriters and certain of their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their respective affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and certain of their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending

relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The underwriters and certain of their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Certain of our existing stockholders have indicated an interest in purchasing up to an aggregate of approximately $15.0 million of our common stock in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, less or no shares in this offering to any of these stockholders. In addition, any of these stockholders may determine to purchase more, less or no shares in this offering. Shares purchased by existing stockholders will be subject to the lock-up agreements described above.

At our request, the underwriters have also reserved for sale at the initial public offering price up to 272,727 shares of common stock for our directors, officers and other parties related to us who have expressed an interest in purchasing shares in the offering. The number of shares of common stock available for sale to the general public in the offering will be reduced to the extent these persons purchase the directed shares in the program. Any directed shares not so purchased will be offered by the underwriters to the general public on the same terms as the other shares. For those participants who have entered into lock-up agreements as contemplated above, the lock-up agreements contemplated therein shall govern with respect to their purchases of shares of common stock in the program. Jefferies LLC in its sole discretion may release any of the securities subject to these lock-up agreements at any time. We have agreed to indemnify the underwriters against certain liabilities and expenses, including liabilities under the Securities Act, in connection with sales of the directed shares.

Disclaimers About Non-U.S. Jurisdictions

European Economic Area. In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") an offer to the public of any shares which are the subject of the offering contemplated by this prospectus may not be made in that Relevant Member State except that an offer to the public in that Relevant Member State of any shares may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;

(b) to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43 million and (3) an annual net turnover of more than €50 million, as shown in its last annual or consolidated accounts;

(c) to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the representative for any such offer; or

(d) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of the shares shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

Each person in a Relevant Member State who receives any communication in respect of, or who acquires any shares under, the offers contemplated in this prospectus will be deemed to have represented, warranted and agreed to and with each underwriter and us that:

(a) it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive; and

(b) in the case of any shares acquired by it as a financial intermediary, as that term is used in Article 3(2) of the Prospectus Directive, (i) the shares acquired by it in the offer have not been acquired on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State, other than qualified investors, as that term is defined in the Prospectus Directive, or in circumstances in which the prior consent of the representative has been given to the offer or resale; or (ii) where shares have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors, the offer of those shares to it is not treated under the Prospectus Directive as having been made to such persons.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase any shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

United Kingdom. Each underwriter has represented, warranted and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, or the FSMA) to persons who are investment professionals falling within Article 19(5) of the FSMA (Financial Promotion) Order 2005 or in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(b) it has complied with and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares in, from or otherwise involving the United Kingdom.

Australia. This prospectus is not a formal disclosure document and has not been, nor will be, lodged with the Australian Securities and Investments Commission. It does not purport to contain all information that an investor or their professional advisers would expect to find in a prospectus or other disclosure document (as defined in the Corporations Act 2001 (Australia)) for the purposes of Part 6D.2 of the Corporations Act 2001 (Australia) or in a product disclosure statement for the purposes of Part 7.9 of the Corporations Act 2001 (Australia), in either case, in relation to the securities.

The securities are not being offered in Australia to "retail clients" as defined in sections 761G and 761GA of the Corporations Act 2001 (Australia). This offering is being made in Australia solely to "wholesale clients" for the purposes of section 761G of the Corporations Act 2001 (Australia) and, as such, no prospectus, product disclosure statement or other disclosure document in relation to the securities has been, or will be, prepared.

This prospectus does not constitute an offer in Australia other than to wholesale clients. By submitting an application for our securities, you represent and warrant to us that you are a wholesale client for the purposes of section 761G of the Corporations Act 2001 (Australia). If any recipient of this prospectus is not a wholesale client, no offer of, or invitation to apply for, our securities shall be deemed to be made to such recipient and no applications for our securities will be accepted from such recipient. Any offer to a recipient in Australia, and any agreement arising from acceptance of such offer, is personal and may only be accepted by the recipient. In addition, by applying for our securities you undertake to us that, for a period

of 12 months from the date of issue of the securities, you will not transfer any interest in the securities to any person in Australia other than to a wholesale client.

Hong Kong. Our securities may not be offered or sold in Hong Kong, by means of this prospectus or any document other than (i) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) and any rules made thereunder, or (ii) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong), or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong). No advertisement, invitation or document relating to our securities may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere) which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the securities which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Japan. Our securities have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the Financial Instruments and Exchange Law) and our securities will not be offered or sold, directly or indirectly, in Japan, or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan, or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore. This document has not been registered as a prospectus with the Monetary Authority of Singapore and in Singapore, the offer and sale of our securities is made pursuant to exemptions provided in sections 274 and 275 of the Securities and Futures Act, Chapter 289 of Singapore, or SFA. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of our securities may not be circulated or distributed, nor may our securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor as defined in Section 4A of the SFA pursuant to Section 274 of the SFA, (ii) to a relevant person as defined in section 275(2) of the SFA pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with the conditions (if any) set forth in the SFA. Moreover, this document is not a prospectus as defined in the SFA. Accordingly, statutory liability under the SFA in relation to the content of prospectuses would not apply. Prospective investors in Singapore should consider carefully whether an investment in our securities is suitable for them.

Where our securities are subscribed or purchased under Section 275 of the SFA by a relevant person that is:

- a corporation (that is not an accredited investor as defined in Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

shares of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for six months after that corporation or that trust has acquired the shares under Section 275 of the SFA, except:

- to an institutional investor (for corporations under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or any person pursuant to an offer that is made on terms that such shares of that corporation or such rights and interest in that trust are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions, specified in Section 275 of the SFA;

- where no consideration is given for the transfer; or

- where the transfer is by operation of law.

In addition, investors in Singapore should note that the securities acquired by them are subject to resale and transfer restrictions specified under Section 276 of the SFA, and they, therefore, should seek their own legal advice before effecting any resale or transfer of their securities.

Switzerland. The prospectus does not constitute an issue prospectus pursuant to Article 652a or Article 1156 of the Swiss Code of Obligations, or CO, and the shares will not be listed on the SIX Swiss Exchange. Therefore, the prospectus may not comply with the disclosure standards of the CO and/or the listing rules (including any prospectus schemes) of the SIX Swiss Exchange. Accordingly, the shares may not be offered to the public in or from Switzerland, but only to a selected and limited circle of investors, which do not subscribe to the shares with a view to distribution.

Israel. In the State of Israel, our common stock offered hereby may not be offered to any person or entity other than the following:

(a) a fund for joint investments in trust (i.e., mutual fund), as such term is defined in the Law for Joint Investments in Trust, 5754-1994, or a management company of such a fund;

(b) a provident fund as defined in Section 47(a)(2) of the Income Tax Ordinance of the State of Israel, or a management company of such a fund;

(c) an insurer, as defined in the Law for Oversight of Insurance Transactions, 5741-1981, a banking entity or satellite entity, as such terms are defined in the Banking Law (Licensing), 5741-1981, other than a joint services company, acting for their own account or for the account of investors of the type listed in Section 15A(b) of the Securities Law 1968;

(d) a company that is licensed as a portfolio manager, as such term is defined in Section 8(b) of the Law for the Regulation of Investment Advisors and Portfolio Managers, 5755-1995, acting on its own account or for the account of investors of the type listed in Section 15A(b) of the Securities Law 1968;

(e) a company that is licensed as an investment advisor, as such term is defined in Section 7(c) of the Law for the Regulation of Investment Advisors and Portfolio Managers, 5755-1995, acting on its own account;

(f) a company that is a member of the Tel Aviv Stock Exchange, acting on its own account or for the account of investors of the type listed in Section 15A(b) of the Securities Law 1968;

(g) an underwriter fulfilling the conditions of Section 56(c) of the Securities Law, 5728-1968;

(h) a venture capital fund (defined as an entity primarily involved in investments in companies that, at the time of investment, (i) are primarily engaged in research and development or manufacture of new technological products or processes and (ii) involve above-average risk);

(i) an entity primarily engaged in capital markets activities in which all of the equity owners meet one or more of the above criteria; and

(j) an entity, other than an entity formed for the purpose of purchasing our common stock in this offering, in which the shareholders' equity (including pursuant to foreign accounting rules, international accounting regulations and U.S. generally accepted accounting rules, as defined in the Securities Law Regulations (Preparation of Annual Financial Statements), 1993) is in excess of NIS 250 million.

Kuwait. FOR RESIDENTS OF KUWAIT ONLY:

Unless all necessary approvals from the Kuwait Capital Markets Authority, or CMA, pursuant to Law No. 7/2010, its Executive Regulations and the various Resolutions and Announcements issued pursuant thereto or in connection therewith have been given in relation to the marketing of, and sale of, the shares, these may not be offered for sale, nor sold in the State of Kuwait ("Kuwait"). Neither this prospectus nor any of the information contained herein is intended to lead to the conclusion of any contract of whatsoever nature within Kuwait.

With regard to the contents of this document we recommend that you consult a party licensed by the CMA to conduct securities activities in Kuwait and specialized in giving advice about the purchase of shares and other securities before making the subscription decision.

Qatar. Without the approval of the Qatar Financial Markets Authority, or QFMA, the common shares will not be provided, promoted, offered, sold or delivered, at any time, directly or indirectly in the State of Qatar to any person.

If the approval of the QFMA is obtained, the offer of the common shares in the State of Qatar will only be made through a private placement on an exclusive basis to the specifically intended professional and sophisticated identified recipient thereof, upon that person's request and initiative, for personal use only and will not be provided, promoted, offered, sold or delivered, at any time, directly or indirectly in the State of Qatar to any other person. Such an offer shall in no way be construed as a general public offer for the sale of securities to the public or an attempt to do business as a bank, an investment company or otherwise in the State of Qatar. Such promotion will not be approved by the Qatar Central Bank and will not be registered or licensed by any other regulator in the State of Qatar including the Qatar Financial Centre Regulatory Authority and the Qatar Exchange. If provided in the State of Qatar in accordance with the foregoing restrictions, the information contained in this prospectus shall be for the recipient only and may not be shared with any third party in Qatar. It shall not be for general circulation in the State of Qatar and any distribution or reproduction of this prospectus by any recipient to third parties in Qatar is not permitted and shall be at the liability of such recipient only and no liability whatsoever shall apply to Minerva Neurosciences, Inc. or the underwriters in this regard.

United Arab Emirates. The offering contemplated hereunder has not been approved or licensed by the Central Bank of the United Arab Emirates, or UAE, the Securities and Commodities Authority of the UAE and/or any other relevant licensing authority in the UAE including any licensing authority incorporated under the laws and regulations of any of the free zones established and operating in the territory of the UAE, in particular the Dubai Financial Services Authority, or DFSA, a regulatory authority of the Dubai International Financial Centre, or DIFC. This offering does not constitute a public offer of shares in the UAE, DIFC and/or any other free zone in accordance with the Commercial Companies Law, Federal Law No. 8 of 1984 (as amended), or the DFSA Markets Rules, accordingly, or otherwise. The shares of common stock may not be offered to the public in the UAE and/or any of the free zones.

The shares of common stock may be offered and issued only to a limited number of investors in the UAE or any of its free zones who qualify as sophisticated investors under the relevant laws and regulations of the UAE or the free zone concerned. We represent and warrant that the shares will not be offered, sold, transferred or delivered to the public in the UAE or any of its free zones.

Dubai International Financial Centre. This document relates to an Exempt Offer in accordance with the Markets Rules of the Dubai Financial Services Authority. This document is intended for distribution only to Persons of a type specified in those rules to whom Exempt Offers can be made. It must not be delivered to, or relied on by, any other Person. The Dubai Financial Services Authority has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The Dubai Financial Services Authority has not approved this document nor taken steps to verify the information set out in it, and has no responsibility for it. The shares of common stock to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares of common stock offered should conduct their own due diligence on the shares. If you do not understand the contents of this document you should consult an authorized financial adviser.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Morgan, Lewis & Bockius, LLP. Certain legal matters relating to this offering will be passed upon for the underwriters by Cooley LLP, Boston, Massachusetts.

EXPERTS

The financial statements of Minerva Neurosciences, Inc. (formerly Cyrenaic Pharmaceuticals, Inc.) as of and for the years ended December 31, 2013 and 2012 and from April 23, 2007 (date of incorporation) to December 31, 2013 included in this prospectus and elsewhere in the Registration Statement have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein and elsewhere in the Registration Statement which report expresses an unqualified opinion on the financial statements and includes an explanatory paragraph referring to substantial doubt about the Company's ability to continue as a going concern. Such financial statements are included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The financial statements of Sonkei Pharmaceuticals, Inc. or Sonkei, as of and for the years ended December 31, 2012 and 2011 and from August 29, 2008 (date of incorporation) to December 31, 2012, included in this prospectus have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report appearing herein which report expresses an unqualified opinion on the financial statements and includes emphasis of matter paragraphs referring to 1) substantial doubt about Sonkei's ability to continue as a going concern and 2) Sonkei's merger into Cyrenaic Pharmaceuticals, Inc. Such financial statements are included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The financial statements of Mind-NRG SA as of December 31, 2013 and 2012 and for the years then ended and, cumulatively, for the period from August 20, 2010 (date of inception) to December 31, 2013, included in this prospectus, have been so included in reliance on the report (which contains an explanatory paragraph relating to Mind-NRG SA's ability to continue as a going concern as described in note 2 to the financial statements) of PricewaterhouseCoopers AG, independent accountants, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to this offering of our common stock. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits and the financial statements and notes filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be referenced for the complete contents of these contracts and documents. A copy of the registration statement and the exhibits filed therewith may be inspected without charge at the public reference room of the SEC, located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the public reference rooms by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements, and other information about issuers, like us, that file electronically with the SEC. The address of that website is *www.sec.gov*.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements, and other information with the SEC. These periodic reports, proxy statements, and other information will be available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at *www.minervaneurosciences.com*. After the closing of this offering, you may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus.

Index to Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Minerva Neurosciences, Inc.

We have audited the accompanying balance sheets of Minerva Neurosciences, Inc. (formerly Cyrenaic Pharmaceuticals, Inc.) (a development stage company) (the "Company") as of December 31, 2012 and 2013, and the related statements of operations, stockholders' equity, and cash flows for the years then ended and for the period from April 23, 2007 (date of incorporation) to December 31, 2013. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the financial position of Minerva Neurosciences, Inc. (formerly Cyrenaic Pharmaceuticals, Inc.) as of December 31, 2012 and 2013, and the results of its operations and its cash flows for the years then ended and for the period from April 23, 2007 (date of incorporation) to December 31, 2013, in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. The Company is a development stage enterprise engaged in new drug discovery. As discussed in Note 1 to the financial statements, the Company's operating losses since inception raise substantial doubt about its ability to continue as a going concern. Management's plans concerning this matter are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of these uncertainties.

/s/ Deloitte & Touche LLP

Parsippany, New Jersey
April 9, 2014
(June 9, 2014 as to the last paragraph in Note 13)

MINERVA NEUROSCIENCES INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Balance Sheets

	December 31, 2012	December 31, 2013
Assets		
Current assets		
Cash and cash equivalents	$ 200,314	$ 1,818,317
Prepaid expenses	8,995	852
Total current assets	209,309	1,819,169
Equipment	—	3,232
In-process research and development	—	19,000,000
Goodwill	—	7,918,387
Deferred public offering costs	—	433,998
Total assets	**$ 209,309**	**$ 29,174,786**
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ —	$ 522,981
Accrued expenses and other current liabilities	190,290	815,239
Convertible promissory notes, net of discount	—	58,270
Derivative liability	—	10,093
Total current liabilities	190,290	1,406,583
Deferred taxes	—	7,588,600
Total liabilities	190,290	8,995,183
Commitments and contingencies		
Stockholders' equity		
Common stock; $0.0001 par value; 45,000,000 shares authorized; 3,562,454 and 6,112,738 shares issued and outstanding as of December 31, 2012 and 2013, respectively	356	611
Additional paid-in capital	14,586,449	38,008,783
Deficit accumulated during the development stage	(14,567,786)	(17,829,791)
Total stockholders' equity	19,019	20,179,603
Total liabilities and stockholders' equity	**$ 209,309**	**$ 29,174,786**

See accompanying notes to financial statements

MINERVA NEUROSCIENCES INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Statements of Operations

	Year Ended December 31,		Period from April 23, 2007 (date of incorporation) to December 31,
	2012	2013	2013
Expenses			
Research and development	$ 550,360	$ 708,489	$ 12,977,249
General and administrative	1,030,656	2,466,490	4,827,442
Total expenses	1,581,016	3,174,979	17,804,691
Loss from operations	(1,581,016)	(3,174,979)	(17,804,691)
Foreign exchange gains / (losses)	(946)	(28,977)	(4,040)
Interest expense	—	(59,608)	(59,608)
Interest income	7	1,559	38,548
Net loss	$ (1,581,955)	$ (3,262,005)	$ (17,829,791)
Net loss per share, basic and diluted	(0.47)	(0.78)	(7.23)
Weighted average shares outstanding, basic and diluted	3,386,914	4,186,104	2,467,703

See accompanying notes to financial statements

MINERVA NEUROSCIENCES INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Statements of Stockholders' Equity

	Common Stock		Additional Paid-In Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Balances at April 23, 2007 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $3.50 per share, net of $22,000 of costs	714,286	71	2,477,929	—	2,478,000
Net loss	—	—	—	(1,650,301)	(1,650,301)
Balances at December 31, 2007	**714,286**	**71**	**2,477,929**	**(1,650,301)**	**827,699**
Sale of common stock for cash at $3.50 per share	571,428	57	1,999,943	—	2,000,000
Net loss				(2,932,791)	(2,932,791)
Balances at December 31, 2008	**1,285,714**	**128**	**4,477,872**	**(4,583,092)**	**(105,092)**
Sale of common stock for cash at $3.50 per share	1,085,714	109	3,799,891	—	3,800,000
Stock-based compensation	—	—	257,989	—	257,989
Net loss	—	—	—	(4,345,001)	(4,345,001)
Balances at December 31, 2009	**2,371,428**	**237**	**8,535,752**	**(8,928,093)**	**(392,104)**
Sale of common stock for cash at $3.50 per share	714,286	72	2,499,928	—	2,500,000
Stock-based compensation	—	—	1,600,011	—	1,600,011
Net loss	—	—	—	(2,935,024)	(2,935,024)
Balances at December 31, 2010	**3,085,714**	**309**	**12,635,691**	**(11,863,117)**	**772,883**
Sale of common stock for cash at $3.50 per share	114,286	11	399,989	—	400,000
Stock-based compensation	—	—	63,000	—	63,000
Net loss	—	—	—	(1,122,714)	(1,122,714)
Balances at December 31, 2011	**3,200,000**	**320**	**13,098,680**	**(12,985,831)**	**113,169**
Sale of common stock for cash at $3.50 per share	257,143	26	899,974	—	900,000
Issuance of common stock to a consultant	105,311	10	533,045	—	533,055
Stock-based compensation	—	—	54,750	—	54,750
Net loss	—	—	—	(1,581,955)	(1,581,955)
Balances at December 31, 2012	**3,562,454**	**356**	**14,586,449**	**(14,567,786)**	**19,019**
Sale of common stock for cash at $3.50 per share	528,576	53	1,849,947	—	1,850,000
Issuance of shares for business acquisition	1,997,192	200	18,943,166	—	18,943,366
Beneficial conversion feature — convertible debt	—	—	1,973,500	—	1,973,500
Issuance of common stock to a consultant	24,516	2	232,532	—	232,534
Stock-based compensation	—	—	423,189	—	423,189
Net loss	—	—	—	(3,262,005)	(3,262,005)
Balances at December 31, 2013	**6,112,738**	**$ 611**	**$ 38,008,783**	**$ (17,829,791)**	**$ 20,179,603**

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Statements of Cash Flows

	Year Ended December 31,		Period from April 23, 2007 (date of incorporation) to December 31, 2013
	2012	2013	
Cash flows from operating activities			
Net loss	$ (1,581,955)	$ (3,262,005)	$ (17,829,791)
Adjustments to reconcile net loss to net cash used in operating activities:			
Amortization of debt discount recorded as interest expense	—	36,231	36,231
Stock-based compensation expense	587,805	655,723	3,164,528
Change in fair value of derivative	—	117	117
Unrealized foreign exchange loss	—	22,039	22,039
Changes in operating assets and liabilities			
Prepaid expenses	25,321	8,143	(852)
Accounts payable	—	522,981	522,981
Accrued expenses and other liabilities	60,286	(143,472)	46,818
Net cash used in operating activities	(908,543)	(2,160,243)	(14,037,929)
Cash flows from investing activities:			
Equipment purchases	—	(3,232)	(3,232)
Net cash provided by investing activities	—	(3,232)	(3,232)
Cash flows from financing activities			
Cash acquired in business merger	—	631,478	631,478
Proceeds from issuance of convertible promissory notes	—	1,300,000	1,300,000
Proceeds from sales of common stock	900,000	1,850,000	13,950,000
Stock issuance costs	—	—	(22,000)
Net cash provided by financing activities	900,000	3,781,478	15,859,478
Net (decrease) increase in cash and cash equivalents	(8,543)	1,618,003	1,818,317
Cash and cash equivalents			
Beginning of period	208,857	200,314	—
End of period	$ 200,314	$ 1,818,317	$ 1,818,317
Supplemental disclosure of noncash investing and financing activities			
Common stock issued as consideration for business merger	$ —	$ 18,943,366	$ 18,943,366
Plus liabilities assumed:			
Accrued expenses and other		334,423	334,423
Derivative liability	—	3,476	3,476
Convertible promissory notes	—	680,000	680,000
Deferred tax liability	—	7,588,600	7,588,600
Less assets acquired:			
In-process research and development		19,000,000	19,000,000
Goodwill	—	7,918,387	7,918,387
Cash acquired in business merger	$ —	$ 631,478	$ 631,478
Deferred public offering costs included in accrued expenses and other liabilities	$ —	$ 433,998	$ 433,998
Beneficial conversion feature	$ —	$ 1,973,500	$ 1,973,500

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Minerva Neurosciences, Inc. ("Minerva" or the "Company"), formerly known as Cyrenaic Pharmaceuticals, Inc. ("Cyrenaic") was incorporated on April 23, 2007. The Company is a development stage biopharmaceutical company focused on the development of experimental drugs for the treatment of schizophrenia, major depressive disorder, insomnia and Parkinson's disease (discussed further in Note 6 — License Agreement and Note 13 — Subsequent Events). The Company has historically operated as a virtual company with no employees and been managed by its Board of Directors. On November 12, 2013, Sonkei Pharmaceuticals, Inc. ("Sonkei"), a development stage biopharmaceutical company focused on the development of an experimental drug for the treatment of depression and an affiliated company through certain common ownership, merged into Cyrenaic with Cyrenaic being the surviving company (discussed further in Note 3 — Business Merger). Subsequent to the merger, Cyrenaic changed its name to Minerva Neurosciences, Inc.

Going Concern

The Company has limited capital resources and has incurred recurring operating losses and negative cash flows from operations since inception. As of December 31, 2013, the Company has an accumulated deficit of approximately $17.8 million. Management expects to continue to incur operating losses and negative cash flows from operations. The Company has financed its business to date from proceeds from the sale of common stock and convertible promissory notes. The Company will need to raise additional capital in order to fund operations and continue its clinical development programs. The Company believes that it will be able to obtain additional working capital through equity financings or other arrangements to fund operations, including an initial public offering (an "IPO"); however, there can be no assurance that such additional financing, if available, can be obtained on terms acceptable to the Company. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. The Company is currently exploring external financing alternatives which will be needed by the Company to fund its operations. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern.

The accompanying financial statements have been prepared as though the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

The financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"), and include all adjustments necessary for the fair presentation of the Company's financial position for the periods presented. From its inception, the Company has devoted

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, planning and executing clinical trials and raising capital. Accordingly, the Company is considered to be in the development stage as defined in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 915: *Development Stage Entities*.

Significant risks and uncertainties

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to: the results of clinical testing and trial activities of the Company's products, the Company's ability to obtain regulatory approval to market its products, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, Company products, the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company's ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company's research and development will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its employees and consultants and obtaining and protecting intellectual property.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

The Company utilizes significant estimates and assumptions in determining the fair value of its common stock. The board of directors has determined the estimated fair value of the Company's common stock based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an IPO of common stock or a sale of the Company.

The Company utilized various valuation methodologies in accordance with the framework of the 2013 American Institute of Certified Public Accountants Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation,* to estimate the fair value of its common stock. The methodologies included a probability-weighted expected return methodology that determined an estimated value under an IPO scenario and a sale scenario based upon an assessment of the probability of occurrence of each scenario. Each valuation methodology includes estimates and assumptions that require the Company's judgment. These estimates include assumptions regarding future performance, including the successful completion of preclinical studies and clinical trials and the time to complete an IPO or sale.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Significant changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

Research and development costs

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company's research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company. Costs for certain development activities, such as clinical trials, are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expenses.

In-process research and development ("IPR&D") assets represent a capitalized incomplete research project that the Company acquired through a business combination. Such assets are initially measured at their acquisition date fair values. The fair value of the research projects is recorded as intangible assets on the balance sheet, rather than expensed, regardless of whether these assets have an alternative future use.

The amounts capitalized are being accounted for as indefinite-lived intangible assets, subject to impairment testing, until completion or abandonment of research and development efforts associated with the project. An IPR&D asset is considered abandoned when it ceases to be used (that is, research and development efforts associated with the asset have ceased, and there are no plans to sell or license the asset or derive defensive value from the asset). At that point, the asset is considered to be disposed of and is written off. Upon successful completion of each project, the Company will make a determination about the then remaining useful life of the intangible asset and begin amortization. The Company tests its indefinite-lived intangibles, IPR&D assets, for impairment annually on November 30 and more frequently if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. When testing indefinite-lived intangibles for impairment, the Company may assess qualitative factors for its indefinite lived intangibles to determine whether it is more likely than not (that is, a likelihood of more than 50 percent) that the asset is impaired. Alternatively, the Company may bypass this qualitative assessment for some or all of its indefinite-lived intangibles and perform the quantitative impairment test that compares the fair value of the indefinite-lived intangible asset with the asset's carrying amount.

Stock-based compensation

The Company recognizes compensation cost relating to share-based payment transactions in operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation-Stock Compensation*. ASC-718 requires all share based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity — Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share-based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

Foreign currency transactions

The Company's functional currency is the US dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in US dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

Income taxes

The Company utilizes the liability method of accounting for income taxes as required by FASB ASC Topic 740 *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax reporting bases of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Uncertain tax positions are evaluated in accordance with this topic and if appropriate, the amount of unrecognized tax benefits are recorded within deferred tax assets. Deferred tax assets are evaluated for realization based on a more-likely-than-not criterion in determining if a valuation allowance should be provided. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

ASC Topic 740 also clarifies the accounting for uncertainty in income taxes recognized in the financial statements. The interpretation prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. ASC Topic 740 provides guidance on the recognition of interest and penalties related to income

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

taxes. There was no interest or penalties related to income taxes for the years ended December 31, 2012 and 2013 and for the period from April 23, 2007 (date of incorporation) to December 31, 2013. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2010 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Concentration of credit risk

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents. The Company maintains its cash and cash equivalent balances in the form of business checking accounts and money market accounts, the balances of which, at times, may exceed federally insured limits. Exposure to credit risk is reduced by placing such deposits with major financial institutions and monitoring their credit ratings.

Cash and cash equivalents

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents.

Equipment

Equipment is stated at cost less accumulated depreciation. Equipment is depreciated on the straight-line basis over their estimated useful lives of three years. Depreciation expense was not significant in 2013. Expenditures for maintenance and repairs are charged to expense as incurred.

Deferred public offering costs

Deferred public offering costs include certain legal, accounting and other costs directly attributable to the Company's proposed public offering of common stock. Upon completion of the initial public offering contemplated herein, these amounts will be offset against the proceeds of the offering. If the offering is terminated, the deferred offering costs will be expensed.

Long-lived assets

The Company reviews the recoverability of all long-lived assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset might not be recoverable. If required, the Company compares the estimated undiscounted future net cash flows to the related asset's carrying value to determine whether there has been an impairment. If an asset is considered impaired, the asset is written down to fair value, which is based either on discounted cash flows or appraised values in the period the impairment becomes known. The Company believes that all long-lived assets are recoverable, and no impairment was deemed necessary at December 31, 2013.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Business Combinations

For business combinations, the Company utilizes the acquisition method of accounting in accordance with ASC Topic 805, *Business Combinations*. These standards require that the total cost of an acquisition be allocated to the tangible and intangible assets acquired and liabilities assumed based their respective fair values at the date of acquisition. The allocation of the purchase price is dependent upon certain valuations and other studies. Acquisition costs are expensed as incurred. The Company recognizes separately from goodwill the fair value of assets acquired and the liabilities assumed. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the acquisition date fair values of the assets acquired and liabilities assumed. While the Company uses its best estimates and assumptions as a part of the purchase price allocation process to accurately value assets acquired and liabilities assumed at the acquisition date, the Company's estimates are subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company may retroactively record adjustments to the fair value of the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company's consolidated statements of operations.

Goodwill

The Company tests its goodwill for impairment annually, or whenever events or changes in circumstances indicate an impairment may have occurred, by comparing its reporting unit's carrying value to its implied fair value. Impairment may result from, among other things, deterioration in the performance of the acquired business, adverse market conditions, adverse changes in applicable laws or regulations and a variety of other circumstances. If the Company determines that an impairment has occurred, it is required to record a write-down of the carrying value and charge the impairment as an operating expense in the period the determination is made. In evaluating the recoverability of the carrying value of goodwill the Company must make assumptions regarding estimated future cash flows and other factors to determine the fair value of the acquired assets. Changes in strategy or market conditions could significantly impact those judgments in the future and require an adjustment to the recorded balances. The Company tested its goodwill for impairment as of November 30. There was no impairment of goodwill for the year ended December 31, 2013.

Fair value of financial instruments

The Company provides disclosure of financial assets and financial liabilities that are carried at fair value based on the price that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value measurements may be

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

classified based on the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities using the following three levels:

Level 1 — Inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2 — Inputs include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.) and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).

Level 3 — Unobservable inputs that reflect the Company's estimates of the assumptions that market participants would use in pricing the asset or liability. The Company develops these inputs based on the best information available, including its own data.

The following table presents information about the Company's liability as of December 31, 2013 and 2012 that is measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value:

	December 31, 2013			
In thousands	Total	Level 1	Level 2	Level 3
Liability:				
Convertible promissory notes derivative liability	$ 10.0	$ —	$ —	$ 10.0

	December 31, 2012			
In thousands	Total	Level 1	Level 2	Level 3
Liability:				
None	$ —	$ —	$ —	$ —

The carrying amounts of cash, cash equivalents, accounts payable and accrued liabilities approximate fair value because of their short-term nature.

Convertible Promissory Notes

The Company's convertible promissory notes at December 31, 2013 consist of (i) $1.3 million face value convertible promissory notes, plus accrued interest of $15,671 and (ii) €518,519 face value convertible

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

promissory notes, plus accrued interest of $8,605. The Euro denominated notes were acquired in conjunction with the merger with Sonkei (discussed further in Note 3 — Business Merger), and recorded at their fair value of $680,000 on the date of the merger. At December 31, 2013, the fair market value of the convertible promissory notes was approximately $2.0 million. The carrying value of the convertible promissory notes at December 31, 2013 was $58,270, as a result of the beneficial conversion feature recorded at initial recognition as a debt discount.

Discount Purchase Option

The Company's 8% convertible promissory notes contain an embedded derivative related to the conversion option containing a discount purchase feature in a qualified financing, as defined. The derivative is carried at fair value and is classified as Level 3 in the fair value hierarchy due to the use of significant unobservable inputs. The initial fair value of the derivative liability at the date of issuance in November 2013 was determined to be $9,976 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 7 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement.

As of December 31, 2013, the fair value of the derivative liability was determined to be $10,093 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 6 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The $117 increase in the fair value of the derivative liability was recognized in interest expense as a loss on change in fair value of derivative liability for the year ended December 31, 2013.

$3.50/€3.50 Conversion Option

The Company's 8% convertible promissory notes contain a beneficial conversion feature. The intrinsic value of the beneficial conversion feature was calculated by measuring the difference between the effective conversion price and the fair value of common stock at initial recognition. The Company recorded a debt discount for the fair value of the derivative, which was limited to the proceeds received of approximately $2.0 million, with an offsetting increase to additional paid-in capital. The beneficial conversion charge has been included in the balance sheet at December 31, 2013 as a discount to the related convertible promissory notes. The discount is being accreted as non-cash interest expense over the expected term of the debt (June 30, 2014) using the effective interest method, which totaled $36,231 for the year ended December 31, 2013 and for the period April 23, 2007 (date of incorporation) through December 31, 2013.

Segment information

Operating segments are defined as components of an enterprise (business activity from which it earns revenue and incurs expenses) about which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company's chief decision maker, who is the Chief Executive Officer, reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. The Company views its operations and manages its business as one operating segment.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by FASB and are adopted by the Company as of the specified effective date. The Company believes that the impact of other recently issued but not yet adopted accounting pronouncements will not have a material impact on the financial position, results of operations, and cash flows, or do not apply to the Company's operations.

NOTE 3 — BUSINESS MERGER

On November 12, 2013, Cyrenaic merged with Sonkei, with Cyrenaic being the survivor company. Each share of Sonkei common stock was converted into 0.383 shares of Cyrenaic common stock, resulting in the issuance of 2,423,368 shares. There were certain common stockholders between Sonkei and Cyrenaic, however, since the underlying investors in the venture funds were not "substantially similar", the merger was accounted for as a business combination with Cyrenaic being treated as the acquirer. The results of Sonkei are included in the accompanying financial statements commencing November 12, 2013. The Company merged with Sonkei in order to acquire Sonkei's lead product candidate, MIN-117.

At the date of the merger, a Sonkei non-employee held 1,112,500 shares of Sonkei common stock with a nonrecourse note due to Sonkei, which was being treated as a stock option for accounting purposes. In connection with the merger, the Company issued 426,176 shares to the holder with a nonrecourse note (discussed further in Note 8 — Stockholders' Equity) in order to replace the holder's stock options in Sonkei. Due to the nonrecourse note, these shares of the Company are treated as stock options for accounting purposes and the holder of the option can only vest in the stock options if the holder continues to provide services to the Company through the time of a change in control, as defined. In summary, the Company issued replacement stock options of the Company for the old Sonkei stock options. As a change in control is not deemed probable as of the merger date, the options have not been included as part of the consideration transferred in the merger accounting. Accordingly, the Company will recognize all of the compensation expense for these stock options in the statement of operations once achievement of the performance condition becomes probable. The merger accounting purchase price was therefore determined based upon the common stock shares issued of 1,997,192 at a valuation of $9.49 per common share for a total purchase price of approximately $18.9 million. Merger expenses of $14,000 were included in general and administrative expenses for the year ended December 31, 2013.

The fair value of the Company's common stock issued was determined based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an IPO or a sale of the Company. The purchase price allocation was based upon an analysis of the fair value of the assets and liabilities acquired from Sonkei. The final purchase price may be adjusted up to one year from the date of the merger. Identifying the fair value of the tangible and intangible assets and liabilities acquired required the use of estimates by management, and were based upon currently available data, as noted below.

- The fair value of current assets and liabilities approximated their book value.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 3 — BUSINESS MERGER (CONTINUED)

- The fair value of the convertible promissory notes was determined based upon a number of factors including (i) interest rate, (ii) creditworthiness of the Company, (iii) the applicable foreign exchange rate and (iv) the conversion features (described in Note 7 — Convertible Promissory Notes). The face amount of the note acquired is €518,519 (approximately $0.7 million at November 12, 2013).

- The Company measured the value of the acquired IPR&D using the income approach — multi period excess earnings method and assembled workforce using the cost approach (for contributory asset charge calculations). The multi-period excess earning method measures the present value of the future earnings expected to be generated during the remaining lives of the subject assets.

- The Company recorded a deferred tax liability for the difference in the book and tax basis of the IPR&D, multiplied by the effective income tax rate.

The Company allocated the excess of purchase price over the identifiable intangible and net tangible assets to goodwill. The goodwill recorded recognizes the synergies and value of the overall combined development programs, both the current pre-clinical development program in process and the future clinical trial development strategy. Such goodwill is not deductible for tax purposes. The aggregate consideration of $18.9 million has been allocated to assets acquired and liabilities assumed based on estimated fair values at the date of merger as follows:

	November 12, 2013
Cash	$ 631,478
Goodwill	7,918,387
In-process research and development	19,000,000
Accrued expenses	(334,423)
Derivative liability	(3,476)
Deferred taxes	(7,588,600)
Convertible promissory notes (see Note 7)	(680,000)
	$ 18,943,366

The above cash was obtained by Sonkei in a November 6, 2013 financing and thus has been classified as a financing activity in the statements of cash flows. The IPR&D, an indefinite-lived asset, will be included as an asset on the Company's balance sheet until such time that: (i) a marketing approval to commercially sell the drug is received from a regulatory agency, in which case it will be amortized over its expected commercial life, or (ii) such time as the IPR&D is deemed to be impaired, in which case it will be expensed. The transaction is being treated as a stock purchase for income tax purposes and accordingly, the tax bases of Sonkei's assets and liabilities are not adjusted for the effect of purchase accounting. A deferred tax liability of $7.6 million has been recorded for the difference in the book and tax basis of the IPR&D, multiplied by the income tax rate. The acquired net operating losses of Sonkei of approximately

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 3 — BUSINESS MERGER (CONTINUED)

$5.3 million had a full valuation allowance, however, will be not limited under Internal Revenue Code Section 382 as the amount that could be utilized after limitation exceeds the amount of the net operating loss carryforward.

Pro Forma Results

The unaudited financial information in the table below summarizes the combined results of operations for the Company and Sonkei on a pro forma basis as though the companies had been combined as of January 1, 2012. The unaudited pro forma financial information for the years ended December 31, 2012 and 2013 combines the Company's historical results for these years with the historical results for the comparable reporting periods for Sonkei. The unaudited pro forma financial information below is for informational purposes only and is not indicative of the results of operations or financial condition that would have been achieved if the merger would have taken place at the beginning of each of the periods presented and should not be taken as indicative of the Company's future results of operations or financial condition.

	December 31, 2012	December 31, 2013
Operating loss	$ (3,745,923)	$ (3,877,127)
Loss per share	$ (0.70)	$ (0.67)

NOTE 4 — ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following:

	December 31, 2012	December 31, 2013
Research and development costs	$ 81,600	$ 58,117
Professional fees	8,487	595,215
Expenses due to related parties	96,631	126,910
Interest payable	—	24,276
Vacation pay	—	5,690
Consulting and other costs	3,572	5,031
	$ 190,290	$ 815,239

Accrued professional fees at December 31, 2013 include $433,998 incurred in connection with the preparation of a public offering of the Company's common stock.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 5 — NET LOSS PER SHARE OF COMMON STOCK

Diluted loss per share is the same as basic loss per share for all periods presented as the effects of potentially dilutive items were anti-dilutive given the Company's net loss. Basic loss per share is computed by dividing net loss by the weighted-average number of common shares outstanding. The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Year Ended December 31,		April 23, 2007 (date of incorporation) through December 31, 2013
	2012	2013	
Net loss	$ (1,581,955)	$ (3,262,005)	$ (17,829,791)
Weighted-average shares of common stock outstanding	3,386,914	4,186,104	2,467,703
Net loss per share of common stock — basic and diluted	$ (0.47)	$ (0.78)	$ (7.23)

The following securities outstanding at December 31, 2012 and 2013 have been excluded from the calculation of weighted average shares outstanding as their effect on the calculation of loss per share is antidilutive:

	December 31, 2012	December 31, 2013
Stock issued subject to nonrecourse notes	821,429	1,275,530
Common stock options	—	646,759

The above table does not include the potentially dilutive securities that would be issuable under the convertible promissory notes outstanding as described in Note 7 — Convertible Promissory Notes. The number of shares that would be issued if the note holders elect to convert their debt into equity is dependent on a number of factors which are not known at this time.

NOTE 6 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation ("Mitsubishi") dated as of August 30, 2007, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the compound known as CYR-101 (subsequently renamed MIN-101), and other compounds with a similar structure and data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights, excluding certain Asian countries such as China, Japan, India and South Korea. The

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 6 — LICENSE AGREEMENT (CONTINUED)

Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sub-licensees containing the licensed compound equal to a percentage ranging from the high single digit to the low teens depending on net sales of products under the License Agreement. The initial $1.0 million licensing fee paid in 2007 was expensed as research and development expense, as was an additional payment of $0.5 million in 2008 upon the onset of a Phase IIa study. The Company made a $0.5 million extension payment in 2010 which was expensed as part of research and development expense. The Company is also required to make milestone payments upon the achievement of certain development and commercial milestones, potentially up to $57.5 million for MIN-101 and up to $59.5 million for additional products.

In January 2014, the Company renegotiated the structure of the license for MIN-101 such that the Company is required to make milestone payments upon the achievement of one development milestone totaling $0.5 million and certain commercial milestones, which could total up to $47.5 million. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits. Under the terms of the amended agreement, the Company is required to meet a certain diligence obligation to commence a clinical pharmacology study of the licensed compound by the end of April 2015. The Company may extend this deadline for a further year by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. In addition, if the Company fails to achieve this development milestone by end of April 2015 or make an extension payment, the licensor may elect to terminate the agreement.

In connection with the merger of Sonkei (see Note 3 — Business Merger), the Company has a second license agreement with Mitsubishi dated September 1, 2008, as amended. Under the terms of the agreement, the Company has an exclusive license to the compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. Under the agreement, the Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sub-licensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products. Through the date of the agreement, as amended, the Company is required to make payments up to $57.5 million upon the achievement of certain commercial milestones.

In January 2014, the Company renegotiated the structure of the license for MIN-117 such that the Company is required to make certain milestone payments upon the achievement of certain commercial milestones up to $47.5 million. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits. Under the terms of the amended agreement, the Company is required to meet a certain diligence obligation to initiate either a Phase II(a) or Phase II(b) study with the licensed compound in patients suffering major mood disorders where initiation is defined as first patient enrolled in the study by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestone by one year increments by making

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 6 — LICENSE AGREEMENT (CONTINUED)

an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. In addition, if the Company fails to achieve this development milestone by end April 2015 or make an extension payment, the licensor may elect to terminate the agreement.

The Company did not make any license payments under the agreements for the years ended December 31, 2012 and 2013.

NOTE 7 — CONVERTIBLE PROMISSORY NOTES

On November 6, 2013, the Company issued $1.3 million 8% convertible promissory notes due June 30, 2014 to certain stockholders that are payable on demand at maturity. The notes contain certain terms of default, under which conditions the interest rate increases to 11% per annum.

In conjunction with the merger of Sonkei on November 12, 2013, the Company assumed convertible promissory notes held by certain stockholders with a principal amount of €518,519 (approximately $0.7 million at December 31, 2013). These notes have a stated interest rate of 8% per annum, mature on June 30, 2014, and are payable on demand on such date. The notes contain certain terms of default, under which conditions the interest rate increases to 11% per annum.

The notes issued by the Company on November 6, 2013 and the notes issued by Sonkei on November 6, 2013 and subsequently acquired by the Company on November 12, 2013 (collectively, the "Notes") contain identical terms and may be converted into common shares of the Company under the following conditions:

i) *Discount Purchase Option.* If the Company sells shares of its capital stock in the qualified financing, as defined, and the convertible promissory notes have not been paid in full, then the outstanding principal balance of these convertible promissory notes and accrued interest thereon shall convert into the common stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of common stock multiplied by 80%. A qualified financing shall mean the first sale of the qualified stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5.0 million, which sale or sales shall take place on or before the maturity date; provided, however, that an IPO shall not be deemed a qualified financing. A qualified financing is defined as a transaction (or a series of transactions) with gross proceeds to the Company of at least $5.0 million, which takes place on or before June 30, 2014.

ii) *Initial Public Offering ("IPO").* If the Company conducts an IPO of its common shares before June 30, 2014, then the convertible promissory notes plus accrued interest will convert at the price per share issued in the IPO. Under the terms of the Notes, an IPO is not considered a qualified financing.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 7 — CONVERTIBLE PROMISSORY NOTES (CONTINUED)

iii) *$3.50/€3.50 Conversion Option.* Subsequent to April 30, 2014, investors may elect to convert the Notes and accrued interest into common stock of the Company at a conversion price of $3.50 per common share.

Discount Purchase Option

The Notes contain an embedded derivative related to the discount purchase feature. The initial fair value of the derivative liability at the date of initial recognition was determined to be $9,976 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 7 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The proceeds allocated to this conversion option of $9,976 were deducted from the initial fair value of the debt obligation. As of December 31, 2013, the fair value of the derivative liability was determined to be $10,093 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 6 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The $117 increase in the fair value of the derivative liability was recognized as a loss on change in fair value of derivative liability for the year ended December 31, 2013.

$3.50/€3.50 Conversion Option

The Notes contain a beneficial conversion feature. The intrinsic value of the beneficial conversion feature was calculated by measuring the difference between the effective conversion price and the fair value of the common stock at initial recognition. The Company recorded a debt discount for the intrinsic value of the beneficial conversion feature which was limited to the proceeds of the Notes received of approximately $2.0 million, with an offsetting increase to additional paid-in capital. The discount is being amortized to interest expense using the effective interest method through the Notes' maturity date of June 30, 2014.

As of December 31, 2013, the convertible promissory notes and debt discount are as follows:

	December 31, 2013
Convertible promissory notes	$ 1,973,500
Debt discount	(1,937,269)
Foreign exchange effect on Euro denominated notes	22,039
	$ 58,270

For the year ended December 31, 2013, the Company recognized interest expense of $59,369 related to the Notes, which includes $36,231 for the amortization of the debt discount and $23,138 in coupon interest.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 8 — STOCKHOLDERS' EQUITY

Common Stock

The Company is authorized to issue up to 45 million shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From April 23, 2007 (date of incorporation) through December 31, 2013, the Company sold 3,985,719 shares of common stock at $3.50 per share for net proceeds of $13.9 million over several closings to the same investors (two families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase depending on the success of clinical milestones. Further, pursuant to the stock purchase agreement, during the 2-year period after the fifth closing date of the share purchase, each purchaser has the option to purchase up to an aggregate of their pro rata portion of 2,857,143 shares of common stock for a price of $3.50 per share. This option was terminated in March 2014, subject to the completion of an IPO by December 31, 2014.

Warrants

In February 2009, the Company entered into a warrant agreement with a company controlled by a consultant who provides services associated with the Company's clinical development program. The warrant was exercisable at any time through February 2014. The number of shares of common stock of the Company subject to this warrant was dependent upon an anti-dilution formula based upon maintaining a 20% ownership after each of the common stock purchase agreement closings, with the total warrant shares not to exceed 1,785,714 shares (the "Warrant Shares"). The exercise price of the warrant equaled the sum of $3.50 ("Numerator") plus the quotient obtained by $142,000 divided by the number of Warrant Shares outstanding, however the Numerator was to increase by 2% for each quarter the warrant was outstanding. The warrant agreement also contained a cashless exercise provision, and included a performance based provision for the quantity of the Warrant Shares that could be exercised. The warrant became fully vested in 2010 upon successful completion of specific clinical milestones. The Company determined that the warrant qualified as an equity instrument.

As of April 25, 2012, the warrant was exercisable into 821,429 shares of Company common stock issuable at an exercise price of $3.71 per share. On April 26, 2012, the warrant agreement was cancelled and replaced with a common stock subscription agreement for the purchase of 821,429 shares of Cyrenaic common stock. The Company has accounted for the warrant cancellation and the concurrent replacement with a common stock subscription agreement as a modification in accordance with ASC 718-20-35-8 as

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 8 — STOCKHOLDERS' EQUITY (CONTINUED)

further discussed in the common stock issuance section of this note. Warrants issued under this agreement are summarized as follows:

Warrant grant on February 10, 2009	346,429
Warrant grant on April 13, 2009 pursuant to anti-dilution clause	189,286
Warrant grant on December 23, 2009 pursuant to anti-dilution clause	57,143
Warrant grant on March 15, 2010 pursuant to anti-dilution clause	107,143
Warrant grant on December 13, 2010 pursuant to anti-dilution clause	71,429
Warrant grant on October 26, 2011 pursuant to anti-dilution clause	28,570
Warrants outstanding at December 31, 2011	800,000
Warrant grant on April 25, 2012 pursuant to anti-dilution clause	21,429
Warrants outstanding at April 25, 2012	821,429
Warrant cancellation on April 26, 2012	(821,429)
Warrants outstanding at December 31, 2012	—

The Company recorded stock-based compensation expense in accordance with ASC-505-50 *Equity — Based Payments to Non-Employees*. The Company determined fair value of the warrants at each reporting date and recorded the percent of services rendered as research and development expense on a straight-line basis over the original vesting term of 51 months until May 31, 2010 when the outstanding warrants became fully vested upon successful completion of specific clinical milestones. At such time, a final stock-based compensation expense was recorded for warrants outstanding at that time. After May 31, 2010, upon the grant of additional warrants under the anti-dilution clause, a charge to operations was recorded as research and development expense for the fair value of the additional warrants at the date of grant.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 8 — STOCKHOLDERS' EQUITY (CONTINUED)

The fair value of each warrant to purchase shares of common stock of the Company was estimated by management, using the Black-Scholes option pricing model with the following weighted average assumptions:

	5/31/2010	10/26/2011	4/25/2012
Fair value of underlying common stock	$ 3.85	$ 4.80	$ 5.32
Volatility	98.3%	69.7%	74.7%
Term (in years)	3.2	2.3	1.8
Risk-free interest rate	1.1%	0.32%	0.25%
Dividend yield	0%	0%	0%
Fair value of warrant	$ 2.42	$ 2.21	$ 2.56
Warrant Shares Issued	771,430	28,570	21,429
Value of Warrant Shares	$ 1,858,000	$ 63,000	$ 54,750

The expected term of warrants represents the remaining contractual terms. The volatility assumption was determined by examining the historical volatilities for industry peer companies, as the Company did not have any trading history for its common stock. The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the term of the warrants. The dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has never paid dividends on its common stock and does not anticipate paying dividends on its common stock in the foreseeable future. Accordingly, the Company has assumed no dividend yield for purposes of estimating the fair value of the warrants.

The Company recognized research and development expense for each warrant grant at its fair value. Such expense amounted to $54,750 and $1,975,750 for the year ended December 31, 2012 and for the period from April 23, 2007 (date of incorporation) through December 31, 2013, respectively.

Common Stock Issued for Nonrecourse Notes

As previously discussed in the warrants section of this note, the warrant agreement was cancelled and was replaced with a stock subscription agreement to purchase common stock that was immediately exercised. On April 26, 2012, the Company issued 821,429 shares of its common stock in exchange for a nonrecourse note of $3,058,026 (or approximately $3.71 per share, the "Original Price"). The note payable was due in a single installment on February 28, 2014, and was amended to extend the maturity date to March 31, 2014 (discussed further in Note 13 — Subsequent Events). The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the nonrecourse note in connection with the Company repurchasing common stock

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 8 — STOCKHOLDERS' EQUITY (CONTINUED)

from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company or after March 31, 2014, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through December 31, 2013, neither the put or call options were exercised.

In accordance with ASC 718-10-25, the purchase of stock in exchange for a nonrecourse note effectively is the same as granting a stock option. If the value of the underlying shares falls below the note amount, the stockholder will relinquish the stock in lieu of repaying the note and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a nonrecourse note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense was not recorded for the year ended December 31, 2013. Stock-based compensation expense will not be recorded until a change in control occurs, at the then fair value of the option.

In December 2013, the Company issued 27,925 shares of common stock to the holder, subject to a $97,737 nonrecourse note payable by the holder. The accounting for the additional share issuance is consistent with the 821,429 shares discussed above.

Sonkei had a similar arrangement with the consultant, whereby Sonkei issued 1,112,500 shares of its common stock in exchange for a nonrecourse note of €1,119,017 (approximately $1.5 million at December 31, 2013). The note payable is due in a single installment on April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. As the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option. The Company assumed this agreement upon the merger with Sonkei, and the Sonkei shares were converted into the Company's common shares in accordance with the terms of the merger agreement (see Note 3 — Business Merger). The following is a summary of common shares issued in exchange for

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 8 — STOCKHOLDERS' EQUITY (CONTINUED)

nonrecourse notes that are being accounted for as stock options for the years December 31, 2012 and 2013:

	Common Shares
Outstanding January 1, 2012	—
Issued	821,429
Outstanding December 31, 2012	821,429
Assumed in Sonkei merger	426,176
Issued	27,925
Outstanding December 31, 2013	1,275,530

Common Stock Issued to Consultant

In January 2012, the Company sold 98,901 shares of common stock to a consultant for an aggregate purchase price of $34.62. In June 2012, the Company sold 6,410 shares of common stock to the same consultant for an aggregate purchase price of $2.24. On December 20, 2013, the Company sold another 24,516 shares of common stock to the consultant for an aggregate purchase price of $8.58. The Company recognized the fair value of the shares less the par value as an administrative expense on the dates of the sales.

For the years ended December 31, 2012 and 2013, the Company recognized stock-based compensation of $533,018 and $232,534, respectively, and $765,552 for the period from April 23, 2007 (date of incorporation) to December 31, 2013 in relation to the above transactions.

NOTE 9 — STOCK OPTION PLAN

The Company adopted the 2013 Equity Incentive Plan ("the Plan") in December 2013, which provides for the issuance of options, stock appreciation rights, stock awards and stock units. The number of shares of common stock reserved for issuance over the term of the Plan is 2,585,994 shares. The exercise price per share shall not be less than the fair value of the Company's underlying common stock on the grant date and

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 9 — STOCK OPTION PLAN (CONTINUED)

no option may have a term in excess of ten years. Stock option activity under the Plan for the year ended December 31, 2013 is as follows:

	Stock Options	Weighted-Average Exercise Price
Outstanding January 1, 2013	—	—
Granted	646,759	$ 9.49
Outstanding December 31, 2013	646,759	$ 9.49
Exercisable December 31, 2013	25,681	$ 9.49

Included in the table are stock options to purchase 20,089 of the Company's common stock that become exercisable and vest upon an IPO. The Company will not record stock-based compensation expense for these options until an IPO occurs as such event is not deemed probable. The fair value of each stock option to purchase common stock of the Company was estimated by management using the Black-Scholes option pricing model applying the following assumptions: (i) expected term of 5.8 to 10 years, (ii) risk free interest rate of 1.9 to 2.9%, (iii) volatility of 102 to 107%, (iv) no dividend yield and (v) a grant date fair value of common stock of $9.49 per share.

The expected term of the employee-related options was estimated using the "simplified" method as defined by the Securities and Exchange Commission's Staff Accounting Bulletin No. 107, *Share-Based Payment*. The volatility assumption was determined by examining the historical volatilities for industry peer companies, as the Company did not have any trading history for its common stock. The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of the options. The dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has never paid dividends on its common stock and does not anticipate paying dividends on its common stock in the foreseeable future. Accordingly, the Company has assumed no dividend yield for purposes of estimating the fair value of the options.

Stock-based compensation expense for options granted under the Plan for the year ended December 31, 2013 and for the period from April 23, 2007 (date of incorporation) to December 31, 2013 was $423,189 and is recorded as an administrative expense. The weighted average fair value of stock options granted in 2013 was $8.19 per share. Total unrecognized compensation costs related to non-vested awards at December 31, 2013 was approximately $4.5 million and is expected to be recognized within future operating results over a period of 3.9 years. At December 31, 2013, the weighted average contractual term of the options outstanding is approximately 10 years. The intrinsic value of outstanding stock options at December 31, 2013 was zero.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 10 — INCOME TAXES

Net deferred tax assets (liabilities) as of December 31, 2012 and 2013 consist of the following:

	2012	2013
Deferred tax assets:		
Net operating loss carryforwards	$ 3,971,579	$ 5,886,683
Research and development tax credits	141,231	141,231
Stock-based compensation	—	88,368
Deferred start-up and license costs	1,373,355	2,705,248
Net deferred tax assets	5,486,165	8,821,530
Valuation allowance	(5,486,165)	(8,821,530)
Net deferred tax assets	$ —	$ —
Deferred tax liabilities:		
In-process research and development	—	(7,588,600)
Net deferred tax liabilities	$ —	$ (7,588,600)

A reconciliation between the Company's effective tax rate and the federal statutory rate for the years ended December 31, 2012 and 2013 are as follows:

	2012	2013
Federal statutory rate	(34.00%)	(34.00%)
Permanent differences	—	(2.49%)
State income taxes	(5.94%)	(5.94%)
Valuation allowance	39.94%	42.42%
Effective tax rate	0.0%	0.0%

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets. The

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 10 — INCOME TAXES (CONTINUED)

valuation allowance increased by approximately $0.6 million and $3.3 million during the years ended December 31, 2012 and 2013, respectively.

As of December 31, 2013, the Company had approximately $16.0 million of Federal net operating losses that will begin to expire in 2027. As of December 31, 2013, the Company had approximately $11.0 million of New Jersey operating losses that will begin to expire in 2014. As of December 31, 2013, the Company had approximately $0.2 million of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2013.

Deferred tax liabilities related to indefinite-lived assets typically are not used as a source of income to support realization of deferred tax assets in jurisdictions where tax attributes expire (e.g., jurisdictions where net operating loss carryforwards expire) unless the deferred tax liability is expected to reverse prior to the expiration date of the tax attribute. Therefore, the net operating losses of Sonkei cannot be used to offset the deferred tax liability resulting from the IPR&D due to the fact that the IPR&D currently has an indefinite life while the NOLs have a maximum life of 20 years.

NOTE 11 — COMMITMENTS

In November 2013, the Company hired a Chief Executive Officer ("CEO") pursuant to an employment contract, which calls for a base salary of $425,000 plus bonus of up to 50% of base salary, a special bonus of $250,000 upon successful consummation of an IPO and severance arrangements if terminated for cause or terminated not for cause. In addition, on December 20, 2013, the CEO was granted an option to purchase 5%, or 540,722 shares, of the outstanding common stock of the Company with an exercise price equal to the per share fair value of the Company on such date, which was $9.49 per share. The option will vest ratably over 4 years. Further, upon successful consummation of an IPO, the CEO will be granted an "anti-dilution option" to purchase a number of shares of common stock of the Company, with an exercise price equal to the price to the public in the IPO, such that when the option and anti-dilution option are aggregated, the CEO will hold 5% of fully diluted outstanding shares expected to be outstanding on the closing of the IPO.

NOTE 12 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the years ended December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013, these reimbursements were $81,195, $111,351 and $631,883, respectively.

An investor provides accounting and other services to the Company for $60,000 per year. An additional $5,000 was charged for maintaining the Sonkei records in 2013. For the years ended December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013, the total expense recognized in operating results in connection with services provided was $60,000, $65,000 and $385,000, respectively.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 12 — RELATED PARTY TRANSACTIONS (CONTINUED)

For the years ended December 31, 2012 and 2013, the Company retained the services of certain consultants who were also stockholders of the Company (see Note 8). The total expense recognized by the Company in connection with these consulting services was $291,635 and $538,996 for the years ended December 31, 2012 and 2013, respectively, and $830,631 for the period from April 23, 2007 (date of incorporation) to December 31, 2013.

Accrued expenses due to related parties listed in Note 4 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates.

The Company's convertible promissory notes are held by certain stockholders. Accrued interest payable listed in Note 4 as of December 31, 2013 relates to these convertible promissory notes.

NOTE 13 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through April 9, 2014, the date which the financial statements were issued and updated such evaluation through the date of reissuance, June 9, 2014, to determine whether any events occurred that required disclosure in the accompanying financial statements.

Acquisition

On February 11, 2014, the Company acquired Mind-NRG, a Swiss development stage biopharmaceutical company focused on the development and commercialization of an experimental drug for the treatment of Parkinson's Disease. This transaction will be treated as a business combination by the Company. The purchase price consists of 1,481,583 shares of the Company's common stock with an estimated fair value of $11.17 per share, or approximately $16.5 million. The Company acquired 100% of the share capital of Mind-NRG largely to obtain the intellectual property estate which underpins Mind-NRG's lead product candidate NRG-101, recently renamed MIN-301.

The purchase price allocation is subject to the completion of our analysis of the fair value of the assets and liabilities of Mind-NRG as of the date of the acquisition. Accordingly, the purchase price allocation below is preliminary based on December 31, 2013 financial information and will be adjusted upon the completion of the final valuation. These adjustments could be material. The final valuation is expected to be completed as soon as practicable but no later than one year from the consummation of the acquisition. The establishment of the fair value of the consideration for an acquisition, and the allocation to identifiable tangible and intangible assets and liabilities requires the extensive use of accounting estimates and management judgment. The fair values assigned to the assets acquired and liabilities assumed are from estimates and assumptions based on data currently available.

The Company allocated the excess of purchase price over the identifiable intangible and net tangible assets to goodwill. The goodwill recorded recognizes the value of the overall development program, including both the current pre-clinical development program in process and the future clinical trial development strategy. Such goodwill is not deductible for tax purposes. The aggregate consideration of $16.5 million has been

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

preliminarily allocated to assets acquired and liabilities assumed based on estimated fair values at December 31, 2013 as follows:

Cash	$ 1,700,027
Other assets	23,774
Goodwill	6,750,954
In-process research and development	15,200,000
Deferred tax liability	(6,080,000)
Accrued expenses	(364,621)
ProteoSys license payment	(688,300)
	$ 16,541,834

The IPR&D will be included as an asset on the Company's balance sheet until such time that: (i) a marketing approval to commercially sell the drug is received from a regulatory agency, in which case it will be amortized over its expected commercial life, or (ii) such time as the IPR&D is deemed to be impaired, in which case it will be expensed. The transaction is being treated as a stock purchase for income tax purposes and accordingly, the tax bases of Mind-NRG's assets and liabilities are not adjusted for the effect of purchase accounting.

Pro Forma Results

The unaudited financial information in the table below summarizes the combined results of operations for the Company, Sonkei and Mind-NRG on a pro forma basis as though the companies had been combined as of January 1, 2012. The unaudited pro forma financial information for the years ended December 31, 2012 and 2013 combines the Company's historical results for these years with the historical results for the comparable reporting periods for Sonkei (see Note 3) and Mind-NRG. The unaudited pro forma financial information below is for informational purposes only and is not indicative of the results of operations or financial condition that would have been achieved if the acquisitions would have taken place at the beginning of each of the periods presented and should not be taken as indicative of the Company's future results of operations or financial condition.

	Year Ended December 31,	
	2012	2013
Operating loss	$ 4,541,176	$ 5,541,476
Loss per share	$ (0.67)	$ (0.74)

Co-Development and License Agreement

Subject to the completion of an IPO, the Company entered into a co-development and license agreement dated February 12, 2014, pursuant to which, among other things, the licensor granted the Company an

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

exclusive license, with the right to sublicense, in the European Union, Switzerland, Liechtenstein, Iceland and Norway, referred to as the Minerva Territory, under certain patent and patent applications to sell products containing any orexin 2 compound, controlled by the licensor and claimed in a licensor patent right, as an active ingredient, or MIN-202, for any use in humans. In addition, upon regulatory approval in the Minerva Territory (and earlier if certain default events occur), the Company will have rights to manufacture MIN-202. The Company has granted to the licensor an exclusive license, with the right to sublicense, under all patent rights and know-how controlled by the Company related to MIN-202 to sell MIN-202 outside the Minerva Territory. The license will become effective simultaneously with the closing of an IPO, and the payment of the initial upfront payment described below. If the closing of the IPO does not occur by September 30, 2014, the agreement will not become effective.

In consideration of the licenses granted, the Company will make an initial upfront payment of $22.0 million upon the closing of the IPO and will pay a quarterly royalty in the high single digits on the aggregate net sales for MIN-202 products sold by the Company, its affiliates and sublicensees in the European Union. The licensor will pay a quarterly royalty in the high single digits on the aggregate net sales for MIN-202 products sold by the licensor outside the European Union.

The Company will pay 40% of MIN-202 development costs related to the joint development of any MIN-202 products. However, the Company's share of aggregate development costs shall not exceed (i) $5.0 million for the period beginning from the effective date of the license and ending following the completion of certain Phase Ib clinical trials and animal toxicology studies, and (ii) $24.0 million for the period beginning from the effective date of the license and ending following the completion of certain Phase II clinical trials.

The licensor has a right to opt out at the end of certain development milestones, with the first milestone being the completion of a single day Phase I clinical trial in patients with major depressive disorder ("MDD"). Upon opt out, the licensor will not have to fund further development of MIN-202 and the Minerva Territory will be expanded to also include all of North America. The Company would then owe the licensor a reduced royalty in the mid-single digits for all sales in the Minerva Territory. The Company has the right to terminate the license following certain development milestones the first being completion of a certain Phase Ib clinical trial in patients with insomnia and certain toxicology studies in animals. If the Company terminates the license within 45 days of this milestone, the Company must pay a termination fee equal to $3.0 million. If the Company terminates the license at any time following the last development milestone involving a certain Phase IIb clinical trial, the Company will be entitled to a royalty in the mid-single digits from sales of MIN-202 by the licensor. The licensor may also terminate the agreement for the Company's material breach or certain insolvency events, including if the Company is unable to fund its portion of the development costs.

Other

The Company entered into a common stock purchase agreement with an affiliate of the above mentioned licensor, dated as of February 12, 2014, pursuant to which, among other things, the affiliate agreed to purchase from the Company up to $26.0 million of common stock in a private placement concurrent with

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

**December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013**

NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

the closing of an IPO at a price equal to the IPO price. This investment would be consummated simultaneously with the closing of an IPO.

The Company has entered into a common stock purchase agreement with certain former stockholders of Mind-NRG, dated as of February 12, 2014, pursuant to which, among other things, they agreed to purchase from the Company up to $4.0 million of the Company's common stock in a private placement at a price equal to the IPO price. This investment would be consummated simultaneously with the closing of an IPO.

On April 25, 2014, the Company amended the convertible promissory notes by extending the date after which investors may elect to convert the Notes and accrued interest into common stock of the Company from April 30, 2014 to September 30, 2014.

Modification of Stock Options

In March 2014, the holder of the $4.7 million nonrecourse notes, which include accrued interest (discussed further in Note 8 — Stockholders' Equity), remitted to the Company 348,926 shares of common stock with a fair value of $13.51 per share in full settlement of the outstanding notes due in a cashless transaction. Additionally, the Company further modified the stock options by cancelling the put option and adding a term whereby upon an IPO the stock options will vest. As discussed in Note 8, the original issuance of the shares and the nonrecourse loans were accounted for as a stock option, with no stock-based compensation expense recognized, as the ultimate holder of the option could only vest in the stock option if he continued to provide services to the Company through the time of a change in control, as defined, which is not deemed probable until the change in control occurs. The remittance of the shares in exchange for settling the outstanding note, the cancellation of the put option, and the addition of the IPO performance condition represent a modification of the original terms of the stock options. The effect of these changes is that the Company has modified the stock options and has converted approximately 1.3 million stock options with an exercise price of $4.7 million to approximately 0.9 million shares of nonvested stock (with no exercise price). The nonvested stock is still subject to the above mentioned vesting conditions of a change in control and IPO, which are not deemed probable until they occur. As described in the preceding sentence, the effect of the modification was to replace stock options that were improbable of vesting with nonvested stock that is improbable of vesting and accordingly the Company will recognize stock-based compensation for the nonvested stock at the time such vesting conditions are deemed probable of occurring.

Employment Agreements

In April 2014, the Company entered into two employment agreements to be effective May 1, 2014. The aggregate salaries of these employees are $655,000 plus an annual bonus target of 50% of their annual salaries and a one-time bonus to one of the employees of $175,000 to be paid within seven days following the closing of an IPO. The employment agreements can be terminated with six-months' notice and contain severance provisions. In addition, the employment agreements provide for the grant of (1) the aggregate of 539,116 fully vested stock options to purchase common shares of the Company at an exercise price equal to the common stock price issued to the public in connection with an IPO and (2) stock options to purchase an aggregate number of common shares such that, upon the closing of an IPO, the holders will have options equal to 2.2% of the number of fully diluted shares of the Company, which vest over four years.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2012 and 2013 and the period from
April 23, 2007 (date of incorporation) to December 31, 2013

NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

Reverse Stock Split

The board of directors and holders of the requisite number of outstanding shares of our common stock have approved an amendment to our restated certificate of incorporation to effect a 3.5-to-1 reverse stock split of our outstanding common stock (the "reverse stock split"). The reverse stock split became effective on June 9, 2014 upon the filing of our Certificate of Amendment of the Restated Certificate of Incorporation with the Delaware Secretary of State. The reverse stock split did not result in an adjustment to par value. All issued and outstanding common stock, warrants for common stock, options to purchase common stock, share transactions, and related per share amounts contained in the financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented. On June 9, 2014, the Company amended its Amended and Restated Certificate of Incorporation to increase the total number of authorized shares to 225,000,000 shares, consisting of 125,000,000 shares of common stock, par value $0.0001 per share and 100,000,000 shares of preferred stock, par value $0.0001 per share.

MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Consolidated Balance Sheets
(Unaudited)

	December 31, 2013	March 31, 2014
Assets		
Current assets		
Cash and cash equivalents	$ 1,818,317	$ 2,141,231
Prepaid expenses	852	45,742
Total current assets	1,819,169	2,186,973
Equipment, net	3,232	31,436
In-process research and development	19,000,000	34,200,000
Goodwill	7,918,387	15,104,239
Deferred public offering costs	433,998	1,615,233
Total assets	**$ 29,174,786**	**$ 53,137,881**
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 522,981	$ 2,788,602
Accrued expenses and other current liabilities	815,239	1,758,102
Convertible promissory notes	58,270	332,582
Loans payable	—	500,000
Derivative liability	10,093	4,900
Total current liabilities	1,406,583	5,384,186
Deferred taxes	7,588,600	13,668,600
Total liabilities	8,995,183	19,052,786
Commitments and contingencies		
Stockholders' equity		
Common stock; $.0001 par value; 45,000,000 shares authorized; 7,594,321 and 6,112,738 shares issued and outstanding as of March 31, 2014 and December 31, 2013, respectively	611	759
Additional paid-in capital	38,008,783	54,852,545
Deficit accumulated during the development stage	(17,829,791)	(20,768,209)
Total stockholders' equity	20,179,603	34,085,095
Total liabilities and stockholders' equity	**$ 29,174,786**	**$ 53,137,881**

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Consolidated Statements of Operations
(Unaudited)

	Three Months Ended March 31,		Period from April 23, 2007 (date of incorporation) to March 31, 2014
	2013	2014	
Expenses			
Research and development	$ 103,937	$ 585,936	$ 13,563,185
General and administrative	167,393	2,037,392	6,864,834
Total expenses	271,330	2,623,328	20,428,019
Loss from operations	(271,330)	(2,623,328)	(20,428,019)
Foreign exchange gains / (losses)	—	(6,562)	(10,602)
Interest expense	—	(309,203)	(368,811)
Interest income	—	675	39,223
Net loss	$ (271,330)	$ (2,938,418)	$ (20,768,209)
Net loss per share, basic and diluted	$ (0.08)	$ (0.43)	$ (7.91)
Weighted average shares outstanding, basic and diluted	3,562,454	6,902,910	2,625,227

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Consolidated Statements of Stockholders' Equity
(Unaudited)

	Common Stock		Additional Paid-In Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount			
Balances at April 23, 2007 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $3.50 per share, net of $22,000 of costs	714,286	71	2,477,929	—	2,478,000
Net loss	—	—	—	(1,650,301)	(1,650,301)
Balances at December 31, 2007	**714,286**	**71**	**2,477,929**	**(1,650,301)**	**827,699**
Sale of common stock for cash at $3.50 per share	571,428	57	1,999,943	—	2,000,000
Net loss				(2,932,791)	(2,932,791)
Balances at December 31, 2008	**1,285,714**	**128**	**4,477,872**	**(4,583,092)**	**(105,092)**
Sale of common stock for cash at $3.50 per share	1,085,714	109	3,799,891	—	3,800,000
Stock-based compensation	—	—	257,989	—	257,989
Net loss	—	—	—	(4,345,001)	(4,345,001)
Balances at December 31, 2009	**2,371,428**	**237**	**8,535,752**	**(8,928,093)**	**(392,104)**
Sale of common stock for cash at $3.50 per share	714,286	72	2,499,928	—	2,500,000
Stock-based compensation	—	—	1,600,011	—	1,600,011
Net loss	—	—	—	(2,935,024)	(2,935,024)
Balances at December 31, 2010	**3,085,714**	**309**	**12,635,691**	**(11,863,117)**	**772,883**
Sale of common stock for cash at $3.50 per share	114,286	11	399,989	—	400,000
Stock-based compensation	—	—	63,000	—	63,000
Net loss	—	—	—	(1,122,714)	(1,122,714)
Balances at December 31, 2011	**3,200,000**	**320**	**13,098,680**	**(12,985,831)**	**113,169**
Sale of common stock for cash at $3.50 per share	257,143	26	899,974	—	900,000
Issuance of common stock to a consultant	105,311	10	533,045	—	533,055
Stock-based compensation	—	—	54,750	—	54,750
Net loss	—	—	—	(1,581,955)	(1,581,955)
Balances at December 31, 2012	**3,562,454**	**356**	**14,586,449**	**(14,567,786)**	**19,019**
Sale of common stock for cash at $3.50 per share	528,576	53	1,849,947	—	1,850,000
Issuance of shares for business combination	1,997,192	200	18,943,166	—	18,943,366
Beneficial conversion feature — convertible debt	—	—	1,973,500	—	1,973,500
Issuance of common stock to a consultant	24,516	2	232,532	—	232,534
Stock-based compensation	—	—	423,189	—	423,189
Net loss	—	—	—	(3,262,005)	(3,262,005)
Balances at December 31, 2013	**6,112,738**	**611**	**38,008,783**	**(17,829,791)**	**20,179,603**
Issuance of shares for business combination	1,481,583	148	16,541,686	—	16,541,834
Stock-based compensation	—	—	302,076	—	302,076
Net loss	—	—	—	(2,938,418)	(2,938,418)
Balances at March 31, 2014	**7,594,321**	**759**	**54,852,545**	**(20,768,209)**	**34,085,095**

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Consolidated Statements of Cash Flows
(Unaudited)

	Three Months Ended March 31,		April 23, 2007 (date of incorporation) to March 31, 2014
	2013	2014	
Cash flows from operating activities			
Net loss	$ (271,330)	$ (2,938,418)	$ (20,768,209)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	—	270	270
Amortization of debt discount recorded as interest expense	—	274,312	310,543
Stock-based compensation expense	—	302,076	3,466,604
Change in fair value of derivative	—	(5,193)	(5,076)
Unrealized foreign exchange gain	—	2,651	24,690
Changes in operating assets and liabilities			
Prepaid expenses	—	(1,964)	(2,816)
Accounts payable	—	1,187,152	1,604,716
Accrued expenses and other liabilities	92,407	(60,424)	(48,497)
Net cash used in operating activities	(178,923)	(1,239,538)	(15,382,884)
Cash flows from investing activities:			
Cash acquired in business combination	—	1,167,869	1,167,869
Equipment purchases	—	—	(3,232)
Net cash used in investing activities	—	1,167,869	1,164,637
Cash flows from financing activities			
Cash acquired in business combination (Note 3)	—	—	631,478
Proceeds from issuance of convertible promissory notes	—	—	1,300,000
Proceeds from sales of common stock	—	—	13,950,000
Proceeds from loan	—	500,000	500,000
Public offering costs paid	—	(105,417)	(105,417)
Stock issuance costs	—	—	(22,000)
Net cash provided by financing activities	—	394,583	16,254,061
Net (decrease) increase in cash and cash equivalents	(178,923)	322,914	2,141,231
Cash and cash equivalents			
Beginning of period	200,314	1,818,317	—
End of period	$ 21,391	$ 2,141,231	$ 2,141,231
Supplemental disclosure of noncash investing and financing activities			
Common stock issued as consideration for business acquisition	$ —	$ 16,541,834	$ 35,485,200
Plus liabilities assumed:			
Accrued expenses and other	—	321,417	655,840
Derivative liability	—	—	3,476
Convertible prommissory notes	—	—	680,000
ProteoSys milestone payable	—	681,600	681,600
Deferred tax liability	—	6,080,000	13,668,600
Less assets acquired:			
Prepaid expenses	—	42,926	42,926
Equipment	—	28,204	28,204
In-process research and development	—	15,200,000	34,200,000
Goodwill	—	7,185,852	15,104,239
Cash acquired in business merger	$ —	$ 1,167,869	$ 1,870,477
Deferred public offering costs included in accrued expenses and other liabilities	$ —	$ 1,075,818	$ 1,509,816
Beneficial conversion feature	$ —	$ —	$ 1,973,500

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Minerva Neurosciences, Inc. ("Minerva" or the "Company"), formerly known as Cyrenaic Pharmaceuticals Inc. ("Cyrenaic") was incorporated on April 23, 2007. The Company is a development stage biopharmaceutical company focused on the development of an experimental drug for the treatment of schizophrenia (discussed further in Note 6 — License Agreement). The Company has historically operated as a virtual company with no employees and managed by its Board of Directors. On November 12, 2013, Sonkei Pharmaceuticals, Inc. ("Sonkei"), a development stage biopharmaceutical company focused on the development of an experimental drug for the treatment of depression and an affiliated company through certain common ownership, was merged into Cyrenaic with Cyrenaic being the surviving company. Subsequent to the merger, Cyrenaic changed its name to Minerva Neurosciences, Inc.

On February 11, 2014, the Company acquired Mind-NRG (discussed further in Note 3 — Acquisition). Mind-NRG is a Swiss development stage biopharmaceutical company focused on the development and commercialization of an experimental drug for the treatment of Parkinson's disease. The Company acquired 100% of the share capital of Mind-NRG largely to obtain the intellectual property estate which underpins Mind-NRG's lead product candidate, recently renamed MIN-301.

On February 12, 2014, subject to the completion of an initial public offering ("IPO"), the Company entered into a co-development and license agreement (discussed further in Note 8 — Co-Development and License Agreement) pursuant to which the licensor granted the Company an exclusive license, in certain territories, under certain patent and patent applications to sell products containing any orexin 2 compound, controlled by the licensor and claimed in a licensor patent right, as an active ingredient, or MIN-202, for any use in humans. The license will become effective simultaneously with the closing of an IPO, and the payment of the initial upfront license payment of $22.0 million. If the closing of the IPO does not occur by September 30, 2014, the agreement will not become effective.

Going Concern

The Company has limited capital resources and has incurred recurring operating losses and negative cash flows from operations since inception. As of March 31, 2014, the Company has an accumulated deficit of approximately $20.8 million. Management expects to continue to incur operating losses and negative cash flows from operations. The Company has financed its business to date from proceeds from the sale of common stock, loans and convertible promissory notes. The Company will need to raise additional capital in order to fund operations and continue its clinical development programs. The Company believes that it will be able to obtain additional working capital through equity financings or other arrangements to fund operations, including an IPO; however, there can be no assurance that such additional financing, if available, can be obtained on terms acceptable to the Company. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. The Company is currently exploring external financing alternatives which will be needed by the Company to fund its operations. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY (CONTINUED)

The accompanying consolidated financial statements have been prepared as though the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") for interim financial reporting and as required by Regulation S-X, Rule 10-01. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of the Company's management, the accompanying unaudited financial statements contain all adjustments (consisting of items of a normal and recurring nature) necessary to present fairly the financial position as of March 31, 2014 and the results of operations and cash flows for the three months ended March 31, 2013 and 2014. The results of operations for the three months ended March 31, 2014, are not necessarily indicative of the results to be expected for the full year. When preparing financial statements in conformity with GAAP, management must make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. The balance sheet as of December 31, 2013 was derived from the audited financial statements. The accompanying unaudited financial statements and notes thereto should be read in conjunction with the audited financial statements for the years ended December 31, 2012 and 2013.

From its inception the Company has devoted substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, planning and executing clinical trials and raising capital. Accordingly, the Company is considered to be in the development stage as defined in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 915: *Development Stage Entities*.

Consolidation

The accompanying consolidated financial statements include the results of the Company and its wholly owned subsidiary, Mind-NRG. Intercompany transactions have been eliminated.

Significant risks and uncertainties

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to: the results of clinical testing and trial activities of the Company's products, the Company's ability to obtain regulatory approval to market its products, competition from products manufactured and sold or being developed by other companies, the

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

price of, and demand for, Company products, the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company's ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company's research and development will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its employees and consultants and obtaining and protecting intellectual property.

Use of estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

The Company utilizes significant estimates and assumptions in determining the fair value of its common stock. The board of directors has determined the estimated fair value of the Company's common stock based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an IPO of common stock or a sale of the Company.

The Company utilized various valuation methodologies in accordance with the framework of the 2013 American Institute of Certified Public Accountants Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation,* to estimate the fair value of its common stock. The methodologies included a probability-weighted expected return methodology that determined an estimated value under an IPO scenario and a sale scenario based upon an assessment of the probability of occurrence of each scenario. Each valuation methodology includes estimates and assumptions that require the Company's judgment. These estimates include assumptions regarding future performance, including the successful completion of preclinical studies and clinical trials and the time to complete an IPO or sale. Significant changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

Research and development costs

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company's research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company. Costs for certain development activities, such as clinical trials are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expenses.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

In-process research and development ("IPR&D") assets represent capitalized incomplete research projects that the Company acquired through business combinations. Such assets are initially measured at their acquisition date fair values. The fair value of the research projects is recorded as intangible assets on the balance sheet, rather than expensed, regardless of whether these assets have an alternative future use.

The amounts capitalized are being accounted for as indefinite-lived intangible assets, subject to impairment testing, until completion or abandonment of research and development efforts associated with the project. An IPR&D asset is considered abandoned when it ceases to be used (that is, research and development efforts associated with the asset have ceased, and there are no plans to sell or license the asset or derive defensive value from the asset). At that point, the asset is considered to be disposed of and is written off. Upon successful completion of each project, the Company will make a determination about the then remaining useful life of the intangible asset and begin amortization. The Company tests its indefinite-lived intangibles, IPR&D assets, for impairment annually on November 30 and more frequently if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. When testing indefinite-lived intangibles for impairment, the Company may assess qualitative factors for its indefinite-lived intangibles to determine whether it is more likely than not (that is, a likelihood of more than 50 percent) that the asset is impaired. Alternatively, the Company may bypass this qualitative assessment for some or all of its indefinite-lived intangibles and perform the quantitative impairment test that compares the fair value of the indefinite- lived intangible asset with the asset's carrying amount.

Stock-based compensation

The Company recognizes compensation cost relating to share-based payment transactions in operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation-Stock Compensation*. ASC-718 requires all share-based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity — Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share-based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Foreign currency transactions

The Company's functional currency is the US dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in US dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

Income taxes

The Company utilizes the liability method of accounting for income taxes as required by FASB ASC Topic 740 *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax reporting bases of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Uncertain tax positions are evaluated in accordance with this topic and if appropriate, the amount of unrecognized tax benefits are recorded within deferred tax assets. Deferred tax assets are evaluated for realization based on a more-likely-than-not criterion in determining if a valuation allowance should be provided. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

ASC Topic 740 also clarifies the accounting for uncertainty in income taxes recognized in the consolidated financial statements. The interpretation prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. ASC Topic 740 provides guidance on the recognition of interest and penalties related to income taxes. There was no interest or penalties related to income taxes for the three month periods ended March 31, 2014 and 2013. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2010 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Concentration of credit risk

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents. The Company maintains its cash and cash equivalent balances in the form of business checking accounts and money market accounts, the balances of which, at times, may exceed federally insured limits. Exposure to credit risk is reduced by placing such deposits with major financial institutions and monitoring their credit ratings.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Cash and cash equivalents

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents.

Equipment

Equipment is stated at cost less accumulated depreciation. Equipment is depreciated on the straight-line basis over their estimated useful lives of three years. Depreciation expense was $0 and $270 for the three months periods ended March 31, 2013 and 2014. Expenditures for maintenance and repairs are charged to expense as incurred.

Deferred public offering costs

Deferred public offering costs include certain legal, accounting and other costs directly attributable to the Company's proposed public offering of common stock. Upon completion of the initial public offering contemplated herein, these amounts will be offset against the proceeds of the offering. If the offering is terminated, the deferred offering costs will be expensed.

Long-lived assets

The Company reviews the recoverability of all long-lived assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset might not be recoverable. If required, the Company compares the estimated undiscounted future net cash flows to the related asset's carrying value to determine whether there has been an impairment. If an asset is considered impaired, the asset is written down to fair value, which is based either on discounted cash flows or appraised values in the period the impairment becomes known. The Company believes that all long-lived assets are recoverable, and there is no impairment at March 31, 2014.

Business Combinations

For business combinations the Company utilizes the acquisition method of accounting in accordance with ASC Topic 805, *Business Combinations*. These standards require that the total cost of an acquisition be allocated to the tangible and intangible assets acquired and liabilities assumed based their respective fair values at the date of acquisition. The allocation of the purchase price is dependent upon certain valuations and other studies. Acquisition costs are expensed as incurred. The Company recognizes separately from goodwill the fair value of assets acquired and the liabilities assumed. Goodwill as of the acquisition date is measured as the excess of consideration transferred and the acquisition date fair values of the assets acquired and liabilities assumed. While the Company uses its best estimates and assumptions as a part of the purchase price allocation process to accurately value assets acquired and liabilities assumed at the acquisition date, the Company's estimates are subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company may retroactively record adjustments to the fair value of the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company's consolidated statements of operations.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Goodwill

The Company tests its goodwill for impairment annually, or whenever events or changes in circumstances indicate an impairment may have occurred, by comparing its reporting unit's carrying value to its implied fair value. Impairment may result from, among other things, deterioration in the performance of the acquired business, adverse market conditions, adverse changes in applicable laws or regulations and a variety of other circumstances. If the Company determines that an impairment has occurred, it is required to record a write-down of the carrying value and charge the impairment as an operating expense in the period the determination is made. In evaluating the recoverability of the carrying value of goodwill the Company must make assumptions regarding estimated future cash flows and other factors to determine the fair value of the acquired assets. Changes in strategy or market conditions could significantly impact those judgments in the future and require an adjustment to the recorded balances. The Company tested its goodwill for impairment as of November 30. There was no impairment of goodwill for the year ended December 31, 2013. The Company believes there was no impairment for the three months ended March 31, 2014.

Fair value of financial instruments

The Company provides disclosure of financial assets and financial liabilities that are carried at fair value based on the price that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value measurements may be classified based on the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities using the following three levels:

Level 1 — Inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2 — Inputs include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.) and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).

Level 3 — Unobservable inputs that reflect the Company's estimates of the assumptions that market participants would use in pricing the asset or liability. The Company develops these inputs based on the best information available, including its own data.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The following table presents information about the Company's liability as of March 31, 2014 and 2013 that is measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value:

	March 31, 2014			
	Total	Level 1	Level 2	Level 3
Liability:				
Convertible promissory notes derivative liability	$ 4,900	$ —	$ —	$ 4,900

	March 31, 2013			
	Total	Level 1	Level 2	Level 3
Liability:				
None	$ —	$ —	$ —	$ —

The carrying amounts of cash, cash equivalents, accounts payable and accrued liabilities approximate fair value because of their short-term nature.

Convertible Promissory Notes

The Company's convertible promissory notes at March 31, 2014 consist of (i) $1.3 million face value convertible promissory notes, plus accrued interest of $41,000 and (ii) €518,519 face value convertible promissory notes, plus accrued interest of $22,000. The Euro denominated notes were acquired in conjunction with the merger with Sonkei (discussed further in Note 3 — Business Combinations), and recorded at their fair value of $680,000 on the date of the merger. At March 31, 2014, the fair market value of the convertible promissory notes is approximately $2.0 million. The carrying value of the convertible promissory notes at March 31, 2014 is $0.3 million, as a result of the beneficial conversion feature recorded at initial recognition as a debt discount.

Discount Purchase Option

The Company's 8% convertible promissory notes contain an embedded derivative related to the conversion option containing a discount purchase feature in a qualified financing, as defined. The derivative is carried at fair value and is classified as Level 3 in the fair value hierarchy due to the use of significant unobservable inputs. As of December 31, 2013, the fair value of the derivative liability was determined to be $10,093 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 6 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

As of March 31, 2014, the fair value of the derivative liability was determined to be $4,900 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 3 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The $5,193 decrease in the fair value of the derivative liability was recognized in interest expense as a gain on change in fair value of derivative liability for the three months ended March 31, 2014.

$3.50/€3.50 Conversion Option

The Company's 8% convertible promissory notes contain an embedded derivative related to the beneficial conversion feature of the notes. The initial fair value of the derivative liability at the date of issuance in November 2013 was determined by measuring the difference between the conversion price and the fair value of common stock at the commitment date. The Company recorded a debt discount for the fair value of the derivative, which was limited to the proceeds received of approximately $2.0 million, with an offsetting increase to additional paid-in capital. The beneficial conversion charge has been included in the balance sheets at March 31, 2014 and December 31, 2013 as a discount to the related convertible promissory notes. The discount is being accreted as non-cash interest expense over the expected term of the debt (June 30, 2014) using the effective interest method, which totaled $0.3 million for the three months ended March 31, 2014.

Segment information

Operating segments are defined as components of an enterprise (business activity from which it earns revenue and incurs expenses) about which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company's chief decision maker, who is the Chief Executive Officer, reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. The Company views its operations and manages its business as one operating segment.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by FASB and are adopted by the Company as of the specified effective date. The Company believes that the impact of other recently issued but not yet adopted accounting pronouncements will not have a material impact on the financial position, results of operations, and cash flows, or do not apply to the Company's operations.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 3 — BUSINESS COMBINATIONS

Mind-NRG

On February 11, 2014, the Company acquired Mind-NRG, a Swiss development stage biopharmaceutical company focused on the development and commercialization of an experimental drug for the treatment of Parkinson's disease. This transaction was accounted for as a business combination by the Company. The purchase price consists of 1,481,583 shares of the Company's common stock (which includes 148,160 shares held in escrow until the expiration of the holdback period, February 11, 2015) with an estimated fair value of $11.17 per share, or approximately $16.5 million. The Company acquired 100% of the share capital of Mind-NRG largely to obtain the intellectual property estate which underpins Mind-NRG's lead product candidate, recently renamed MIN-301.

The fair value of the Company's common stock issued was determined based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an IPO or a sale of the Company. The purchase price allocation was based upon an analysis of the fair value of the assets and liabilities acquired from Mind-NRG. The final purchase price may be adjusted up to one year from the date of the merger. Identifying the fair value of the tangible and intangible assets and liabilities acquired required the use of estimates by management, and were based upon currently available data, as noted below.

- The fair value of current assets and liabilities approximated their book value.
- The Company measured the value of the acquired IPR&D using the income approach — multi period excess earnings method and assembled workforce using the cost approach (for contributory asset charge calculations). The multi-period excess earning method measures the present value of the future earnings expected to be generated during the remaining lives of the subject assets.
- The Company recorded a deferred tax liability for the difference in the book and tax basis of the IPR&D, multiplied by the effective income tax rate.

The purchase price allocation below is based on February 11, 2014 financial information and may be adjusted upon the completion of the final valuation. The final valuation is expected to be completed as soon as practicable but no later than one year from the consummation of the acquisition. The establishment of the fair value of the consideration for an acquisition, and the allocation to identifiable tangible and intangible assets and liabilities requires the extensive use of accounting estimates and management judgment. The fair values assigned to the assets acquired and liabilities assumed are from estimates and assumptions based on data currently available.

The Company allocated the excess of purchase price over the identifiable intangible and net tangible assets to goodwill. The goodwill recorded recognizes the value of the overall development program, both the current pre-clinical development program in process and the future clinical trial development strategy. Such goodwill is not deductible for tax purposes. The aggregate consideration of $16.5 million has been allocated

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 3 — BUSINESS COMBINATIONS (CONTINUED)

to assets acquired and liabilities assumed based on estimated fair values at the February 11, 2014 as follows:

Cash	$ 1,167,869
Other assets	71,130
Goodwill	7,185,852
In-process research and development	15,200,000
Deferred tax liability	(6,080,000)
Accrued expenses	(321,417)
Proteosys milestone payable	(681,600)
	$ 16,541,834

IPR&D, an indefinite-lived asset, will be included as an asset on the Company's balance sheet until such time that: (i) a marketing approval to commercially sell the drug is received from a regulatory agency, in which case it will be amortized over its expected commercial life, or (ii) such time as the IPR&D is deemed to be impaired, in which case it will be expensed. The transaction is being treated as a stock purchase for income tax purposes and accordingly, the tax bases of Mind-NRG's assets and liabilities are not adjusted for the effect of purchase accounting. A deferred tax liability of $6.1 million has been recorded for the difference in the book and tax basis of the IPR&D, multiplied by the effective income tax.

Sonkei

On November 12, 2013, Cyrenaic was merged with Sonkei, with Cyrenaic being the survivor company. Each share of Sonkei common stock was converted into 0.383 shares of Cyrenaic common stock, resulting in the issuance of 2,423,368 shares. There were certain common stockholders between Sonkei and Cyrenaic however, since the underlying investors in the venture funds were not "substantially similar", the merger was accounted for a business combination with Cyrenaic being treated as the acquirer. The results of Sonkei are included in the accompanying consolidated financial statements commencing November 12, 2013. The Company merged with Sonkei in order to acquire Sonkei's lead product candidate, MIN-117.

At the date of the merger, a Sonkei non-employee held 1,112,500 shares of Sonkei common stock with a nonrecourse note due to Sonkei, which was being treated as a stock option for accounting purposes. In connection with the merger, the Company issued 426,176 shares to the holder with a nonrecourse note (discussed further in Note 9 — Stockholders' Equity) in order to replace the holder's stock options in Sonkei. Due to the nonrecourse note, these shares of the Company were treated as stock options for accounting purposes and the holder of the option can only vest in the stock options if the holder continues to provide services to the Company through the time of a change in control, as defined. In summary, the

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 3 — BUSINESS COMBINATIONS (CONTINUED)

Company issued replacement stock options of the Company for the old Sonkei stock options. As a change in control is not deemed probable as of the merger date, the options have not been included as part of the consideration transferred in the merger accounting. Accordingly, the Company will recognize all of the compensation expense for these stock options in the consolidated statement of operations once achievement of the performance condition becomes probable. The merger accounting purchase price was therefore determined based upon the common stock shares issued of 1,997,192 at a valuation of $9.49 per common share for a total purchase price of approximately $18.9 million. Merger expenses of $14,000 were included in general and administrative expenses for the year ended December 31, 2013.

The fair value of the Company's common stock issued was determined based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an IPO or a sale of the Company. The purchase price allocation was based upon an analysis of the fair value of the assets and liabilities acquired from Sonkei. The final purchase price may be adjusted up to one year from the date of the merger. Identifying the fair value of the tangible and intangible assets and liabilities acquired required the use of estimates by management, and were based upon currently available data, as noted below.

- The fair value of current assets and liabilities approximated their book value.
- The fair value of the convertible promissory notes was determined based upon a number of factors including (i) interest rate, (ii) creditworthiness of the Company, (iii) the applicable foreign exchange rate and (iv) the conversion features (described in Note 7 — Debt). The face amount of the note acquired is €518,519 (approximately $0.7 million at November 12, 2013).
- The Company measured the value of the acquired IPR&D using the income approach — multi period excess earnings method and assembled workforce using the cost approach (for contributory asset charge calculations). The multi-period excess earning method measures the present value of the future earnings expected to be generated during the remaining lives of the subject assets.
- The Company recorded a deferred tax liability for the difference in the book and tax basis of the IPR&D, multiplied by the effective income tax rate.

The Company allocated the excess of purchase price over the identifiable intangible and net tangible assets to goodwill. The goodwill recorded recognizes the synergies and value of the overall combined development programs, both the current pre-clinical development program in process and the future clinical trial development strategy. Such goodwill is not deductible for tax purposes. The aggregate consideration of

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 3 — BUSINESS COMBINATIONS (CONTINUED)

$18.9 million has been allocated to assets acquired and liabilities assumed based on estimated fair values at the date of merger as follows:

	November 12, 2013
Cash	$ 631,478
Goodwill	7,918,387
In-process research and development	19,000,000
Accrued expenses	(334,423)
Derivative liability	(3,476)
Deferred taxes	(7,588,600)
Convertible promissory notes (see Note 7)	(680,000)
	$ 18,943,366

The above cash was obtained by Sonkei in a November 6, 2013 financing and thus has been classified as a financing activity in the consolidated statements of cash flows. The IPR&D, an indefinite-lived asset, will be included as an asset on the Company's consolidated balance sheet until such time that: (i) a marketing approval to commercially sell the drug is received from a regulatory agency, in which case it will be amortized over its expected commercial life, or (ii) such time as the IPR&D is deemed to be impaired, in which case it will be expensed. The transaction is being treated as a stock purchase for income tax purposes and accordingly, the tax bases of Sonkei's assets and liabilities are not adjusted for the effect of purchase accounting. A deferred tax liability of $7.6 million has been recorded for the difference in the book and tax basis of the IPR&D, multiplied by the effective income tax. The acquired net operating losses of Sonkei of approximately $5.3 million had a full valuation allowance, however, will be not limited under Internal Revenue Code Section 382 as the amount that could be utilized after limitation exceeds the amount of the net operating loss carryforward.

Pro Forma Results

The unaudited financial information in the table below summarizes the combined results of operations for the Company, Sonkei and Mind-NRG on a pro forma basis as though the companies had been combined as of January 1, 2013. The unaudited pro forma financial information for the three months ended March 31, 2013 and 2014 combines the Company's historical results for these years with the historical results for the comparable reporting periods for Sonkei and Mind-NRG. The unaudited pro forma financial information below is for informational purposes only and is not indicative of the results of operations or financial condition that would have been achieved if the merger would have taken place at the beginning of each of

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 3 — BUSINESS COMBINATIONS (CONTINUED)

the periods presented and should not be taken as indicative of the Company's future results of operations or financial condition.

	Three Months Ended March 31,	
	2013	2014
Operating loss	($ 643,408)	($ 3,391,293)
Loss per share	($ 0.11)	($ 0.46)

Other

The Company has entered into a common stock purchase agreement with certain former stockholders of Mind-NRG, dated as of February 11, 2014, pursuant to which, among other things, they agreed to purchase from the Company up to $4.0 million of the Company's common stock in a private placement at a price equal to the IPO price. This investment would be consummated simultaneously with the closing of an IPO.

NOTE 4 — ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following:

	December 31, 2013	March 31, 2014
Research and development costs	$ 58,117	$ 116,755
Professional fees[1]	595,215	448,499
Expenses due to related parties	126,910	5,347
Interest payable	24,276	63,634
Vacation pay	5,690	5,385
ProteoSys milestone payable[2]	—	687,600
Primomed research funding[3]	—	218,227
Consulting and other costs	5,031	212,655
	$ 815,239	$ 1,758,102

(1) Included in accrued professional fees and accounts payable at March 31, 2014 and December 31, 2013 are $1.5 million and $0.4 million, respectively, incurred in connection with the preparation of a public offering of the Company's common stock.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 4 — ACCRUED EXPENSES AND OTHER LIABILITIES (CONTINUED)

(2) Under the terms of the acquisition agreement for Mind-NRG, the Company is obligated to make a €0.5 million (or $0.7 million, as converted) milestone payment to ProteoSys by the earlier of January 1, 2015, or upon completion of an IPO, or equity financing of at least $5.0 million.

(3) Under the terms of a research agreement with Primomed, the Company received grant funds that will be used to offset certain costs under the MIN-301 development program.

NOTE 5 — NET LOSS PER SHARE OF COMMON STOCK

Diluted loss per share is the same as basic loss per share for all periods presented as the effects of potentially dilutive items were anti-dilutive given the Company's net loss. Basic loss per share is computed by dividing net loss by the weighted-average number of common shares outstanding. The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Three Months Ended March 31,		Period from April 23, 2007 (date of incorporation) to March 31, 2014
	2013	2014	
Net loss	$ (271,330)	$ (2,938,418)	$ (20,768,209)
Weighted average shares of common stock outstanding	3,562,454	6,902,910	2,625,227
Net loss per share of common stock — basic and diluted	$ (0.08)	$ (0.43)	$ (7.91)

The following securities outstanding at March 31, 2014 and 2013 have been excluded from the calculation of weighted average shares outstanding as their effect on the calculation of loss per share is antidilutive:

	March 31, 2014	March 31, 2013
Stock issued subject to nonrecourse notes	926,604	821,429
Common stock options	646,759	—

The above table does not include the potentially dilutive securities that would be issuable under the convertible promissory notes outstanding as described in Note 7 — Debt. The number of shares that would be issued if the note holders elect to convert their debt into equity is dependent on a number of factors which are not known at this time.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 6 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation ("Mitsubishi") dated as of August 30, 2007, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the compound known as CYR-101 (subsequently renamed MIN-101), and other compounds with a similar structure and data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights, excluding certain Asian countries such as China, Japan, India and South Korea. The Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sub-licensees containing the licensed compound equal to a percentage ranging from the high single digit to the low teens depending on net sales of products under the License Agreement. The initial $1.0 million licensing fee paid in 2007 was expensed as research and development expense, as was an additional payment of $0.5 million in 2008 upon the onset of a Phase IIa study. The Company made a $0.5 million extension payment in 2010 which was expensed as part of research and development expense. The Company is also required to make milestone payments upon the achievement of certain development and commercial milestones, potentially up to $57.5 million for MIN-101 and up to $59.5 million for additional products.

In January 2014, the Company renegotiated the structure of the license for MIN-101 such that the Company is required to make milestone payments upon the achievement of one development milestone totaling $0.5 million and certain commercial milestones, which could total up to $47.5 million. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits. Under the terms of the amended agreement, the Company is required to meet a certain diligence obligation to commence a clinical pharmacology study of the licensed compound by the end of April 2015. The Company may extend this deadline for a further year by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. In addition, if the Company fails to achieve this development milestone by end of April 2015 or make an extension payment, the licensor may elect to terminate the agreement.

In connection with the merger of Sonkei, the Company has a second license agreement with Mitsubishi dated September 1, 2008, as amended. Under the terms of the agreement, the Company has an exclusive license to the compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. Under the agreement, the Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sub-licensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products. Through the date of the agreement, as amended, the Company is required to make payments up to $57.5 million upon the achievement of certain commercial milestones.

In January 2014, the Company renegotiated the structure of the license for MIN-117 such that the Company is required to make certain milestone payments upon the achievement of certain commercial

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 6 — LICENSE AGREEMENT (CONTINUED)

milestones up to $47.5 million. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits. Under the terms of the amended agreement, the Company is required to meet a certain diligence obligation to initiate either a Phase II(a) or Phase II(b) study with the licensed compound in patients suffering major mood disorders where initiation is defined as first patient enrolled in the study by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestone by one year increments by making an extension payment of $0.5 million. The number of extension payments which may be made is unlimited. In addition, if the Company fails to achieve this development milestone by end April 2015 or make an extension payment, the licensor may elect to terminate the agreement.

The Company did not make any license payments under the agreements for the three months ended March 31, 2013 and 2014.

NOTE 7 — DEBT

Loans Payable

In conjunction with the Mind-NRG acquisition on February 11, 2014 (discussed further in Note 3 — Business Combinations), working capital loans were executed between Mind-NRG and several stockholders or affiliates of stockholders for a maximum drawdown of $0.6 million. The loans bear interest at 8% and are repayable at the time the Company completes an IPO or December 1, 2015. The loans may be repaid at any time and contains standard terms of default, under which the interest rate would increase to 11%. At March 31, 2014, the balance outstanding under the loan agreement was $0.5 million, which has been included under loans payable. Interest expense related to the loan for the three months ended March 31, 2014 was approximately $3,000.

Convertible Promissory Notes

On November 6, 2013, the Company issued $1.3 million 8% convertible promissory notes due June 30, 2014 to certain stockholders that are payable on demand at maturity. The notes contain certain terms of default, under which conditions the interest rate increases to 11% per annum.

In conjunction with the merger of Sonkei on November 12, 2013, the Company assumed convertible promissory notes held by certain stockholders with a principal amount of €518,519 (approximately $0.7 million at March 31, 2014). These notes have a stated interest rate of 8% per annum, mature on June 30, 2014, and are payable on demand on such date. The notes contains certain terms of default, under which conditions the interest rate increases to 11% per annum.

The notes issued by the Company on November 6, 2013 and the notes issued by Sonkei on November 6, 2013 and subsequently acquired by the Company on November 12, 2013 (collectively, the "Notes")

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 7 — DEBT (CONTINUED)

contain identical terms and may be converted into common shares of the Company under the following conditions;

i) *Discount Purchase Option*. If the Company sells shares of its capital stock in the qualified financing, as defined, and the convertible promissory notes have not been paid in full, then the outstanding principal balance of these convertible promissory notes and accrued interest thereon shall convert into the common stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of common stock multiplied by 80%. A qualified financing shall mean the first sale of the qualified stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5.0 million, which sale or sales shall take place on or before the maturity date; provided, however, that an IPO shall not be deemed a qualified financing. A qualified financing is defined as a transaction (or a series of transactions) with gross proceeds to the Company of at least $5.0 million, which takes place on or before June 30, 2014.

ii) *Initial Public Offering*. If the Company conducts an IPO of its common shares before June 30, 2014, then the convertible promissory notes plus accrued interest will convert at the price per share issued in the IPO. Under the terms of the Notes, an IPO is not considered a qualified financing.

iii) *$3.50/€3.50 Conversion Option.* Subsequent to April 30, 2014, investors may elect to convert the Notes, and accrued interest into common stock of the Company at a conversion price of $3.50 per common share (see Note 14).

Discount Purchase Option

The Notes contain an embedded derivative related to the discount purchase feature. The initial fair value of the derivative liability at the date of initial recognition was determined to be $9,976 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 7 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The proceeds allocated to this conversion option of $9,976 were deducted from the initial fair value of the debt obligation. As of December 31, 2013, the fair value of the derivative liability was determined to be $10,093 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 6 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement.

As of March 31, 2014, the fair value of the derivative liability was determined to be $4,900 using a probability-weighted valuation model applying the following assumptions: (i) discount rate of 8.0%, (ii) remaining term of approximately 3 months and (iii) the probabilities of conversion under various circumstances as at the date of measurement. The $5,193 decrease in the fair value of the derivative liability was credited to interest expense for the three months ended March 31, 2014.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 7 — DEBT (CONTINUED)

$3.50/€3.50 Conversion Option

The Notes contain a beneficial conversion feature. The intrinsic value of the beneficial conversion feature was calculated by measuring the difference between the effective conversion price and the fair value of the common stock at initial recognition. The Company recorded a debt discount for the intrinsic value of the beneficial conversion feature which was limited to the proceeds of the Notes received of approximately $2.0 million, with an offsetting increase to additional paid-in capital. The discount is being amortized to interest expense using the effective interest method through the Notes' maturity date of June 30, 2014.

As of March 31, 2014, the convertible promissory notes and debt discount are as follows:

	March 31, 2014
Convertible promissory notes	$ 1,973,500
Debt discount	(1,662,231)
Foreign exchange effect on Euro denominated notes	21,313
	$ 332,582

For the three months ended March 31, 2014, the Company recognized interest expense of $314,396 related to the Notes, which includes $275,038 for the amortization of the debt discount and $39,358 in coupon interest.

NOTE 8 — CO-DEVELOPMENT AND LICENSE AGREEMENT

Subject to the completion of an IPO, the Company entered into a co-development and license agreement dated February 12, 2014, pursuant to which, among other things, the licensor granted the Company an exclusive license, with the right to sublicense, in the European Union, Switzerland, Liechtenstein, Iceland and Norway, referred to as the Minerva Territory, under certain patent and patent applications to sell products containing any orexin 2 compound, controlled by the licensor and claimed in a licensor patent right, as an active ingredient, or MIN-202, for any use in humans. In addition, upon regulatory approval in the Minerva Territory (and earlier if certain default events occur), the Company will have rights to manufacture MIN-202. The Company has granted to the licensor an exclusive license, with the right to sublicense, under all patent rights and know-how controlled by the Company related to MIN-202 to sell MIN-202 outside the Minerva Territory. The license will become effective simultaneously with the closing of an IPO, and the payment of the initial upfront payment described below. If the closing of the IPO does not occur by September 30, 2014, the agreement will not become effective.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 8 — CO-DEVELOPMENT AND LICENSE AGREEMENT (CONTINUED)

In consideration of the licenses granted, the Company will make an initial upfront payment of $22.0 million upon the closing of the IPO and will pay a quarterly royalty in the high single digits on the aggregate net sales for MIN-202 products sold by the Company, its affiliates and sublicensees in the European Union. The licensor will pay a quarterly royalty in the high single digits on the aggregate net sales for MIN-202 products sold by the licensor outside the European Union.

The Company will pay 40% of MIN-202 development costs related to the joint development of any MIN-202 products. However, the Company's share of aggregate development costs shall not exceed (i) $5.0 million for the period beginning from the effective date of the license and ending following the completion of certain Phase Ib clinical trials and animal toxicology studies, and (ii) $24.0 million for the period beginning from the effective date of the license and ending following the completion of certain Phase II clinical trials.

The licensor has a right to opt out at the end of certain development milestones, with the first milestone being the completion of a single day Phase I clinical trial in patients with Major Depressive Disorder ("MDD"). Upon opt out, the licensor will not have to fund further development of MIN-202 and the Minerva Territory will be expanded to also include all of North America. The Company would then owe the licensor a reduced royalty in the mid-single digits for all sales in the Minerva Territory. The Company has the right to terminate the license following certain development milestones the first being completion of a certain Phase Ib clinical trial in patients with insomnia and certain toxicology studies in animals. If the Company terminates the license within 45 days of this milestone, the Company must pay a termination fee equal to $3.0 million. If the Company terminates the license at any time following the last development milestone involving a certain Phase IIb clinical trial, the Company will be entitled to a royalty in the mid-single digits from sales of MIN-202 by the licensor. The licensor may also terminate the agreement for the Company's material breach or certain insolvency events, including if the Company is unable to fund its portion of the development costs.

The Company entered into a common stock purchase agreement with an affiliate of the above mentioned licensor, dated as of February 12, 2014, pursuant to which, among other things, the affiliate agreed to purchase from the Company up to $26.0 million of common stock in a private placement concurrent with the closing of an IPO at a price equal to the IPO price. This investment would be consummated simultaneously with the closing of an IPO.

NOTE 9 — STOCKHOLDERS' EQUITY

Common Stock

The Company is authorized to issue up to 45.0 million shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

From April 23, 2007 (date of incorporation) through March 31, 2014, the Company sold 3,985,719 shares of common stock at $3.50 per share for net proceeds of $13.9 million over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase depending on the success of clinical milestones. Further, pursuant to the stock purchase agreement, during the 2-year period after the fifth closing date of the share purchase, each purchaser has the option to purchase up to an aggregate of their pro rata portion of 2,857,143 shares of common stock for a price of $3.50 per share. This option was terminated in March 2014, subject to the completion of an IPO by December 31, 2014.

Warrants

In February 2009, the Company entered into a warrant agreement with a company controlled by a consultant who provides services associated with the Company's clinical development program. The warrant was exercisable at any time through February 2014. The number of shares of common stock of the Company subject to this warrant is dependent upon an anti-dilution formula based upon maintaining a 20% ownership after each of the common stock purchase agreement closings, with the total warrant shares not to exceed 1,785,714 shares (the "Warrant Shares"). The exercise price of the warrant equals the sum of $3.50 ("Numerator") plus the quotient obtained by $142,000 divided by the number of Warrant Shares outstanding, however the Numerator shall increase by 2% for each quarter the warrant is outstanding. The warrant agreement also contains a cashless exercise provision, and includes a performance based provision for the quantity of the Warrant Shares that can be exercised. The warrant became fully vested in 2010 upon successful completion of specific clinical milestones. The Company determined that the warrant qualifies as an equity instrument.

As of April 25, 2012, the warrant was exercisable into 821,429 shares of Company common stock issuable at an exercise price of $3.71 per share. On April 26, 2012, the warrant agreement was cancelled and replaced with a common stock subscription agreement for the purchase of 821,429 shares Cyrenaic common stock. The Company has accounted for the warrant cancellation and the concurrent replacement with a common stock subscription agreement as a modification in accordance with ASC 718-20-35-8 as

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

further discussed in the common stock issuance section of this note. Warrants issued under this agreement are summarized as follows:

Warrant grant on February 10, 2009	346,429
Warrant grant on April 13, 2009 pursuant to anti-dilution clause	189,286
Warrant grant on December 23, 2009 pursuant to anti-dilution clause	57,143
Warrant grant on March 15, 2010 pursuant to anti-dilution clause	107,143
Warrant grant on December 13, 2010 pursuant to anti-dilution clause	71,429
Warrant grant on October 26, 2011 pursuant to anti-dilution clause	28,570
Warrants outstanding at December 31, 2011	800,000
Warrant grant on April 25, 2012 pursuant to anti-dilution clause	21,429
Warrants outstanding at April 25, 2012	821,429
Warrant cancellation on April 26, 2012	(821,429)
Warrants outstanding at December 31, 2012	—

The Company recorded stock-based compensation expense in accordance with ASC-505-50 *Equity — Based Payments to Non-Employees*. The Company determined fair value of the warrants at each reporting date and recorded the percent of services rendered as research and development expense on a straight-line basis over the original vesting term of 51 months until May 31, 2010 when the outstanding warrants became fully vested upon successful completion of specific clinical milestones. At such time, a final stock-based compensation expense was recorded for warrants outstanding at that time. After May 31, 2010, upon the grant of additional warrants under the anti-dilution clause, a charge to operations was recorded as research and development expense for the fair value of the additional warrants at the date of grant.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

The fair value of each warrant to purchase shares of common stock of the Company was estimated by management, using the Black-Scholes option pricing model with the following weighted average assumptions:

	5/31/2010	10/26/2011	4/25/2012
Fair value of underlying common stock	$ 3.85	$ 4.80	$ 5.32
Volatility	98.3%	69.7%	74.7%
Term (in years)	3.2	2.3	1.8
Risk-free interest rate	1.1%	0.32%	0.25%
Dividend yield	0%	0%	0%
Fair value of warrant	$ 2.42	$ 2.21	$ 2.56
Warrant Shares Issued	771,430	28,570	21,429
Value of Warrant Shares	$ 1,858,000	$ 63,000	$ 54,750

The expected term of warrants represents the remaining contractual terms. The volatility assumption was determined by examining the historical volatilities for industry peer companies, as the Company did not have any trading history for its common stock. The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the term of the warrants. The dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has never paid dividends on its common stock and does not anticipate paying dividends on its common stock in the foreseeable future. Accordingly, the Company has assumed no dividend yield for purposes of estimating the fair value of the warrants.

The Company recognized research and development expense for each warrant grant at its fair value. Such expense amounted to $54,750 and $1,975,750 for the year ended December 31, 2012 and for the period from April 23, 2007 (date of incorporation) through December 31, 2013, respectively.

Common Stock Issued for Nonrecourse Notes

As previously discussed in the warrants section of this note, the warrant agreement was cancelled and was replaced with a stock subscription agreement to purchase common stock that was immediately exercised. On April 26, 2012, the Company issued 821,429 shares of its common stock in exchange for a nonrecourse note of $3,058,026 (or approximately $3.71 per share, the "Original Price"). The note payable was due in a single installment on February 28, 2014, and was amended to extend the maturity date to March 31, 2014 (discussed further in Note 13 — Subsequent Events). The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the nonrecourse note in connection with the Company repurchasing common stock from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company or after March 31, 2014, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through December 31, 2013, neither the put or call options were exercised.

In accordance with ASC 718-10-25, the purchase of stock in exchange for a nonrecourse note effectively is the same as granting a stock option. If the value of the underlying shares falls below the note amount, the stockholder will relinquish the stock in lieu of repaying the note and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a nonrecourse note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense was not recorded for the year ended December 31, 2013 or the three months ended March 31, 2014.

In December 2013, the Company issued 27,925 shares of common stock to the holder, subject to a $97,737 nonrecourse note payable by the holder. The accounting for the additional share issuance is consistent with the 821,429 shares discussed above.

Sonkei had a similar arrangement with the consultant, whereby Sonkei issued 1,112,500 shares of its common stock in exchange for a nonrecourse note of €1,119,017 (approximately $1.5 million at December 31, 2013). The note payable is due in a single installment on April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. As the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option. The Company assumed this agreement upon the merger with Sonkei, and the Sonkei shares were converted into the Company's common shares in accordance with the terms of the merger agreement (see Note 3 — Business Combinations).

On March 31, 2014, the holder of the $4.7 million nonrecourse notes, which includes accrued interest, remitted to the Company 348,926 shares of common stock with a fair value of $13.51 per share in full

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

settlement of the outstanding note due in a cashless transaction. Additionally, the Company further modified the awards by cancelling the put option and adding a term whereby upon an IPO the award will vest. The remittance of the shares in exchange for settling the outstanding note, the cancellation of the put option, and the addition of the IPO performance condition, represents a modification of the original terms of the stock options. The effect of these changes is that the Company has modified the awards and has converted approximately 1.3 million stock options with an exercise price of $4.7 million to approximately 926,604 shares of non-vested stock (with no exercise price). The non-vested stock is still subject to the above mentioned vesting conditions of a change in control and IPO, which are not deemed probable until they occur. As described in the preceding sentence, the effect of the modification was to replace stock options that were improbable of vesting with non-vested stock that is improbable of vesting and accordingly the Company will recognize stock-based compensation for the non-vested stock at the time such vesting conditions are deemed probable of occurrence. The following is a summary of common shares issued in exchange for nonrecourse notes that are being accounted for as stock options for the years December 31, 2012 and 2013 and the three months ended March 31, 2014:

	Common Shares
Outstanding January 1, 2012	—
Issued	821,429
Outstanding December 31, 2012	821,429
Assumed in Sonkei merger	426,176
Issued	27,925
Outstanding December 31, 2013	1,275,530
Repurchased	(348,926)
Outstanding March 31, 2014	926,604

The 926,604 shares of unvested common stock held by the consultant, which will vest upon a change in control or an IPO, will result in a charge for stock-based compensation, representing the 926,604 shares multiplied by the fair value per share on May 1, 2014, the date the consultant became an employee, less previous compensation expense recorded.

Common Stock Issued to Consultant

In January 2012, the Company sold 98,901 shares of common stock to a consultant for an aggregate purchase price of $34.62. In June 2012, the Company sold 6,410 shares of common stock to the same consultant for an aggregate purchase price of $2.24. In December 20, 2013, the Company sold another 24,516 shares of common stock to the consultant for an aggregate purchase price of $8.58. The Company

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 9 — STOCKHOLDERS' EQUITY (CONTINUED)

recognized the fair value of the shares less the par value as an administrative expense on the dates of the sales.

For the years ended December 31, 2012 and 2013, the Company recognized stock-based compensation of $533,018 and $232,534, respectively, and $765,552 for the period from April 23, 2007 (date of incorporation) to March 31, 2014 in relation to the above transactions.

NOTE 10 — STOCK OPTION PLAN

The Company adopted the 2013 Equity Incentive Plan (the Plan) in December 2013, which provides for the issuance of options, stock appreciation rights, stock awards and stock units. The number of shares of common stock reserved for issuance over the term of the Plan is 3,543,754 shares. The exercise price per share shall not be less than the fair value of the Company's underlying common stock on the grant date and no option may have a term in excess of ten years. Stock option activity under the Plan is as follows:

	Stock Options	Weighted-Average Exercise Price
Outstanding January 1, 2013	—	—
Granted	646,759	$ 9.49
Outstanding December 31, 2013	646,759	$ 9.49
Granted	—	—
Outstanding March 31, 2014	646,759	$ 9.49
Exercisable March 31, 2014	30,703	$ 9.49

Included in the table are stock options to purchase 20,089 of the Company's common stock that become exercisable and vest upon an IPO. The Company will not record stock-based compensation expense for these options until an IPO occurs as such event is not deemed probable. The fair value of each stock option to purchase common stock of the Company was estimated by management using the Black-Scholes option pricing model applying the following assumptions: (i) expected term of 5.8 to 10 years, (ii) risk free interest rate of 1.9 to 2.9%, (iii) volatility of 102 to 107%, (iv) no dividend yield and (v) a grant date fair value of common stock of $9.49 per share.

The expected term of the employee-related options was estimated using the "simplified" method as defined by the Securities and Exchange Commission's Staff Accounting Bulletin No. 107, *Share-Based Payment*. The volatility assumption was determined by examining the historical volatilities for industry peer companies, as the Company did not have any trading history for its common stock. The risk-free interest

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 10 — STOCK OPTION PLAN (CONTINUED)

rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of the options. The dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has never paid dividends on its common stock and does not anticipate paying dividends on its common stock in the foreseeable future. Accordingly, the Company has assumed no dividend yield for purposes of estimating the fair value of the options.

There were no options granted during the three months ended March 31, 2014. Stock-based compensation expense for the three months ended March 31, 2014 was $302,076 and for the period from April 23, 2007 (date of incorporation) to March 31, 2014 was $725,265 and is recorded as an administrative expense. The weighted average fair value of stock options granted in December 2013 was $8.19 per share. Total unrecognized compensation costs related to non-vested awards at March 31, 2014 was approximately $4.2 million and is expected to be recognized within future operating results over a period of 3.6 years. At March 31, 2014, the weighted average contractual term of the options outstanding is approximately 9.7 years. The intrinsic value of outstanding stock options at March 31, 2014 was approximately $2.6 million.

NOTE 11 — INCOME TAXES

There was no provision for income taxes for the three month periods ended March 31, 2014 and 2013 due to losses.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets.

As of December 31, 2013, the Company has approximately $16.0 million of Federal net operating losses that will begin to expire in 2027. As of December 31, 2013, the Company had approximately $11.0 million of New Jersey operating losses that will begin to expire in 2014. As of December 31, 2013, the Company had approximately $0.2 million of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2013.

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 11 — INCOME TAXES (CONTINUED)

Deferred tax liabilities related to indefinite-lived assets typically are not used as a source of income to support realization of deferred tax assets in jurisdictions where tax attributes expire (e.g., jurisdictions where net operating loss carryforwards expire) unless the deferred tax liability is expected to reverse prior to the expiration date of the tax attribute. Therefore, the net operating losses of Sonkei cannot be used to offset the deferred tax liability resulting from the IPR&D due to the fact that the IPR&D currently has an indefinite life while the NOLs have a maximum life of 20 years.

NOTE 12 — COMMITMENTS

In November 2013, the Company hired a Chief Executive Officer ("CEO") pursuant to an employment contract, which calls for a base salary of $425,000 plus bonus of up to 50% of base salary, a special bonus of $250,000 upon successful consummation of an IPO and severance arrangements if terminated for cause or terminated not for cause. In addition, on December 20, 2013, the CEO was granted an option to purchase 5%, or 540,722 shares, of the outstanding common stock of the Company with an exercise price equal to the per share fair value of the Company on such date, which was $9.49 per share. The option will vest ratably over 4 years. Further, upon successful consummation of an IPO, the CEO will be granted an "anti-dilution option" to purchase a number of shares of common stock of the Company, with an exercise price equal to the price to the public in the IPO, such that when the option and anti-dilution option are aggregated, the CEO will hold 5% of fully diluted outstanding shares expected to be outstanding on the closing of the IPO.

On February 11, 2014, the Company entered into an agreement with Quotient Ltd, a Contract Research Organization based in Nottingham, UK to conduct a two-part study to evaluate the pharmacokinetic profile of MIN-101 modified release prototype formulations, and to evaluate the relationship between the pharmacokinetic profile and cardiovascular parameters following multiple dose administration. The total cost of the project is €1.6m (or $2.2 million, as converted).

NOTE 13 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the three months ended March 31, 2013 and 2014 these reimbursements were $411 and $0 respectively, and $631,883 for the period from April 23, 2007 (date of incorporation) to March 31, 2014.

An investor has provided accounting and other services to the Company for $60,000 per year. For the three months ended March 31, 2013 and 2014, the expense recognized in operating results in connection with these services was $15,000 and $25,000, respectively, and $410,000 for the period from April 23, 2007 (date of incorporation) to March 31, 2014.

The Company retained the services of certain consultants who were also stockholders of the Company (see Note 9). For the three months ended March 31, 2013 and 2014, the expense recognized by the Company

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 13 — RELATED PARTY TRANSACTIONS (CONTINUED)

in connection with these services was $78,300 and $199,438, respectively, and $1.0 million for the period from April 23, 2007 (date of incorporation) to March 31, 2014.

Accrued expenses due to related parties listed in Note 4 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates.

The Company's convertible promissory notes and loans payable are held by certain stockholders. Accrued interest payable of $63,634 listed in Note 7 as of March 31, 2014 relates to these promissory notes. Interest expense for the three month periods ended March 31, 2013 and 2014 was $0 and $0.3 million, respectively, and $0.3 million for the period from April 23, 2007 (date of incorporation) to March 31, 2014.

NOTE 14 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through June 9, 2014, the date which the financial statements were available to be issued to determine whether any events occurred that required disclosure in the accompanying financial statements.

In April 2014, the Company entered into two employment agreements to be effective May 1, 2014. The aggregate salaries are $655,000 plus an annual bonus target of 50% of their annual salaries and a one-time bonus to one of the employees of $175,000 to be paid within seven days following the closing of an IPO. The employment agreements can be terminated with six-months' notice and contain severance provisions. In addition, the employment agreements provide for the grant of (1) an aggregate of 539,116 fully vested stock options to purchase common shares of the Company at an exercise price equal to the common stock price issued to the public in connection with an IPO and (2) stock options to purchase an aggregate number of common shares such that, upon the closing of an IPO, the holders will have options equal to 2.2% of the number of fully diluted shares of the Company, which vest over four years.

On April 25, 2014, the Company amended the convertible promissory notes such that the option to convert the outstanding principal and interest into common shares at a conversion price of $3.50 per share on or after April 30, 2014 was extended to September 30, 2014. Also, in the event that the Company files a registration statement for an IPO with the Securities and Exchange Commission and it becomes effective by September 30, 2014, the $3.50/€3.50 conversion option will be cancelled.

In conjunction with the Mind-NRG acquisition on February 11, 2014 (discussed further in Note 3 — Business Combinations), working capital loans were executed between Mind-NRG and several stockholders up to a maximum amount of $0.6 million. The loans bore interest at 8% and at March 31, 2014 the balance outstanding under the loan agreement was $0.5 million. In April 2014, Mind-NRG repaid the working capital loans plus accrued interest, and certain stockholders and their affiliates subsequently

MINERVA NEUROSCIENCES, INC.

(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Consolidated Financial Statements (Continued)

March 31, 2013 and 2014
and for the period from April 23, 2007
(date of incorporation) to March 31, 2014

(Unaudited)

NOTE 14 — SUBSEQUENT EVENTS (CONTINUED)

executed new working capital loan agreements, with substantially identical terms, directly with the Company. The Company drew down the maximum $0.6 million available under the agreement in May 2014.

On April 30, 2014, the Company increased the shares reserved for issuance under the 2013 Equity Incentive Plan to 3,543,754.

In May 2014, the Company entered into a loan agreement (the May Bridge Loan) with certain stockholders and their affiliates. The Third Loan Agreement provides loan facilities to the Company up to a maximum of $1.0 million. The Third Loan Agreement bears interest at 8% per annum and is repayable at the time the Company completes an IPO or on December 1, 2015. The Third Loan Agreement contains standard terms of default, under which the interest rate would increase to 11% per annum. The Third Loan Agreement provides that any amount outstanding may be repaid at any time without penalty.

Reverse Stock Split

The board of directors and holders of the requisite number of outstanding shares of our common stock have approved an amendment to our restated certificate of incorporation to effect a 3.5-to-1 reverse stock split of our outstanding common stock (the "reverse stock split"). The reverse stock split became effective on June 9, 2014 upon the filing of our Certificate of Amendment of the Restated Certificate of Incorporation with the Delaware Secretary of State. The reverse stock split did not result in an adjustment to par value. All issued and outstanding common stock, warrants for common stock, options to purchase common stock, share transactions, and related per share amounts contained in the financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented. On June 9, 2014, the Company amended its Amended and Restated Certificate of Incorporation to increase the total number of authorized shares to 225,000,000 shares, consisting of 125,000,000 shares of common stock, par value $0.0001 per share and 100,000,000 shares of preferred stock, par value $0.0001 per share.

INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Stockholders of Minerva Neurosciences, Inc.

We have audited the accompanying financial statements of Sonkei Pharmaceuticals, Inc. (a development stage company) (the "Company"), which comprise the balance sheets as of December 31, 2011 and 2012 and the related statements of operations, stockholders' deficit, and cash flows for the years ended December 31, 2011 and 2012 and for the period from August 29, 2008 (date of incorporation) to December 31, 2012, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Sonkei Pharmaceuticals, Inc. as of December 31, 2011 and 2012 and the results of its operations and its cash flows for the years then ended and for the period from August 29, 2008 (date of incorporation) to December 31, 2012, in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter Regarding Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. The Company is a development stage enterprise engaged in new drug discovery. As discussed in Note 1 to the financial statements, the Company's operating losses since inception raise substantial doubt about its ability to continue as a going concern. Management's plans concerning this matter are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of these uncertainties. Our opinion is not modified with respect to this matter.

Emphasis of Matter Regarding Merger

As discussed in Note 9 to the financial statements, the Company was merged into Cyrenaic Pharmaceuticals, Inc. on November 12, 2013. Our opinion is not modified with respect to this matter.

/s/ Deloitte & Touche LLP

Parsippany, New Jersey
February 14, 2014

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Balance Sheets

	DECEMBER 31, 2011	DECEMBER 31, 2012
Assets		
Current assets		
Cash and cash equivalents	$ 25,856	$ 52,903
Prepaid expenses	35,014	8,532
Total current assets	60,870	61,435
Total assets	$ 60,870	$ 61,435
Liabilities and Stockholders' Equity		
Current liabilities		
Accrued expenses and other liabilities	$ 131,724	$ 103,062
Total current liabilities	131,724	103,062
Total liabilities	131,724	103,062
Commitments and contingencies		
Stockholders' deficit		
Common stock; $.0001 par value; 22,000,000 shares authorized; 4,100,000 and 5,013,520 shares issued and outstanding as of December 31, 2011 and 2012, respectively	410	501
Additional paid-in capital	5,638,684	6,705,459
Deficit accumulated during the development stage	(5,709,948)	(6,747,587)
Total stockholders' deficit	(70,854)	(41,627)
Total liabilities and stockholders' deficit	$ 60,870	$ 61,435

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Operations

	YEAR ENDED DECEMBER 31,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31,
	2011	2012	2012
Expenses			
Research and development	$ 278,915	$ 485,900	$ 5,033,944
General and administrative	377,670	555,204	1,709,836
Total expenses	656,585	1,041,104	6,743,780
Loss from operations	(656,585)	(1,041,104)	(6,743,780)
Foreign exchange gains / (losses)	(1,331)	3,292	(36,693)
Interest income	1,125	173	32,886
Net loss	$ (656,791)	$ (1,037,639)	$ (6,747,587)
Net loss per share, basic and diluted	$ (0.16)	$ (0.22)	$ (1.92)
Weighted average shares outstanding, basic and diluted	4,004,795	4,682,213	3,506,723

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Stockholders' Deficit

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at August 29, 2008 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash, at $1.39 per share, net of $13,100 of costs	1,400,000	140	1,933,418	—	1,933,558
Net loss	—	—	—	(844,290)	(844,290)
Balances at December 31, 2008	1,400,000	140	1,933,418	(844,290)	1,089,268
Sale of common stock for cash, at $1.37 per share	2,200,000	220	3,019,313	—	3,019,533
Net loss	—	—	—	(3,097,230)	(3,097,230)
Balances at December 31, 2009	3,600,000	360	4,952,731	(3,941,520)	1,011,571
Net loss	—	—	—	(1,111,637)	(1,111,637)
Balances at December 31, 2010	3,600,000	360	4,952,731	(5,053,157)	(100,066)
Sale of common stock for cash, at $1.37 per share	500,000	50	685,953	—	686,003
Net loss	—	—	—	(656,791)	(656,791)
Balances at December 31, 2011	4,100,000	410	5,638,684	(5,709,948)	(70,854)
Sale of common stock for cash, at $1.27 per share	800,000	80	1,013,432	—	1,013,512
Issuance of common stock to a consultant	113,520	11	53,343	—	53,354
Net loss	—	—	—	(1,037,639)	(1,037,639)
Balances at December 31, 2012	5,013,520	$ 501	$ 6,705,459	$ (6,747,587)	$ (41,627)

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Cash Flows

	YEAR ENDED DECEMBER 31,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31,
	2011	2012	2012
Cash flows from operating activities			
Net loss	$ (656,791)	$ (1,037,639)	$ (6,747,587)
Adjustments to reconcile net loss to net cash used in operating activities:			
Unrealized foreign exchange (gains) losses	(6,762)	616	616
Stock-based compensation expense	—	53,343	53,343
Changes in operating assets and liabilities			
Prepaid expenses and other assets	(26,933)	26,482	(8,532)
Accrued expenses and other liabilities	(178,824)	(29,278)	102,446
Net cash used in operating activities	(869,310)	(986,476)	(6,599,714)
Cash flows from financing activities			
Proceeds from sales of common stock	686,003	1,013,523	6,665,717
Stock issuance costs	—	—	(13,100)
Net cash provided by financing activities	686,003	1,013,523	6,652,617
Net increase (decrease) in cash and cash equivalents	(183,307)	27,047	52,903
Cash and cash equivalents			
Beginning of period	209,163	25,856	—
End of period	$ 25,856	$ 52,903	$ 52,903

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of operations

Sonkei Pharmaceuticals, Inc. ("Sonkei" or the "Company") was incorporated on August 29, 2008. The Company is a development stage biopharmaceutical company focused on the development and commercialization of a compound for the treatment of major depressive disorder or MDD, which the Company licensed in 2008 (see Note 5). The Company has been operating as a virtual company with no employees and managed by the Board of Directors. On November 12, 2013, Sonkei was merged into Cyrenaic Pharmaceuticals Inc. ("Cyrenaic") with Cyrenaic being the survivor company (see Note 9). Sonkei was affiliated with Cyrenaic through certain common ownership.

Going concern

The Company's primary efforts to date have been devoted to raising capital and research and development. The Company has limited capital resources and has experienced recurring net losses and negative cash flows from operations since inception. The Company also has an accumulated deficit of $6,747,587 as of December 31, 2012. Management expects these conditions to continue for the foreseeable future. Operations have been financed to date by proceeds from the sale of common stock. In November 2013, the Company issued approximately $700,000 in convertible notes payable to existing investors (see Note 9). The Company will need to raise additional capital to fund long-term operations and further clinical development. The Company believes that it will be able to obtain additional working capital through additional equity financings or other arrangements to fund operations; however, there can be no assurance that such additional financing, if available, can be obtained on terms acceptable to the Company. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern. As mentioned above, on November 12, 2013, Sonkei was merged into Cyrenaic with Cyrenaic being the survivor company (see Note 9).

The accompanying financial statements have been prepared as though the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation:

The financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"), and include all adjustments necessary for the fair presentation of the Company's financial position for the periods presented.

From its inception the Company has devoted substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, planning and executing clinical trials and raising capital. Accordingly, the Company is considered to be in the development stage as defined in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 915: *Development Stage Entities*.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Significant risks and uncertainties:

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to: the results of clinical testing and trial activities of the Company's products, the Company's ability to obtain regulatory approval to market its products, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, Company products, the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company's ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company's research and development will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its consultants and obtaining and protecting intellectual property.

Use of estimates:

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

The Company utilizes significant estimates and assumptions in determining the fair value of its common stock. The board of directors has determined the estimated fair value of the Company's common stock based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an initial public offering ("IPO") or sale of the Company.

The Company utilized various valuation methodologies in accordance with the framework of the 2013 American Institute of Certified Public Accountants Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation,* to estimate the fair value of its common stock. The methodologies included an option pricing method and a probability-weighted expected return methodology that determined an estimated value under an IPO scenario and a sale scenario based upon an assessment of the probability of occurrence of each scenario. Each valuation methodology includes estimates and assumptions that require the Company's judgment. These estimates include assumptions regarding future performance, including the successful completion of pre-clinical studies and clinical trials and the time to complete an IPO or sale. Significant changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

Cash and cash equivalents:

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Concentration of credit risk:

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents. The Company maintains its cash and cash equivalent balances in the form of business checking accounts and money market accounts, the balances of which, at times, may exceed federally insured limits. Exposure to credit risk is reduced by placing such deposits with major financial institutions and monitoring their credit ratings.

Fair value of financial instruments:

FASB ASC 820 — *Fair Value Measurements and Disclosures,* defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. FASB ASC 820 requires disclosures about the fair value of all financial instruments, whether or not recognized, for financial statement purposes. The estimates presented in these financial statements are not necessarily indicative of the amounts that could be realized on disposition of the financial instruments.

FASB ASC 820 specifies a hierarchy of valuation techniques based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement).

The three levels of the fair value hierarchy are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 1 primarily consists of financial instruments whose value is based on quoted market prices such as exchange-traded instruments and listed equities.

- Level 2 — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (e.g. quoted prices of similar assets or liabilities in active markets, or quoted prices for identical or similar assets or liabilities in markets that are not active). Level 2 includes financial instruments that are valued using models or other valuation methodologies. These models consider various assumptions, including volatility factors, current market prices and contractual prices for the underlying financial instruments. Substantially all of these assumptions are observable in the marketplace, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

- Level 3 — Unobservable inputs for the asset or liability. Financial instruments are considered Level 3 when their fair values are determined using pricing models, discounted cash flows or similar techniques and at least one significant model assumption or input is unobservable.

The carrying amounts reported in the balance sheets for cash and cash equivalents, prepaid expenses and accrued expenses and other liabilities approximate their fair value based on the short-term maturity of these instruments.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Research and development costs:

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company's research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company, costs related to acquiring clinical trial material and costs related to compliance with regulatory requirements. Costs for certain development activities, such as clinical trials are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expenses.

Income taxes:

The Company utilizes the liability method of accounting for income taxes as required by FASB ASC Topic 740 *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax reporting bases of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Uncertain tax positions are evaluated in accordance with this topic and if appropriate, the amount of unrecognized tax benefits are recorded within deferred tax assets. Deferred tax assets are evaluated for realization based on a more-likely-than-not criterion in determining if a valuation allowance should be provided. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

ASC Topic 740 also clarifies the accounting for uncertainty in income taxes recognized in the financial statements. The interpretation prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. ASC Topic 740 provides guidance on the recognition of interest and penalties related to income taxes. There was no interest or penalties related to income taxes for the years ended December 31, 2011 and 2012 and for the period from August 29, 2008 (date of incorporation) to December 31, 2012. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2009 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Stock-based compensation:

The Company recognizes compensation cost relating to share-based payment transactions in its operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation — Stock Compensation*. ASC-718 requires all share based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity-Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

Foreign currency transactions:

The Company's functional currency is the U.S. dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in U.S. dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share:

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

Recent accounting pronouncements:

In December 2011, the FASB issued ASU 2011-12 *"Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05".* This update stated that the specific requirement to present items that are reclassified from other comprehensive income (loss) to net income (loss) alongside their respective components of net income (loss) and other comprehensive income (loss) will be deferred. In February 2013, the FASB issued ASU 2013-02 *"Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*". This update requires companies to present the effects on the line items of net income (loss) of significant reclassifications out of accumulated other comprehensive income(loss) if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income (loss) in the same reporting period. ASU 2013-02 is effective prospectively for the Company for fiscal years, and interim periods within those years, beginning after December 15, 2013. The Company does not expect its adoption to have a material impact on its financial statements.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 3 — ACCRUED EXPENSES AND OTHER LIABILITIES

	December 31, 2011	December 31, 2012
Accrued research and development costs	$ 69,023	$ 37,930
Accrued professional fees	5,444	13,441
Accrued consulting costs	32,032	2,945
Accrued expenses due to related parties	23,961	33,803
Other	1,264	14,943
	$ 131,724	$ 103,062

NOTE 4 — NET LOSS PER SHARE OF COMMON STOCK

Diluted loss per share is the same as basic loss per share for all periods presented as the effects of potentially dilutive items were anti-dilutive given the Company's net loss. Basic loss per share is computed by dividing net loss by the weighted-average number of common shares outstanding.

The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Year Ended December 31,		August 29, 2008 (date of incorporation) through December 31, 2012
	2011	2012	
Net loss	$ (656,791)	$ (1,037,639)	$ (6,747,587)
Weighted average shares of common stock outstanding	4,004,795	4,682,213	3,506,723
Net loss per share of common stock — basic and diluted	$ (0.16)	$ (0.22)	$ (1.92)

Stock options to purchase 1,112,500 shares of the Company's common stock (see Note 6) outstanding at December 31, 2011 and 2012 have been excluded from the computation of diluted weighted average shares outstanding, as they are antidilutive.

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation dated September 1, 2008, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the lead compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. The Company will pay a tiered royalty for net sales of

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 5 — LICENSE AGREEMENT (CONTINUED)

product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. An initial license fee of $500,000 was paid in 2008 and expensed as part of research and development expense. Through the date of the below mentioned amendment, the Company was required to make certain payments up to $57,500,000 upon achievement of certain commercial milestones.

Under the License Agreement, the Company has to have the first patient enrolled in either a Phase IIa study or a Phase IIb study in MDD with a product containing MIN-117 by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestones by one year increments by making an extension payment in connection with each one year extension. If the Company fails to achieve this development milestone by April 2015, as may be extended, the licensor may elect to terminate the License Agreement. In January 2014 the Company has renegotiated the structure of the license such that the Company will be required to make certain milestone payments upon achievement of one development milestone and certain commercial milestones up to $47,500,000. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits.

NOTE 6 — STOCKHOLDERS' DEFICIT

Common Stock

The Company is authorized to issue up to 22,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From August 29, 2008 (date of incorporation) through December 31, 2012, the Company sold 4,900,000 shares of common stock for net proceeds of $6,652,606 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase of up to 17,400,000 shares depending on the success of clinical milestones.

Common Stock Issuances

On March 30, 2012, the Company issued 1,112,500 shares of its common stock in exchange for a nonrecourse note payable of $1,479,736 (or approximately $1.33 per share, the "Original Price"). The note payable is due in a single installment in April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the promissory note in connection with the Company repurchasing common stock from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company or after April 30, 2015, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through December 31, 2012, neither the put or call options were exercised.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 6 — STOCKHOLDERS' DEFICIT (CONTINUED)

In accordance with ASC 718-10-25, the purchase of stock in exchange for a nonrecourse loan effectively is the same as granting a stock option. If the value of the underlying shares falls below the loan amount, the stock holder will relinquish the stock in lieu of repaying the loan and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable as of December 31, 2012, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option.

In February 2012, the Company sold 113,520 shares of its common stock to a consultant at $0.0001 par value for an aggregate purchase price of $11.35. The Company has recognized the fair value of the shares less the par value as an administrative expense on the date of sale. Such expense amounted to $53,343 for the year ended December 31, 2012 and the period from August 29, 2008 (inception) to December 31, 2012.

NOTE 7 — INCOME TAXES

Net deferred tax assets (liabilities) as of December 31, 2011 and 2012 consist of the following:

	2011	2012
Deferred Tax Assets:		
Net operating loss carryforwards	$ 1,616,578	$ 1,860,366
Research and development tax credits	3,884	3,884
Deferred start-up and license costs	571,097	720,171
Gross deferred tax assets	2,191,559	2,584,421
Valuation allowance	(2,191,559)	(2,584,421)
Net deferred taxes	$ —	$ —

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 7 — INCOME TAXES (CONTINUED)

A reconciliation between the Company's effective tax rate and the federal statutory rate for the years ended December 31, 2011 and 2012 are as follows:

	2011	2012
Federal statutory rate	(34.0%)	(34.0%)
Permanent differences	—	1.70%
State income taxes	(5.94%)	(5.94%)
Valuation allowance	39.94%	38.24%
Effective tax rate	0.0%	0.0%

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets. The valuation allowance increased by approximately $400,000 during the year ended December 31, 2012.

As of December 31, 2012, the Company has approximately $4,700,000 of federal and New Jersey net operating losses that will begin to expire in 2027 and in 2014, respectively. As of December 31, 2012, the Company had approximately $4,000 of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2012 or will occur upon consummation of the transactions set forth in Note 9. Such a change of ownership could limit the utilization of the net operating losses, and could be triggered by subsequent sales of securities by the Company or its stockholders.

NOTE 8 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the years ended December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012, these reimbursements were $32,695, $33,192 and $156,032, respectively.

An investor provides accounting and other services to the Company for $60,000 per year. For the years ended December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 8 — RELATED PARTY TRANSACTIONS (CONTINUED)

December 31, 2012, the total expense recognized in operating results in connection with services provided was $60,000, $60,000 and $255,000, respectively.

For the year ended December 31, 2012, the Company retained the services of certain consultants who were also stockholders of the Company (see Note 6). The total expense recognized by the Company in connection with the consulting services was $42,359 for the year ended December 31, 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012.

Accrued expenses due to related parties listed in Note 3 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates. Also included in accrued expenses due to related parties as of December 31, 2011 is $23,903 due to Cyrenaic for reimbursement of expenses paid on Sonkei's behalf.

NOTE 9 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through February 14, 2014, the date which the financial statements were available for issuance.

Bridge Loan

On November 6, 2013, the Company issued convertible promissory notes for approximately $700,000 to stockholders of the Company, which mature on June 30, 2014 and are payable on demand on such date. The notes have a stated interest rate of 8% per annum.

If the Company sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the qualified financing, as defined, and the convertible notes have not been paid in full, then the outstanding principal balance of the convertible notes and accrued interest thereon shall convert into the Qualified Stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of Qualified Stock multiplied by 80%. For financial reporting purposes, the conversion feature will be bifurcated from the note payable and separately valued. A qualified financing shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5,000,000, which sale or sales shall take place on or before the maturity date; provided, however, that an Initial Public Offering ("IPO") shall not be deemed a qualified financing. If an IPO should occur, then the convertible note plus accrued interest automatically converts at the price per share issued in the IPO. Subsequent to April 30, 2014, Investors may elect to convert the convertible notes and accrued interest into common stock of the Company at a conversion price of $1 per share common share.

Merger

On November 12, 2013, the Company was merged into Cyrenaic with Cyrenaic being the survivor company. Each share of Sonkei common stock was automatically converted into the right to receive 1.340778 shares of Cyrenaic common stock or 8,481,788 shares in total. Cyrenaic then changed its name to Minerva Neurosciences, Inc.

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Balance Sheets
(Unaudited)

	DECEMBER 31, 2012	SEPTEMBER 30, 2013
Assets		
Current assets		
Cash and cash equivalents	$ 52,903	$ 5,163
Prepaid expenses	8,532	1,765
Total current assets	61,435	6,928
Total assets	$ 61,435	$ 6,928
Liabilities and Stockholders' Deficit		
Current liabilities		
Accrued expenses and other liabilities	$ 103,062	$ 301,389
Total current liabilities	103,062	301,389
Total liabilities	103,062	301,389
Commitments and contingencies		
Stockholders' deficit		
Common stock; $.0001 par value; 22,000,000 shares authorized; 5,013,520 and 5,213,520 shares issued and outstanding as of December 31, 2012 and September 30, 2013, respectively	501	521
Additional paid-in capital	6,705,459	6,964,556
Deficit accumulated during the development stage	(6,747,587)	(7,259,538)
Total stockholders' deficit	(41,627)	(294,461)
Total liabilities and stockholders' deficit	$ 61,435	$ 6,928

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Operations
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30, 2013
	2012	2013	
Expenses			
Research and development	$ 393,189	$ 328,207	$ 5,351,757
General and administrative	446,841	185,784	1,906,014
Total expenses	840,030	513,991	7,257,771
Loss from operations	(840,030)	(513,991)	(7,257,771)
Foreign exchange gains / (losses)	6,381	2,040	(34,653)
Interest income	154	—	32,886
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Net loss per share, basic and diluted	$ (0.18)	$ (0.10)	$ (1.94)
Weighted average shares outstanding, basic and diluted	4,604,496	5,173,890	3,751,425

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Stockholders' Deficit
(Unaudited)

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at August 29, 2008 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $1.39 per share, net of costs of $13,100	1,400,000	140	1,933,418	—	1,933,558
Net loss	—	—	—	(844,290)	(844,290)
Balances at December 31, 2008	1,400,000	140	1,933,418	(844,290)	1,089,268
Sale of common stock for cash at $1.37 per share	2,200,000	220	3,019,313	—	3,019,533
Net loss	—	—	—	(3,097,230)	(3,097,230)
Balances at December 31, 2009	3,600,000	360	4,952,731	(3,941,520)	1,011,571
Net loss	—	—	—	(1,111,637)	(1,111,637)
Balances at December 31, 2010	3,600,000	360	4,952,731	(5,053,157)	(100,066)
Sale of common stock for cash at $1.37 per share	500,000	50	685,953	—	686,003
Net loss	—	—	—	(656,791)	(656,791)
Balances at December 31, 2011	4,100,000	410	5,638,684	(5,709,948)	(70,854)
Sale of common stock for cash at $1.27 per share	800,000	80	1,013,432	—	1,013,512
Issuance of common stock to a consultant	113,520	11	53,343	—	53,354
Net loss	—	—	—	(1,037,639)	(1,037,639)
Balances at December 31, 2012	5,013,520	501	6,705,459	(6,747,587)	(41,627)
Sale of common stock for cash at $1.30 per share	200,000	20	259,097	—	259,117
Net loss	—	—	—	(511,951)	(511,951)
Balances at September 30, 2013	5,213,520	$ 521	$ 6,964,556	$ (7,259,538)	$ (294,461)

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Cash Flows
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30, 2013
	2012	2013	
Cash flows from operating activities			
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Adjustments to reconcile net loss to net cash used in operating activities:			
Unrealized foreign exchange (gains) / losses	9,626	1,811	1,811
Stock-based compensation expense	53,343	—	53,343
Changes in operating assets and liabilities			
Prepaid expenses and other assets	33,323	6,767	(1,765)
Accrued expenses and other liabilities	54,407	196,516	299,578
Net cash used in operating activities	(682,796)	(306,857)	(6,906,571)
Cash flows from financing activities			
Proceeds from sales of common stock	695,813	259,117	6,924,834
Stock issuance costs	—	—	(13,100)
Net cash provided by financing activities	695,813	259,117	6,911,734
Net (decrease) increase in cash and cash equivalents	13,017	(47,740)	5,163
Cash and cash equivalents			
Beginning of period	25,856	52,903	—
End of period	$ 38,873	$ 5,163	$ 5,163

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Sonkei Pharmaceuticals, Inc. ("Sonkei" or the "Company") was incorporated on August 29, 2008. The Company is a development stage biopharmaceutical company focused on the development and commercialization of an experimental drug for the treatment of major depressive disorder or MDD, which the Company licensed in 2008 (see Note 5). The Company has been operating as a virtual company with no employees and managed by the Board of Directors. On November 12, 2013, Sonkei was merged into Cyrenaic Pharmaceuticals Inc. ("Cyrenaic") with Cyrenaic being the survivor company (see Note 9). Sonkei was affiliated with Cyrenaic through certain common ownership.

Going Concern

The Company's primary efforts to date have been devoted to raising capital and research and development. The Company has limited capital resources and has experienced recurring net losses and negative cash flows from operations since inception. The Company also has an accumulated deficit of $7,259,538 as of September 30, 2013. Management expects these conditions to continue for the foreseeable future. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern. Operations have been financed to date by proceeds from the sale of common stock. In November 2013, the Company issued approximately $700,000 in convertible notes payable to existing investors (see Note 9). The Company will need to raise additional capital to fund long-term operations and further clinical development. The Company believes that it will be able to obtain additional working capital through additional equity financings or other arrangements to fund operations; however, there can be no assurance that such additional financing, if available, can be obtained on terms acceptable to the Company. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern. As mentioned above, on November 12, 2013, Sonkei was merged into Cyrenaic with Cyrenaic being the survivor company (see Note 9).

The accompanying financial statements have been prepared as though the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation:

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") for interim financial reporting and as required by Regulation S-X, Rule 10-01. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of the Company's management, the accompanying unaudited financial statements contain all adjustments (consisting of items of a normal and recurring nature) necessary to present fairly the financial position as of September 30, 2013 and the results of operations and cash flows for the nine months ended September 30, 2012 and

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

2013 and for the period August 29, 2008 (date of incorporation) to September 30, 2013. The results of operations for the nine months ended September 30, 2013, are not necessarily indicative of the results to be expected for the full year.

The balance sheet as of December 31, 2012 was derived from the Company's audited financial statements. The accompanying unaudited financial statements and notes thereto should be read in conjunction with the audited financial statements for the years ended December 31, 2011 and 2012.

From its inception the Company has devoted substantially all of its efforts to business planning, engaging regulatory, manufacturing and other technical consultants, planning and executing clinical trials and raising capital. Accordingly, the Company is considered to be in the development stage as defined in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 915: *Development Stage Entities.*

Significant risks and uncertainties:

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to: the results of clinical testing and trial activities of the Company's products, the Company's ability to obtain regulatory approval to market its products, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, Company products, the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, and the Company's ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company's research and development will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its consultants and obtaining and protecting intellectual property.

Use of estimates:

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

The Company utilizes significant estimates and assumptions in determining the fair value of its common stock. The board of directors has determined the estimated fair value of the Company's common stock based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector, discounted cash flows and the likelihood of achieving a liquidity event, such as an initial public offering (IPO) or sale of the Company.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The Company utilized various valuation methodologies in accordance with the framework of the 2013 American Institute of Certified Public Accountants Technical Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation,* to estimate the fair value of its common stock. The methodologies included an option pricing method and a probability-weighted expected return methodology that determined an estimated value under an IPO scenario and a sale scenario based upon an assessment of the probability of occurrence of each scenario. Each valuation methodology includes estimates and assumptions that require the Company's judgment. These estimates include assumptions regarding future performance, including the successful completion of pre-clinical studies and clinical trials and the time to complete an IPO or sale. Significant changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

Cash and cash equivalents:

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents.

Concentration of credit risk:

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents. The Company maintains its cash and cash equivalent balances in the form of business checking accounts and money market accounts, the balances of which, at times, may exceed federally insured limits. Exposure to credit risk is reduced by placing such deposits with major financial institutions and monitoring their credit ratings.

Fair value of financial instruments:

FASB ASC 820 — *Fair Value Measurements and Disclosures,* defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. FASB ASC 820 requires disclosures about the fair value of all financial instruments, whether or not recognized, for financial statement purposes. The estimates presented in these financial statements are not necessarily indicative of the amounts that could be realized on disposition of the financial instruments.

FASB ASC 820 specifies a hierarchy of valuation techniques based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement).

The three levels of the fair value hierarchy are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 1 primarily consists of financial instruments whose value is based on quoted market prices such as exchange-traded instruments and listed equities.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

- Level 2 — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly (e.g. quoted prices of similar assets or liabilities in active markets, or quoted prices for identical or similar assets or liabilities in markets that are not active). Level 2 includes financial instruments that are valued using models or other valuation methodologies. These models consider various assumptions, including volatility factors, current market prices and contractual prices for the underlying financial instruments. Substantially all of these assumptions are observable in the marketplace, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

- Level 3 — Unobservable inputs for the asset or liability. Financial instruments are considered Level 3 when their fair values are determined using pricing models, discounted cash flows or similar techniques and at least one significant model assumption or input is unobservable.

The carrying amounts reported in the balance sheets for cash and cash equivalents, prepaid expenses and accrued expenses and other liabilities approximate their fair value based on the short-term maturity of these instruments.

Research and development costs:

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company's research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company. Costs for certain development activities, such as clinical trials are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expenses.

Income taxes:

The Company utilizes the liability method of accounting for income taxes as required by FASB ASC Topic 740 *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax reporting bases of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Uncertain tax positions are evaluated in accordance with this topic and if appropriate, the amount of unrecognized tax benefits are recorded within deferred tax assets. Deferred tax assets are evaluated for realization based on a more-likely-than-not criterion in determining if a valuation allowance should be provided. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

ASC Topic 740 also clarifies the accounting for uncertainty in income taxes recognized in the financial statements. The interpretation prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. ASC Topic 740 provides guidance on the recognition of interest and penalties related to income

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

taxes. There were no interest or penalties related to income taxes for the nine months ended September 30, 2013 or for the period from August 29, 2008 (date of incorporation) to September 30, 2013. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2009 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Stock-based compensation:

The Company recognizes compensation cost relating to share-based payment transactions in its operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation — Stock Compensation*. ASC-718 requires all share based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity-Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share-based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

Foreign currency transactions:

The Company's functional currency is the US dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in US dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share:

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Recent accounting pronouncements:

In December 2011, the FASB issued ASU 2011-12 *"Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05".* This update stated that the specific requirement to present items that are reclassified from other comprehensive income (loss) to net income (loss) alongside their respective components of net income (loss) and other comprehensive income (loss) will be deferred. In February 2013, the FASB issued ASU 2013-02 *"Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*". This update requires companies to present the effects on the line items of net income (loss) of significant reclassifications out of accumulated other comprehensive income(loss) if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income (loss) in the same reporting period. ASU 2013-02 is effective prospectively for the Company for fiscal years, and interim periods within those years, beginning after December 15, 2013. The Company does not expect its adoption to have a material impact on its financial statements.

NOTE 3 — ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following:

	December 31 2012	September 30, 2013
Accrued research and development costs	$ 37,930	$ 211,696
Accrued professional fees	13,441	41,865
Accrued consulting costs	2,945	10,557
Accrued expenses due to related parties	33,803	34,793
Other	14,943	2,478
	$ 103,062	$ 301,389

NOTE 4 — NET LOSS PER SHARE OF COMMON STOCK

Diluted loss per share is the same as basic loss per share for all periods presented as the effects of potentially dilutive items were anti-dilutive given the Company's net loss. Basic loss per share is computed by dividing net loss by the weighted-average number of common shares outstanding.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 4 — NET LOSS PER SHARE OF COMMON STOCK (CONTINUED)

The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Nine Months Ended September 30,		August 29, 2008 (date of incorporation) through September 30, 2013
	2012	2013	
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Weighted average shares of common stock outstanding	4,604,496	5,173,890	3,751,425
Net loss per share of common stock — basic and diluted	$ (0.18)	$ (0.10)	$ (1.94)

Stock options to purchase 1,112,500 shares of the Company's common stock (see Note 6) outstanding at September 30, 2012 and 2013 have been excluded from the computation of diluted weighted average shares outstanding, as they would have been antidilutive:

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation dated as of September 1, 2008, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the lead compound known as SOK-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. The Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. An initial license fee of $500,000 was paid in 2008 and expensed as part of research and development expense. Through the date of the below mentioned amendment, the Company was required to make certain payments up to $47,500,000 upon achievement of certain development and commercial milestones.

Under the License Agreement, the Company has to have the first patient enrolled in either a Phase IIa study or a Phase IIb study in MDD with a product containing MIN-117 by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestones by one year increments by making an extension payment in connection with each one year extension. If the Company fails to achieve this development milestone by April 2015, as may be extended, the licensor may elect to terminate the License Agreement. In January 2014, the Company renegotiated the structure of the license such that the Company will be required to make certain milestone payments upon achievement of one development milestone and certain commercial milestones up to $47,500,000. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 6 — STOCKHOLDERS' DEFICIT

Common Stock

The Company is authorized to issue up to 22,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From August 29, 2008 (date of incorporation) through September 30, 2013, the Company sold 5,100,000 shares of common stock for net proceeds of $6,911,723 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase of up to 17,400,000 shares depending on the success of clinical milestones.

Common Stock Issuances

On March 30, 2012, the Company issued 1,112,500 shares of its common stock in exchange for a non-recourse note payable of $1,479,736 (or approximately $1.33 per share, the "Original Price"). The note payable is due in a single installment in April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the promissory note in connection with the Company repurchasing common stock from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company through April 30, 2015, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through September 30, 2013, neither the put or call options were exercised.

In accordance with ASC 718-10-25, the purchase of stock in exchange for a nonrecourse loan effectively is the same as granting a stock option. If the value of the underlying shares falls below the loan amount, the stock holder will relinquish the stock in lieu of repaying the loan and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option.

In February 2012, the Company sold 113,520 shares of common stock to a consultant at $0.0001 par value for an aggregate purchase price of $11.35. The Company has recognized the fair value of the shares less the par value as an administrative expense on the date of sale. Such expense amounted to $53,343 for the nine months ended September 30, 2012 and the period from August 29, 2008 (date of incorporation) to September 30, 2013.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 7 — INCOME TAXES

There was no income tax provision for income taxes for the nine months ended September 30, 2013 and 2012 or for any period since incorporation due to losses.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical taxable losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets.

As of December 31, 2012, the Company has approximately $4,700,000 of federal and New Jersey net operating losses that will begin to expire in 2027 and in 2014, respectively. As of December 31, 2012, the Company had approximately $4,000 of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2012 or will occur upon consummation of the transactions set forth in Note 9. Such a change of ownership could limit the utilization of the net operating losses, and could be triggered by subsequent sales of securities by the Company or its stockholders.

NOTE 8 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the nine months ended September 30, 2012 and 2013 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, these reimbursements were $9,914, $726 and $156,759, respectively.

An investor provides accounting and other services to the Company for $60,000 per year. For the nine months ended September 30, 2012 and 2013 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, the total expense recognized in operating results in connection with services provided was $45,000, $45,000 and $300,000, respectively.

During the nine months ended September 30, 2012 and 2013, the Company retained the services of certain consultants who were also stockholders of the Company (see Note 6). The total expense recognized by the Company in connection with these consulting services was $24,750, $31,935 and $74,294 for the nine months ended September 30, 2013 and 2012 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, respectively.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 8 — RELATED PARTY TRANSACTIONS (CONTINUED)

Accrued expenses due to related parties listed in Note 3 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates.

NOTE 9 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through February 14, 2014, the date which the financial statements were available for issuance.

Bridge Loan

On November 6, 2013, the Company issued convertible promissory notes for approximately $700,000 to stockholders of the Company, which mature on June 30, 2014 and are payable on demand on such date. The notes have a stated interest rate of 8% per annum.

If the Company sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the qualified financing, as defined, and the convertible notes have not been paid in full, then the outstanding principal balance of the convertible notes and accrued interest thereon shall convert into the Qualified Stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of Qualified Stock multiplied by 80%. For financial reporting purposes, the conversion feature will be bifurcated from the note payable and separately valued. A qualified financing shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5,000,000, which sale or sales shall take place on or before the maturity date; provided, however, that an Initial Public Offering ("IPO") shall not be deemed a qualified financing. If an IPO should occur, then the convertible note plus accrued interest automatically converts at the price per share issued in the IPO. Subsequent to April 30, 2014, Investors may elect to convert the convertible notes and accrued interest into common stock of the Company at a conversion price of $1 per share common share.

Merger

On November 12, 2013, the Company was merged into Cyrenaic with Cyrenaic being the survivor company. Each share of Sonkei common stock was automatically converted into the right to receive 1.340778 shares of Cyrenaic common stock or 8,481,788 shares in total. Cyrenaic then changed its name to Minerva Neurosciences, Inc.

Independent Auditor's Report

To the Board of Directors of
Mind-NRG SA

We have audited the accompanying financial statements of Mind-NRG SA (a development stage company), which comprise the balance sheets as of December 31, 2013 and 2012, and the related statements of operations, of stockholder's (deficit)/equity and of cash flows for the years then ended and, cumulatively, for the period from August 20, 2010 (date of inception) to December 31, 2013.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Mind-NRG SA (a development stage company) at December 31, 2013 and 2012, and the results of its operations and its cash flows for the years then ended, and cumulatively, for the period from August 20, 2010 (date of inception) to December 31, 2013 in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note B to the financial statements, the Company has had no revenues and has incurred net losses from operations since its inception. These conditions raise substantial doubt about

its ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. Our opinion is not modified with respect to this matter.

PricewaterhouseCoopers SA

Luc Schulthess Leilani Hunt

Geneva, Switzerland
26 March 2014

Mind-NRG SA
(A development stage enterprise)
BALANCE SHEETS

	31 DECEMBER 2012 €	31 DECEMBER 2013 €
Cash	47,469	1,234,946
Prepaid expenses and other current assets	6,977	17,270
Total current assets	**54,446**	**1,252,216**
Total Assets	**54,446**	**1,252,216**
Accounts payable	150,665	231,855
Accrued expenses	—	33,016
Total current liabilities	**150,665**	**264,871**
Total Liabilities	**150,665**	**264,871**
Commitment and contingencies (Note G)		
Common Stock, CHF 1 par value, 800 shares authorized, issued and outstanding at 31 December 2012 and 31 December 2013	592	592
Non-voting Shares, CHF 1 par value, 112,119 shares and 224,546 shares authorized at 31 December 2012 and 31 December 2013, respectively; 106,515 shares and 151,662 shares and outstanding at 31 December 2012 and 31 December 2013, respectively	81,006	117,102
Series A Convertible Preferred Shares, CHF 1 par value, 170,500 shares and 197,696 shares authorized, issued and outstanding at 31 December 2012 and 31 December 2013, respectively	129,690	151,540
Series B Convertible Preferred Shares, CHF 1 par value, nil shares and 43,648 shares authorized, issued and outstanding at 31 December 2012 and 31 December 2013, respectively	—	35,072
Additional paid-in capital	1,895,730	4,139,550
Deficit accumulated during the development stage	(2,203,236)	(3,456,511)
Total Stockholders, (Deficit)/Equity	**(96,219)**	**987,346**
Total Liabilities and Stockholders,(Deficit)/Equity	**54,446**	**1,252,216**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF OPERATIONS

	YEAR ENDED DECEMBER 31, 2012 €	YEAR ENDED DECEMBER 31, 2013 €	CUMULATIVE PERIOD FROM 20 AUGUST 2010 (DATE OF INCEPTION) TO 31 DECEMBER 2013 €
Research and development	494,244	916,958	2,897,692
General and administrative	124,815	360,868	643,191
Total operating expenses	**619,059**	**1,277,825**	**3,540,883**
Loss from operations	619,059	1,277,825	3,540,882
Interest income	(158)	(313)	(1,005)
Exchange gains, net	(508)	(24,237)	(83,366)
Net loss	**618,393**	**1,253,275**	**3,456,511**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF STOCKHOLDERS' (DEFICIT)/EQUITY

	Common Stock		Non-voting Shares		Series A Convertible Preferred Shares		Series B Convertible Preferred Shares		Additional Paid in Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of August 20, 2010	**—**	**€ —**	**—**	**€ —**	**—**	**€ —**	**—**	**€ —**	**€ —**	**€ —**	**€ —**
Net loss	—	€ —	—	€ —	—	€ —	—	€ —	€ —	(722,584)	€ (722,584)
Other comprehensive income/(loss)	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ —	€ —
Comprehensive loss	**—**	**€ —**		**€ —**		**€ —**	**—**	**€ —**	**€ —**	**(722,584)**	**€ (722,584)**
Issue of Common Stock in August 2010 for €0.74 per share	800	€ 592	—	€ —	—	€ —	—	€ —	€ —	€ —	€ 592
Issue of Non-Voting Shares in August 2010 for €0.74 per share	—	€ —	60,000	€44,396	—	€ —	—	€ —	€ —	€ —	€ 44,396
Issue of Series A Preferred Shares in August 2010 for €11.71 per share	—	€ —	—	€ —	99'200	€73,401	—	€ —	€1,089,176	€ —	€1,162,577
Issuance cost	—	€ —	—	€ —	—	€ —	—	€ —	€ (8,004)	€ —	€ (8,004)
Balance at December 31, 2010	**800**	**€ 592**	**60,000**	**€44,396**	**99,200**	**€73,401**	**—**	**€ —**	**€1,081,172**	**€ (722,584)**	**€ 476,977**

	Common Stock		Non-voting Shares		Series A Convertible Preferred Shares		Series B Convertible Preferred Shares		Additional Paid in Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of January 1, 2011	**800**	**€ 592**	**60,000**	**€44,396**	**99,200**	**€ 73,401**	**—**	**€ —**	**€1,081,172**	**€ (722,584)**	**€ 476,977**
Net loss	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ (862,259)	€ (862,259)
Other comprehensive income/(loss)	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ —	€ —
	800	**€ 592**	**60,000**	**€44'396**	**99,200**	**€ 73,401**	**—**	**€ —**	**€1,081,172**	**€ (1,584,843)**	**€ (385,282)**
Issue of Non-Voting Shares in April 2011 for €0.76 per share	—	€ —	25,129	€19,217	—	€ —	—	€ —	€ —	€ —	€ 19,217
Issue of Series A Preferred Shares in April 2011 for €12.11 per share	—	€ —	—	€ —	41,000	€ 31,355	—	€ —	€ 464,990	€ —	€ 496,345
Issuance cost	—	€ —	—	€ —	—	€ —	—	€ —	€ (11,125)	€ —	€ (11,125)
Balance at December 31, 2011	**800**	**€ 592**	**85,129**	**€63,613**	**140,200**	**€104,756**	**—**	**€ —**	**€1,535,038**	**€ (1,584,843)**	**€ 119,155**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF STOCKHOLDERS' (DEFICIT)/EQUITY (Continued)

	Common Stock		Non-voting Shares		Series A Convertible Preferred Shares		Series B Convertible Preferred Shares		Additional Paid in Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of January 1, 2012	**800**	**€ 592**	**85,129**	**€63,613**	**140,200**	**€104,756**	**—**	**€ —**	**€1,535,038**	**€(1,584,843)**	**€ 119,155**
Net loss	—	€ —	—	€ —	—	€ —	—	€ —	€ —	(618,393)	€(618,393)
Other comprehensive income/(loss)	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ —	€ —
	800	**€ 592**	**85,129**	**€63,613**	**140,200**	**€104,756**	**—**	**€ —**	**€1,535,038**	**€(2,203,236)**	**€(499,238)**
Issue of Non-Voting Shares in June 2012 for €0.82 per share	—	€ —	18,570	€15,309	—	€ —	—	€ —	€ —	€ —	€ 15,309
Issue of Series A Preferred Shares in March 2012 for €13.03 per share	—	€ —	—	€ —	30,300	€ 24,934	—	€ —	€ 369,770	€ —	€ 394,705
Exercise of stock options in December 2012 for €0.74 per share	—	€ —	2,816	€ 2,084	—	€ —	—	€ —	€ —	€ —	€ 2,084
Issuance cost	—	€ —	—	€ —	—	€ —	—	€ —	€ (9,078)	€ —	€ (9,078)
Balance at December 31, 2012	**800**	**€ 592**	**106,515**	**€81,006**	**170,500**	**€129,690**	**—**	**€ —**	**€1,895,730**	**€(2,203,236)**	**€ (96,219)**

	Common Stock		Non-voting Shares		Series A Convertible Preferred Shares		Series B Convertible Preferred Shares		Additional Paid in Capital	Deficit Accumulated During the Development Stage	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of January 1, 2013	**800**	**€ 592**	**106,515**	**€ 81,006**	**170,500**	**€129,690**	**—**	**€ —**	**€1,895,730**	**€(2,203,236)**	**€ (96,219)**
Net loss	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ (1,253,275)	€(1,253,275)
Other comprehensive income/(loss)	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ —	€ —
	800	**€ 592**	**106,515**	**€ 81,006**	**170,500**	**€129,690**	**—**	**€ —**	**€1,895,730**	**€(3,456,511)**	**€(1,349,493)**
Issue of Series A Preferred Shares in March 2013 for €12.72 per share	—	€ —	—	€ —	27,196	€ 21,850	—	€ —	€ 324,049	€ —	€ 345,899
Issue of Series B Preferred Shares in August 2013 for €45.29 per share	—	€ —	—	€ —	—	€ —	43,648	€35,072	€1,941,595	€ —	€ 1,976,667
Issue of Non-Voting Shares in September 2013 for €0.80 per share	—	€ —	16,668	€ 13,327	—	€ —	—	€ —	€ —	€ —	€ 13,327

Issue of Non-Voting Shares in October 2013 for €0.80 per share	—	€ —	28,479	€ 22,769	—	€ —	—	€ —	— €	—	€ —	22,769
Issuance cost	—	€ —	—	€ —	—	€ —	—	€ —	— €	(21,824)	€ —	(21,824)
Balance at December 31, 2013	**800**	**€ 592**	**151,662**	**€117,102**	**197,696**	**€151,540**	**43,648**	**€35,072**	**€4,139,550**	**(3,456,511)**	**€ 987,346**	

The accompanying notes are an integral part of this statement.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF CASH FLOWS

	YEAR ENDED DECEMBER 31, 2012 €	YEAR ENDED DECEMBER 31, 2013 €	CUMULATIVE PERIOD FROM 20 AUGUST 2010 (DATE OF INCEPTION) TO 31 DECEMBER 2013 €
Cash flows from operating activities			
Net loss	(618,393)	(1,253,275)	(3,456,511)
Adjustments to reconcile net loss to net cash used in operating activities:			
Foreign exchange gains/losses on non-operating activities	(508)	(24,237)	(83,366)
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	93,838	(10,293)	(17,270)
Accounts payable and accrued expenses	74,927	117,201	264,870
Net cash used in operating activities	**(450,136)**	**(1,170,604)**	**(3,292,277)**
Cash flows from financing activities			
Proceeds from issuance of Common Stock	—	—	592
Proceeds from issuance of Non-Voting Shares	17,393	36,096	117,102
Proceeds from issuance of Series A Preferred Shares	394,705	345,899	2,399,526
Proceeds from issuance of Series B Preferred Shares	—	1,976,667	1,976,667
Payment of issue costs	(6,084)	(24,818)	(50,029)
Net cash generated from financing activities	**406,014**	**2,333,844**	**4,443,858**
Effect of exchange rate changes on cash	508	24,237	83,365
Net increase/(decrease) in cash	**(43,614)**	**1,187,477**	**1,234,946**
Cash at beginning of year	91,083	47,469	—
Cash at end of year	**47,469**	**1,234,946**	**1,234,946**

The accompanying notes are an integral part of this statement.

Mind-NRG SA
(A development stage enterprise)
NOTES TO FINANCIAL STATEMENTS

NOTE A — NATURE OF BUSINESS

Mind-NRG SA, ("the Company") was incorporated in the Canton of Geneva, Switzerland on August 20, 2010 ("Inception"). The Company is devoted to the development of NRG-101 in psychiatric and neurologic diseases. NRG-101 is a neurotropic factor with disease modifying potential that naturally crosses the blood — brain barrier through a receptor-mediated transport to reach its target in the brain. NRG-101 will be developed to treat disorders such as Parkinson's disease, Alzheimer's disease and schizophrenia.

Mind-NRG will initially focus on conducting in vitro and in vivo experiments to further explore the mechanism of action of the peptide and to assess the activity of NRG-101 in a variety of relevant disease models.

NOTE B — SIGNIFICANT ACCOUNTING POLICIES

A summary of the significant accounting policies consistently applied in the preparation of the accompanying financial statements follows:

1. Basis of Preparation

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (US GAAP).

2. Going Concern

The Company's financial statements have been prepared on the basis of continuity of operations, realization of assets and the satisfaction of liabilities in the ordinary course of business. The Company has no revenues and incurred net losses from operations since inception to December 31, 2013. The future viability of the Company is largely dependent on its ability to generate cash from operating activities or to raise additional capital to finance its operations. The Company's failure to raise capital as and when needed could have a negative impact on its financial condition and its ability to pursue its business strategies.

If adequate funds are not available to the Company, the Company may be required to delay, reduce or eliminate research and development programs, obtain funds through arrangements with collaborators on terms unfavorable to the Company or pursue merger or acquisition strategies.

3. Development Stage Enterprise

The Company is currently considered a development stage company as defined by US GAAP as the Company is devoting substantially all of its present efforts to developing its business. All losses accumulated since inception has been considered as part of the Company's development stage activities. As a development stage enterprise, the Company discloses the deficit accumulated during the development stage and the cumulative statements of operations and cash flows from inception to the current balance sheet date. An entity remains in the development stage until such time as, among other factors, revenues have been realized.

4. Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with a maturity of three months or less to be cash equivalents.

5. Start-Up Costs

Costs of start-up activities, including organizational costs, are expensed as incurred.

NOTE B — SIGNIFICANT ACCOUNTING POLICIES (Continued)

6. Research and Development Expenses

Research and development expenses include, but not limited to, consultant expenses, expenses incurred under agreements with clinical research organization and manufacturing organization to conduct pre-clinical and/or clinical studies and expenses incurred to manufacture pre-clinical and/or clinical trial materials. Costs related to research, design and development of products are charged to research and development expenses as incurred.

7. Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Deferred tax assets are assessed as to whether it is more likely than not that some portion or all of the deferred tax assets will be realized.

We establish reserves for tax uncertainties that reflect the use of the comprehensive model for the recognition and measurement of uncertain tax positions. Under the comprehensive model, when the minimum threshold for recognition is not met, a tax position is recorded as the largest amount that is more than fifty percent likely of being realized upon ultimate settlement.

8. Use of Estimates

In preparing financial statements in conformity with accounting principles generally accepted in the United States, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

9. Fair Value of Financial Instruments

Carrying amounts of the Company's financial instruments, including cash, other current assets and accounts payable, approximate their fair values due to their short maturities.

10. Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist of cash. The Company's cash is maintained in Euro and Swiss Francs with one major bank in Switzerland that management believes is creditworthy.

11. Foreign Currency Translation

The functional currency of the Company is the Euro. Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the statements of operations.

12. Stock-based compensation

The Company accounts for employee and non-employee stock awards under *ASC 718*, *"Compensation — Stock Compensation"*, whereby equity instruments issued to employees for services are recorded based on the fair value of the instrument issued and those issued to non-employees are recorded based on the fair

NOTE B — SIGNIFICANT ACCOUNTING POLICIES (Continued)

value of the consideration received or the fair value of the equity instrument, whichever is more reliably measurable.

13. Derivatives

Accounting guidance for derivative instruments establishes accounting and reporting standards requiring that derivative instruments be recorded at fair value and included in the balance sheet as assets or liabilities. The accounting for changes in the fair value of a derivative instrument depends on the intended use of the derivative and the resulting designation, which is established at the inception of a derivative.

Rights that are deemed to be embedded with the issued shares are assessed in accordance with the *ASC 815, "Derivatives and Hedging"* guidance to determine whether they should be bifurcated from the initial shares issued. Features that do not meet the definition of a derivative or do meet the definition of a derivative but qualifies for an exemption from derivatives accounting (because they are clearly and closely related to the economic characteristics and risks of the host contract or because the host contract is re-measured to at fair value or because a separate freestanding instrument with the same terms would not be a derivative instrument), are not separated and do not receive separate accounting.

14. Comprehensive income/(loss)

Comprehensive income (loss) generally represents all changes in stockholders' equity (deficit) except those resulting from investments from and distribution to stockholders. There are no differences between comprehensive loss and the net loss reported in the Company's statements of operations.

NOTE C — FAIR VALUE MEASUREMENT

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. A fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last is considered unobservable, is used to measure fair value:

Level 1 — Inputs are unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2 — Inputs include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates, yield curves, etc.), and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).

Level 3 — Unobservable inputs that reflect our assumptions about the assumptions that market participants would use in pricing the asset or liability.

The Company had no financial instruments that are fair valued on a recurring basis in the balance sheets as of December 31, 2013 and December 31, 2012. The carrying values of accounts payable approximate their fair value due to the short-term nature of these liabilities.

NOTE D — STOCKHOLDERS' (DEFICIT)/EQUITY

The Company's capital structure consists of Common Stock, Non-Voting Shares, Series A Preferred Shares and Series B Preferred Shares.

Non-Voting Shares have all corporate rights associated with Common Stock with the exception of voting rights. No dividend is paid to Common Stock and Non-Voting Share holders unless such dividend is also paid in to the Series A and Series B Preferred Shares holders. On incorporation of the Company in August 2010, the Non-Voting shareholder was granted anti-dilution rights. These rights entitle the shareholder to subscribe in future equity issuances until the Company has raised € 12,000,000 in total financing in order for the shareholder to maintain a target holding percentage of the total equity of the Company. Anti-dilution rights exercised entitle the holder to purchase an equal number of Non-Voting Shares at the price of CHF 1 per share. The Non-Voting Shares anti-dilution rights were issued in conjunction with the Non-Voting Shares and were deemed not to be legally detachable in accordance with the *ASC 480, "Distinguishing Liabilities from Equity"* guidance. As the economic characteristics and risks of these warrants were clearly and closely related to those of the Non-Voting Shares issued, they were not separated from them and the full sales proceeds were allocated to the Non-Voting Shares. As of December 31, 2013 and December 31, 2012, a total of 88,846 and 43,699 of Non-Voting Shares Anti-dilution rights were exercised, respectively.

Series B and Series A Convertible Preferred Shares have dividends and liquidations preferences. The holder of each Series A Convertible Preferred Share and each Series B Convertible Preferred Share has the option to convert each share into fully paid Common Stock at the conversion ratio of 1 to 1 (adjusted for any stock splits, stock combinations and the like). The Series B Convertible Preferred Shares and the Series A Convertible Preferred Shares shall automatically be converted into Common Stock upon a decision of holders of more than 50% of the Series B Convertible Preferred Shares and the Series A Convertible Preferred Shares. The Series A Convertible Preferred Shares and the Series B Convertible Preferred Shares are not redeemable. No dividends will be paid to any shareholders unless such dividend is also paid to the Series A and Series B Convertible Preferred Shareholders. In July 2013, the holders of the Series B Convertible Preferred Shares were granted anti-dilution adjustments in the event the Company issues future Preferred Shares at a subscription price below CHF 56.36 per share. The rights entitle the Series B Convertible Preferred Shares holders to subscribe to a proportion of the newly issued shares at nominal value corresponding to the respective dilution impact. The anti-dilution adjustments were issued in conjunction with the related equity securities and were deemed not to be legally detachable in accordance with the *ASC 480, "Distinguishing Liabilities from Equity"* guidance. As the economic characteristics and risks of these rights are clearly and closely related to those of the Series B Convertible Preferred Shares issued, they were not separated from them and the full sales proceeds were allocated to the Series B Convertible Preferred Shares. As of December 31, 2013 and December 31, 2012, none of these Preemptive Rights were exercised.

No dividends will be declared on any shares other than in the event of a Deemed Liquidation unless decided otherwise by the General Meeting.

In the event of any liquidation, dissolution, winding up, bankruptcy, change of control and merge or consolidation, the Series B Convertible Preferred Shares and the Series A Convertible Preferred Shares are entitled to preference over Common Stock and Non-Voting Shares with respect to the distribution of the proceeds.

NOTE D — STOCKHOLDERS' (DEFICIT)/EQUITY (Continued)

On incorporation of the Company in August 2010, holders of Common Stock, Non-Voting Shares and the Series A Convertible Preferred shares were granted Preemptive Rights in order to maintain their respective shareholding in the Company. The Preemptive Rights entitle the holders to subscribe to a proportion of the newly issues that corresponds to its existing shareholding. The Preemptive Rights were issued in conjunction with the related equity securities and were deemed not to be legally detachable in accordance with the *ASC 480*, *"Distinguishing Liabilities from Equity"* guidance. As the economic characteristics and risks of these rights are clearly and closely related to those of the equity securities issued, they were not separated from them and the full sales proceeds were allocated to the respective equity securities. As of December 31, 2013 and December 31, 2012, none of these Preemptive Rights were exercised.

Non-Voting Shares

In September 2013, the Company issued 16,668 Non-Voting Shares of CHF 1 par value for € 0.80 per share resulting from exercising Non-Voting Stock Anti-dilution rights.

In October 2013, the Company issued 28,479 Non-Voting Shares of CHF 1 par value for € 0.80 per share resulting from exercising Non-Voting Stock Anti-dilution rights.

Series A Convertible Preferred Shares

In March 2013, the Company issued 27,196 Series A Convertible Preferred Shares of CHF 1 par value for € 12.72 per share.

Series B Convertible Preferred Shares

In August 2013, the Company issued 43,648 Series B Convertible Preferred Shares of CHF 1 par value for € 45.29 per share.

As part of the August 2013 equity financing round for the Series B Convertible Preferred Shares, the current shareholders of the Series A and Series B Convertible Preferred Shares agreed to two future rounds of Preferred Shares financing: the first for 76,385 shares of CHF 1 par value for an amount of CHF 56.36 per share and the second for 10,912 shares of CHF 1 par value for an amount of CHF 56.36 per share.

NOTE E — STOCK OPTION PLAN

In August 2010, the Company implemented a Stock Option Plan (the "Plan"). At December 31, 2013, the total share options approved for authorization under this plan were 75,700 (2012: 8,500 options).

In 2011, the Company granted 2,816 share options to a consultant. They were exercisable to an equivalent number of non-voting shares up to December 31, 2022. These options vest over a two year period at a rate of 25% upon the first anniversary of the vesting commencement date and the remaining 75% quarterly over the next two years. These options were exercised during the year 2012. No other stock options were granted as part of the Plan.

The Company believes that the fair value of the stock options is more reliably measurable than the fair value of the services received. The fair value of the options granted in 2011 was estimated at the grant date using the Black Scholes Model and was deemed immaterial.

NOTE F — INCOME TAXES

Since inception till December 31, 2013, the Company has been incurring a net operating loss and accordingly, no provision for income tax has been recorded.

At December 31, 2013, the Company had net operating loss carry forwards for income tax purposes of approximately € 3,672,612 (2012: € 2,385,780) for Swiss tax purposes out of which € 1,731,044 will expire in 2018, € 618,331 will expire in 2019 and € 1,323,237 will expire in 2020 (2012: € 1,747,586 will expire in 2018 and € 638,194 will expire in 2019). A full valuation allowance was established against these net operating losses due to the uncertainty of the realization of any tax benefit.

NOTE G — COMMITMENTS AND CONTINGENCIES

At December 31, 2013 and December 31, 2012, the Company had no lease obligations, commitments or contingencies except as mentioned below.

The Company has entered into a Product IP assignment agreement with one of its stockholders in September 2010. In accordance with the terms of the agreement, the Company will make milestones payments of € 500,000 upon granting of IND approval and € 750,000 upon first dosing of a patient in a Phase IIa clinical trial. The Company expects to reach IND approval during the first quarter of 2015 and expects to reach first patient in Phase II during the second quarter of 2016.

NOTE H — RELATED PARTIES

During the first quarter of 2013, the Company has entered into a consulting services agreement with an employee of an entity subject to a significant influence by one of the Company's stockholders. For the year ended December 31, 2013 and 2012 the Company paid € 72,807 and € nil in consulting services fees to this related party, respectively.

NOTE I — SUBSEQUENT EVENTS

On February 11, 2014, the Company signed an agreement with Minerva Neurosciences, Inc. according to which the outstanding shares of Mind-NRG were exchanged for 5,185,528 shares of common stock of Minerva Neurosciences Inc.

The Company has evaluated subsequent events for financial statement purposes occurring through March 26, 2014, the date that these financial statements were available to be issued, and determined that no additional subsequent events had occurred that would require recognition in these financial statements and all material subsequent events that require disclosure have been disclosed.

Table of Contents

5,454,545 Shares

Common Stock

Preliminary Prospectus

Sole Book-Running Manager

Jefferies

Co-Managers

Baird

JMP Securities

, 2014

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by the Registrant in connection with the sale and distribution of the common stock being registered. All amounts are estimates except for the SEC registration fee, the FINRA filing fee, and the NASDAQ Global Market listing fee.

SEC registration fee	$ 8,888
FINRA filing fee	10,850
NASDAQ Global Market listing fee	125,000
Legal fees and expenses	1,400,000
Accounting fees and expenses	1,000,000
Printing and engraving expenses	350,000
Transfer agent and registrar fees and expenses	2,500
Miscellaneous fees and expenses	679,762
Total	$ 3,577,000

Item 14. Indemnification of Directors and Officers

The Registrant is incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law (referred to as the "DGCL") authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended.

The certificate of incorporation of the Registrant that will be in effect at the closing of this offering provides for indemnification of the Registrant's directors, officers, authorized representatives, and other agents to the maximum extent permitted by the DGCL, and the bylaws that will be in effect at the closing of this offering provide for indemnification of the directors, officers, authorized representatives, and other agents to the maximum extent permitted by the DGCL.

In addition, the Registrant has entered into indemnification agreements with its directors and officers containing provisions which are in some respects broader than the specific indemnification provisions contained in the DGCL. The indemnification agreements require the Registrant, among other things, to indemnify its directors against certain liabilities that may arise by reason of their status or service as directors and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified.

The Registrant maintains insurance policies that indemnify its directors and officers against various liabilities arising under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, and amended, that might be incurred by any director or officer in his capacity as such.

The underwriters are obligated, under certain circumstances, pursuant to the underwriting agreement to be filed as Exhibit 1.1 hereto, to indemnify the Registrant, its officers, and directors against liabilities under the Securities Act of 1933, as amended.

Item 15. Recent Sales of Unregistered Securities

Since January 1, 2011, we issued the following unregistered securities, after giving effect to the 1-for-3.5 reverse stock split of our common stock effected on June 9, 2014:

Common Stock Issuances

Since January 1, 2011, we sold an aggregate of 900,000 shares of common stock to six accredited investors at a purchase price of $3.50 per share for total proceeds of $3,150,000.

In February and April 2012, we issued in exchange for services an aggregate of 105,311 shares of common stock to one of our consultants for an aggregate purchase price of $36.85.

In April 2012, we issued 821,429 shares of common stock to an accredited investor in exchange for a note payable of approximately $3.1 million (or approximately $3.71 per share). In December 2013, we issued 27,925 shares of common stock to the same investor in exchange for a note payable of $97,737 (or approximately $3.50 per share).

In December 2013, we issued in exchange for services 24,516 shares of common stock to one of our consultants for an aggregate purchase price of $8.58.

Sonkei Securities Issuances

Common Stock Issuances

In March 2012, Sonkei Pharmaceuticals, Inc. issued 317,857 shares of common stock to an accredited investor in exchange for a note payable of €1,112,500 (or approximately €3.52 per share).

In January 2012, Sonkei Pharmaceuticals, Inc. issued in exchange for services 32,434 shares of common stock to a consultant for an aggregate purchase price at par value of $11.35.

Convertible Debt

During November 2013, Sonkei Pharmaceuticals, Inc. issued convertible promissory notes with a stated interest rate of 8% per annum for an aggregate amount of approximately €518,519 to five accredited investors.

Option Issuances

Since January 1, 2011, we granted to our directors, officers and a consultant options to purchase an aggregate of 646,759 shares of our common stock under our equity compensation plans at an exercise price of $9.49 per share.

Convertible Debt

During November 2013, we issued convertible promissory notes with a stated interest rate of 8% per annum for approximately $1.3 million in aggregate to six accredited investors.

Warrants

During 2011 and 2012, we issued warrants to purchase 50,000 shares of our common stock to an accredited investor at an exercise price of $3.71 per share.

Shares Issued in Connection with Acquisitions

Since January 1, 2011, we issued an aggregate of 3,478,775 shares of our common stock in connection with our acquisitions of certain companies or their assets.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. We believe the offers, sales and issuances of the above securities were exempt from registration under the Securities Act by virtue of Section 4(2) or Regulation S of the Securities Act because the issuance of securities to the recipients did not involve a public offering, or in reliance on Rule 701 because the transactions were pursuant to compensatory benefit plans or contracts relating to compensation as provided under such rule. The recipients of the securities in each of these transactions represented their

intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us. The sales of these securities were made without any general solicitation or advertising.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

Exhibit No.	Description of Exhibit
1.1	Form of Underwriting Agreement
3.1	Amended and Restated Certificate of Incorporation of the Registrant
3.2	Amended and Restated Bylaws of the Registrant
3.3	Certificate of Merger Merging Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
4.1	Form of Common Stock Certificate
4.2	Investor Rights Agreement among the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. and certain of its security holders, dated as of August 29, 2007
4.3	Amendment No. 1 to Investor Rights Agreement among the Registrant and certain of its security holders, dated as of December 20, 2013
4.4	Promissory Note between Wint2felden Holding SA and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of March 30, 2012
4.5	Promissory Note between Wint2felden Holding SA and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of April 26, 2012
4.6	Promissory Note between Wint2felden Holding SA and the Registrant, dated as of December 20, 2013
4.7^	Convertible Promissory Note between Index Ventures III (Delaware), L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.8^	Convertible Promissory Note between Care Capital Offshore Investments III LP. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.9^	Convertible Promissory Note between Index Ventures III (Jersey), L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.10^	Convertible Promissory Note between Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P. and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.11^	Convertible Promissory Note between Index Ventures IV (Jersey), L.P. and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.12^	Convertible Promissory Note between Care Capital Offshore Investments III LP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.13^	Convertible Promissory Note between Care Capital Investments III LP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013

Exhibit No.	Description of Exhibit
4.14^	Convertible Promissory Note between Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P. and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.15^	Convertible Promissory Note between Yucca (Jersey) SLP and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.16^	Convertible Promissory Note between Yucca (Jersey) SLP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.17^	Convertible Promissory Note between Care Capital Investments III LP and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. dated as of November 6, 2013
4.18^	Registration Rights Agreement between the Registrant and Johnson & Johnson Development Corporation dated as of February 13, 2014
5.1	Opinion of Morgan, Lewis & Bockius LLP
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers
10.2#	License Agreement between Mitsubishi Pharma Corporation and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of August 30, 2007
10.3#	Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of June 16, 2011
10.4#	Second Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant, dated as of January 20, 2014
10.5#	License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of September 1, 2008
10.6#	Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant, dated as of January 20, 2014
10.7#	Co-Development and License Agreement between Janssen Pharmaceutica, N.V. and the Registrant, dated as of February 13, 2014
10.8†	Employment Agreement between Rogerio Vivaldi Coelho and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of October 4, 2013, and amendment thereto dated as of December 30, 2013
10.9†	Employment Agreement between Joseph Reilly and the Registrant, dated as of December 23, 2013
10.10†	Letter Agreement between Marc D. Beer and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of October 16, 2013
10.11^	Agreement and Plan of Merger of Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
10.12^	Assignment Agreement between ProteoSys AG, Mind-NRG SA and Pentavest S.à.r.l. dated as of September 6, 2010
10.13^	Share Purchase Agreement between the Registrant, Mind-NRG SA and Various Shareholders dated as of February 11, 2014

Exhibit No.	Description of Exhibit
10.14^	Common Stock Purchase Agreement between Johnson & Johnson Development Corporation and the Registrant, dated as of February 13, 2014
10.15†^	Consulting Agreement between Remy Luthringer and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of January 11, 2011
10.16†^	Amendment No. 1 to the Consulting Agreement between Remy Luthringer and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of September 1, 2011
10.17†^	Consulting Agreement between Geoff Race and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of September 1, 2011
10.18†^	Consulting Agreement between Geoff Race and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of October 1, 2011
10.19^	Stock Purchase Agreement between Care Capital Investments III LP, Index Ventures III L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of August 29, 2007
10.20^	Amendment No. 1 to Stock Purchase Agreement between Registrant, and various stockholders dated as of March 28, 2014
10.21^	Stock Repurchase Agreement between Wint2felden Holding SA and the Registrant, dated as of March 31, 2014
10.22†^	Employment Agreement between Remy Luthringer and Mind-NRG SA, the Registrant's subsidiary, dated as of April 8, 2014
10.23†^	Employment Agreement between Geoff Race and Mind-NRG SA, the Registrant's subsidiary, dated as of April 8, 2014
10.24	Amended and Restated 2013 Equity Incentive Plan of the Registrant
10.25^	Letter Agreement with Jan van Heek and the Registrant, dated as of December 11, 2013
10.26	Loan Agreement by and among certain stockholders and their affiliates and the Registrant, dated as of April 30, 2014.
10.27	Loan Agreement by and among certain stockholders and their affiliates and the Registrant, dated as of May 23, 2014.
21.1	List of subsidiaries
23.1	Consent of Morgan, Lewis & Bockius LLP (included in Exhibit 5.1)
23.2	Consent of Deloitte & Touche LLP, independent registered public accounting firm
23.3	Consent of Deloitte & Touche LLP, independent auditors
23.4	Consent of PricewaterhouseCoopers SA, independent auditors
24.1^	Power of Attorney
99.1^	Consent of Director Nominee

Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment.

† Indicates a management contract or compensatory plan

^ Previously filed

(b) Financial Statement Schedules

Schedules have been omitted because the information required to be set forth therein is not applicable or is included in the financial statements or related notes.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, State of Massachusetts, on June 10, 2014.

MINERVA NEUROSCIENCES, INC.

By: /s/ ROGERIO VIVALDI COELHO

Rogerio Vivaldi Coelho
President, Chief Executive Officer and Director

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ ROGERIO VIVALDI COELHO Rogerio Vivaldi Coelho	President, Chief Executive Officer and Director (Principal Executive Officer)	June 10, 2014
* Geoff Race	Chief Financial Officer, Treasurer (Principal Financial and Accounting Officer)	June 10, 2014
* Marc Beer	Director	June 10, 2014
* Francesco de Rubertis	Director	June 10, 2014
* Michèle Ollier	Director	June 10, 2014
* Lorenzo Pellegrini	Director	June 10, 2014

*By: /s/ ROGERIO VIVALDI COELHO

Rogerio Vivaldi Coelho
Attorney-in-Fact

Table of Contents

EXHIBIT INDEX

Exhibit No.	Description of Exhibit
1.1	Form of Underwriting Agreement
3.1	Amended and Restated Certificate of Incorporation of the Registrant
3.2	Amended and Restated Bylaws of the Registrant
3.3	Certificate of Merger Merging Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
4.1	Form of Common Stock Certificate
4.2	Investor Rights Agreement among the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. and certain of its security holders, dated as of August 29, 2007
4.3	Amendment No. 1 to Investor Rights Agreement among the Registrant and certain of its security holders, dated as of December 20, 2013
4.4	Promissory Note between Wint2felden Holding SA and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of March 30, 2012
4.5	Promissory Note between Wint2felden Holding SA and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of April 26, 2012
4.6	Promissory Note between Wint2felden Holding SA and the Registrant, dated as of December 20, 2013
4.7^	Convertible Promissory Note between Index Ventures III (Delaware), L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.8^	Convertible Promissory Note between Care Capital Offshore Investments III LP. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.9^	Convertible Promissory Note between Index Ventures III (Jersey), L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.10^	Convertible Promissory Note between Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P. and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.11^	Convertible Promissory Note between Index Ventures IV (Jersey), L.P. and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.12^	Convertible Promissory Note between Care Capital Offshore Investments III LP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.13^	Convertible Promissory Note between Care Capital Investments III LP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.14^	Convertible Promissory Note between Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P. and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013
4.15^	Convertible Promissory Note between Yucca (Jersey) SLP and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of November 6, 2013
4.16^	Convertible Promissory Note between Yucca (Jersey) SLP and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of November 6, 2013

Exhibit No.	Description of Exhibit
4.17^	Convertible Promissory Note between Care Capital Investments III LP and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. dated as of November 6, 2013
4.18^	Registration Rights Agreement between the Registrant and Johnson & Johnson Development Corporation dated as of February 13, 2014
5.1	Opinion of Morgan, Lewis & Bockius LLP
10.1	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers
10.2#	License Agreement between Mitsubishi Pharma Corporation and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of August 30, 2007
10.3#	Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of June 16, 2011
10.4#	Second Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant, dated as of January 20, 2014
10.5#	License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of September 1, 2008
10.6#	Amendment to License Agreement between Mitsubishi Tanabe Pharma Corporation and the Registrant, dated as of January 20, 2014
10.7#	Co-Development and License Agreement between Janssen Pharmaceutica, N.V. and the Registrant, dated as of February 13, 2014
10.8†	Employment Agreement between Rogerio Vivaldi Coelho and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of October 4, 2013, and amendment thereto dated as of December 30, 2013
10.9†	Employment Agreement between Joseph Reilly and the Registrant, dated as of December 23, 2013
10.10†	Letter Agreement between Marc D. Beer and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of October 16, 2013
10.11^	Agreement and Plan of Merger of Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
10.12^	Assignment Agreement between ProteoSys AG, Mind-NRG SA and Pentavest S.à.r.l. dated as of September 6, 2010
10.13^	Share Purchase Agreement between the Registrant, Mind-NRG SA and Various Shareholders dated as of February 11, 2014
10.14^	Common Stock Purchase Agreement between Johnson & Johnson Development Corporation and the Registrant, dated as of February 13, 2014
10.15†^	Consulting Agreement between Remy Luthringer and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of January 11, 2011
10.16†^	Amendment No. 1 to the Consulting Agreement between Remy Luthringer and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of September 1, 2011
10.17†^	Consulting Agreement between Geoff Race and the Registrant, f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of September 1, 2011
10.18†^	Consulting Agreement between Geoff Race and the Registrant as successor in interest to Sonkei Pharmaceuticals, Inc., dated as of October 1, 2011

Exhibit No.	Description of Exhibit
10.19^	Stock Purchase Agreement between Care Capital Investments III LP, Index Ventures III L.P. and the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc., dated as of August 29, 2007
10.20^	Amendment No. 1 to Stock Purchase Agreement between Care Capital Investments III LP, Index Ventures III L.P. and the Registrant and various Shareholders, dated as of March 28, 2014
10.21^	Stock Repurchase Agreement between Wint2felden Holding SA and the Registrant, dated as of March 31, 2014
10.22†^	Employment Agreement between Remy Luthringer and Mind-NRG SA, the Registrant's subsidiary, dated as of April 8, 2014
10.23†^	Employment Agreement between Geoff Race and Mind-NRG SA, the Registrant's subsidiary, dated as of April 8, 2014
10.24	Amended and Restated 2013 Equity Incentive Plan of the Registrant
10.25^	Letter Agreement between Jan van Heek and the Registrant, dated as of December 11, 2013
10.26	Loan Agreement by and among certain stockholders and their affiliates and the Registrant, dated as of April 30, 2014.
10.27	Loan Agreement by and among certain stockholders and their affiliates and the Registrant, dated as of May 23, 2014.
21.1	List of subsidiaries
23.1	Consent of Morgan, Lewis & Bockius LLP (included in Exhibit 5.1)
23.2	Consent of Deloitte & Touche LLP, independent registered public accounting firm
23.3	Consent of Deloitte & Touche LLP, independent auditors
23.4	Consent of PricewaterhouseCoopers SA, independent auditors
24.1^	Power of Attorney
99.1^	Consent of Director Nominee

Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment.

† Indicates a management contract or compensatory plan

^ Previously filed

Exhibit 1.1

[•] Shares

Minerva Neurosciences, Inc.

UNDERWRITING AGREEMENT

[•], 2014

JEFFERIES LLC
As Representative of the several Underwriters
520 Madison Avenue
New York, New York 10022

Ladies and Gentlemen:

Introductory. Minerva Neurosciences, Inc., a Delaware corporation (the "**Company**"), proposes to issue and sell to the several underwriters named in Schedule A (the "**Underwriters**") an aggregate of [•] shares of its common stock, par value $0.0001 per share (the "**Shares**"). The [•] Shares to be sold by the Company are called the "**Firm Shares**." In addition, the Company has granted to the Underwriters an option to purchase up to an additional [•] Shares as provided in Section 2. The additional [•] Shares to be sold by the Company pursuant to such option are collectively called the "**Optional Shares**." The Firm Shares and, if and to the extent such option is exercised, the Optional Shares are collectively called the "**Offered Shares**." Jefferies LLC ("**Jefferies**") has agreed to act as representative of the several Underwriters (in such capacity, the "**Representative**") in connection with the offering and sale of the Offered Shares.

The Company has prepared and filed with the Securities and Exchange Commission (the "**Commission**") a registration statement on Form S-1, File No. 333-195169 which contains a form of prospectus to be used in connection with the public offering and sale of the Offered Shares. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, in the form in which it became effective under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the "**Securities Act**"), including any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A under the Securities Act, is called the "**Registration Statement**." Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Shares is called the "**Rule 462(b) Registration Statement**," and from and after the date and time of filing of any such Rule 462(b) Registration Statement the term "Registration Statement" shall include the Rule 462(b) Registration Statement. The prospectus, in the form first used by the Underwriters to confirm sales of the Offered Shares or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act, is called the "**Prospectus**." The preliminary prospectus dated [•], 2014 describing the Offered Shares and the offering thereof is called the "**Preliminary Prospectus**," and the Preliminary Prospectus and any other prospectus in preliminary form that describes the Offered Shares and the offering thereof and is used prior to the filing of the Prospectus is called a "**preliminary prospectus**." As used herein, "**Applicable Time**" is [•][a.m.][p.m.] (New York City time) on [•], 2014. As used herein, "**free writing prospectus**" has the meaning set forth in Rule 405 under the Securities Act, and "**Time of Sale Prospectus**" means the Preliminary Prospectus together with the free writing prospectuses, if any, identified in Schedule B hereto and the pricing information set forth

on Schedule B hereto. As used herein, **"Road Show"** means a "road show" (as defined in Rule 433 under the Securities Act) relating to the offering of the Offered Shares contemplated hereby that is a "written communication" (as defined in Rule 405 under the Securities Act). As used herein, "**Section 5(d) Written Communication**" means each written communication (within the meaning of Rule 405 under the Securities Act) that is made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company to one or more potential investors that are qualified institutional buyers ("**QIBs**") and/or institutions that are accredited investors ("**IAIs**"), as such terms are respectively defined in Rule 144A and Rule 501(a) under the Securities Act, to determine whether such investors might have an interest in the offering of the Offered Shares; "**Section 5(d) Oral Communication**" means each oral communication, if any, made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company made to one or more QIBs and/or one or more IAIs to determine whether such investors might have an interest in the offering of the Offered Shares; "**Marketing Materials**" means any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Offered Shares, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically); and "**Permitted Section 5(d) Communication**" means the Section 5(d) Written Communication(s) and Marketing Materials listed on Schedule C attached hereto.

All references in this Agreement to (i) the Registration Statement, any preliminary prospectus (including the Preliminary Prospectus), or the Prospectus, or any amendments or supplements to any of the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System ("**EDGAR**") and (ii) the Prospectus shall be deemed to include any "electronic Prospectus" provided for use in connection with the offering of the Offered Shares as contemplated by Section 3(n) of this Agreement.

The Company hereby confirms its agreements with the Underwriters as follows:

Section 1. Representations and Warranties of the Company. The Company hereby represents, warrants and covenants to each Underwriter, as of the date of this Agreement, as of the First Closing Date (as hereinafter defined) and as of each Option Closing Date (as hereinafter defined), if any, as follows:

(a) ***Compliance with Registration Requirements.*** The Registration Statement has become effective under the Securities Act. The Company has complied, to the Commission's satisfaction with all requests of the Commission for additional or supplemental information, if any. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are contemplated or threatened by the Commission.

(b) ***Disclosure.*** Each preliminary prospectus and the Prospectus when filed complied in all material respects with the Securities Act and, if filed by electronic transmission pursuant to EDGAR, was identical (except as may be permitted by Regulation S-T under the Securities Act) to the copy thereof delivered to the Underwriters for use in connection with the offer and sale of the Offered Shares. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, the Time of Sale Prospectus (including any preliminary prospectus wrapper) did not, and at the First Closing Date (as defined in Section 2) and at each applicable Option Closing Date (as

defined in Section 2), will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus (including any Prospectus wrapper), as of its date, did not, and at the First Closing Date and at each applicable Option Closing Date, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus or the Time of Sale Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with written information relating to any Underwriter furnished to the Company in writing by the Representative expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 9(b) below. There are no contracts or other documents required to be described in the Time of Sale Prospectus or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been described or filed as required.

(c) ***Free Writing Prospectuses; Road Show.*** As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an "ineligible issuer" in connection with the offering of the Offered Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act, including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Shares did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, the Prospectus or any preliminary prospectus and not superseded or modified. Except for the free writing prospectuses, if any, identified in Schedule B, and electronic road shows, if any, furnished to you before first use, the Company has not prepared, used or referred to, and will not, without your prior written consent, prepare, use or refer to, any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(d) ***Distribution of Offering Material By the Company.*** Prior to the later of (i) the expiration or termination of the option granted to the several Underwriters in Section 2, (ii) the completion of the Underwriters' distribution of the Offered Shares and (iii) the expiration of 25 days after the date of the Prospectus, the Company has not distributed and will not distribute any offering material in connection with the offering and sale of the Offered Shares other than the Registration Statement, the Time of Sale Prospectus, the Prospectus or any free writing prospectus reviewed and consented to by the Representative, the free writing prospectuses, if any, identified on Schedule B hereto and any Permitted Section 5(d) Communications.

(e) ***The Underwriting Agreement.*** This Agreement has been duly authorized, executed and delivered by the Company.

(f) ***Authorization of the Offered Shares.*** The Offered Shares have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be validly issued, fully paid and nonassessable, and the issuance and sale of the Offered Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Offered Shares.

(g) ***No Applicable Registration or Other Similar Rights.*** There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement, except for such rights as have been duly waived.

(h) ***No Material Adverse Change.*** Except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, subsequent to the respective dates as of which information is given in the Registration Statement, the Time of Sale Prospectus and the Prospectus: (i) there has been no material adverse change, or any development that could reasonably be expected to result in a material adverse change, in the condition, financial or otherwise, or in the earnings, business, properties, operations, assets, liabilities or prospects, whether or not arising from transactions in the ordinary course of business, of the Company and its subsidiary, considered as one entity (any such change being referred to herein as a "**Material Adverse Change**"); (ii) the Company and its subsidiary, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiary, considered as one entity, or has entered into any transactions not in the ordinary course of business; and (iii) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its subsidiary and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company, by the Company's subsidiary on any class of capital stock, or any repurchase or redemption by the Company or its subsidiary of any class of capital stock.

(i) ***Independent Accountants.*** Deloitte & Touche LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) of the Company and Sonkei Pharmaceuticals, Inc. ("**Sonkei**") filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Securities Act and the rules of the Public Company Accounting Oversight Board ("**PCAOB**"), (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn. PricewaterhouseCoopers LLP, which has expressed its opinion with respect to the financial statements of Mind-NRG S.A. ("**Mind NRG**") filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Securities Act and the rules of PCAOB, (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(j) ***Financial Statements.*** The consolidated financial statements of the Company filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly, in all material respects, the consolidated financial position of the Company and its subsidiary as of the dates indicated and the results of their operations, changes in stockholders' equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. The financial statements of Sonkei filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly, in all material respects, the financial position of Sonkei as of the dates indicated and the results of its operations, changes in stockholders' equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. The financial statements of Mind NRG filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly, in all material respects, the financial position of Mind NRG as of the dates indicated and the results of its operations, changes in stockholders' equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. The financial data set forth in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus under the captions ["Prospectus Summary—Summary Historical Financial Data," "Selected Historical Financial Data" and "Capitalization"] fairly present, in all material respects, the information set forth therein on a basis consistent with that of the audited financial statements contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The pro forma consolidated financial statements of the Company and its subsidiary and the related notes thereto included under the caption ["Unaudited Pro Forma Condensed Combined Financial Statements"] and elsewhere in the Registration Statement, the Time of Sale Prospectus or the Prospectus present fairly, in all material respects, the information contained therein, have been prepared in accordance with the Commission's rules and guidelines with respect to pro forma financial statements and have been properly presented on the bases described therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. No other financial statements or supporting schedules are required to be included in the Registration Statement, the Time of Sale Prospectus or the Prospectus. All disclosures contained in the Registration Statement, any preliminary prospectus or the Prospectus and any free writing prospectus, that constitute non-GAAP financial measures (as defined by the rules and regulations under the Securities Act and the Exchange Act of 1934, as amended (the "**Exchange Act**")) comply with Regulation G under the Exchange Act and Item 10 of Regulation S-K under the Securities Act, as applicable. To the Company's knowledge, no person who has been suspended or barred from being associated with a registered public accounting firm, or who has failed to comply with any sanction pursuant to Rule 5300 promulgated by the PCAOB, has participated in or otherwise aided the preparation of, or audited, the financial statements, supporting schedules or other financial data filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) ***Company's Accounting System.*** The Company and its subsidiary make and keep accurate books and records and maintain a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles as applied in the United States and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general

or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(l) ***Disclosure Controls and Procedures; Deficiencies in or Changes to Internal Control Over Financial Reporting.*** The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-15 and 15d-15 under the Exchange Act), which (i) are designed to ensure that material information relating to the Company, including its consolidated subsidiary, is made known to the Company's principal executive officer and its principal financial officer by others within those entities; and (ii) are effective in all material respects to perform the functions for which they were established. Since the end of the Company's most recent audited fiscal year, there have been no significant deficiencies or material weakness in the Company's internal control over financial reporting (whether or not remediated) and no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company is not aware of any change in its internal control over financial reporting that has occurred during its most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(m) ***Incorporation and Good Standing of the Company.*** The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation and has the corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus and to enter into and perform its obligations under this Agreement. The Company is duly qualified as a foreign corporation to transact business and is in good standing in the State of New Jersey and the Commonwealth of Massachusetts and each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or to be in good standing could not reasonably be expected, individually or in the aggregate, to have a material adverse effect on the condition (financial or otherwise), earnings, business, properties, operations, assets, liabilities or prospects of the Company and its subsidiary, considered as one entity (a "**Material Adverse Effect**").

(n) ***Subsidiary.*** The Company's **"**subsidiary**"** (for purposes of this Agreement, as defined in Rule 405 under the Securities Act) has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation and has the power and authority (corporate or other) to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The Company's subsidiary is duly qualified as a foreign corporation to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or be in good standing could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. All of the issued and outstanding capital stock or other equity or ownership interests of the Company's subsidiary have been duly authorized and validly issued, are fully paid and nonassessable and are owned by the Company free and clear of any security interest, mortgage, pledge, lien, encumbrance or adverse claim. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiary listed in Exhibit 21 to the Registration Statement.

(o) ***Capitalization and Other Capital Stock Matters.*** The authorized, issued and outstanding capital stock of the Company is as set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption "Capitalization" (other than for subsequent issuances, if any, pursuant to

employee benefit plans, or upon the exercise of outstanding options or warrants, in each case as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus). The Shares (including the Offered Shares) conform in all material respects to the description thereof contained in the Time of Sale Prospectus. All of the issued and outstanding Shares have been duly authorized and validly issued, are fully paid and nonassessable and have been issued in compliance with all federal and state securities laws. None of the outstanding Shares was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or its subsidiary other than those described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The descriptions of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus accurately and fairly presents, in all material respects, the information required to be shown with respect to such plans, arrangements, options and rights.

(p) ***Stock Exchange Listing*****.** The Offered Shares have been approved for listing on The NASDAQ Global Market (the "***NASDAQ***"), subject only to official notice of issuance.

(q) ***Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required*****.** Neither the Company nor its subsidiary is in violation of its charter or by-laws, or is in default (or, with the giving of notice or lapse of time, would be in default) ("**Default**") under any indenture, loan, credit agreement, note, lease, license agreement, contract, franchise or other instrument (including, without limitation, any pledge agreement, security agreement, mortgage or other instrument or agreement evidencing, guaranteeing, securing or relating to indebtedness) to which the Company or its subsidiary is a party or by which it or its subsidiary may be bound, or to which any of their respective properties or assets are subject (each, an "**Existing Instrument**"), except for such Defaults as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. The Company's execution, delivery and performance of this Agreement, consummation of the transactions contemplated hereby and by the Registration Statement, the Time of Sale Prospectus and the Prospectus and the issuance and sale of the Offered Shares (including the use of proceeds from the sale of the Offered Shares as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption "Use of Proceeds") (i) have been duly authorized by all necessary corporate action and will not result in any violation of the provisions of the charter or by-laws of the Company or its subsidiary (ii) will not conflict with or constitute a breach of, or Default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or its subsidiary pursuant to, or require the consent of any other party to, any Existing Instrument, except for such conflicts, breaches, Defaults or Debt Repayment Triggering Events or liens, charges or encumbrances that could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect and (iii) will not result in any violation of any law, administrative regulation or administrative or court decree applicable to the Company or its subsidiary except for such violations as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. No consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency, is required for the Company's execution, delivery and performance of this Agreement and consummation of the transactions contemplated hereby and by the Registration Statement, the Time of Sale Prospectus and the Prospectus, except such as have been obtained or made by the Company and are in full force and effect under the Securities Act and such as may be required under applicable state securities or blue sky laws or the Financial Industry Regulatory Authority, Inc. ("**FINRA**"). As used herein, a "**Debt Repayment Triggering Event**" means any event or

condition which gives, or with the giving of notice or lapse of time would give, the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or its subsidiary.

(r) ***Compliance with Laws.*** The Company and its subsidiary have been and are in compliance with all applicable laws, rules and regulations, except where failure to be so in compliance could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(s) ***No Material Actions or Proceedings.*** There is no action, suit, proceeding, inquiry or investigation brought by or before any governmental entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or its subsidiary, which could reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect or materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or its subsidiary is a party or of which any of their respective properties or assets is the subject, including ordinary routine litigation incidental to the business, if determined adversely to the Company, could not reasonably be expected to have a Material Adverse Effect. No material labor dispute with the employees of the Company or its subsidiary or with the employees of any principal supplier, manufacturer, customer or contractor of the Company, exists or, to the knowledge of the Company, is threatened or imminent.

(t) ***Intellectual Property Rights.*** The Company and its subsidiary own, or have obtained valid and enforceable licenses for, the material inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property (collectively "Intellectual Property") that is disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus ("Company Intellectual Property"). To the Company's knowledge: (i) there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights of third-party licensors with respect to Company Intellectual Property that is disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus as licensed to the Company or its subsidiary, that is necessary to conduct the business as currently conducted or as currently proposed to be conducted in the future by the Company and its subsidiary as described in the Registration Statement, the Time of Sale Prospectus or the Prospectus; and (ii), except as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, there is no infringement by third parties of any Company Intellectual Property. Except as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others, except for proceedings before the U.S. Patent and Trademark Office or a foreign government intellectual property office: (A) challenging the Company's rights in or to any Company Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any granted and enforceable Company Intellectual Property, and the Company is currently unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim that, if asserted on the date hereof, could reasonably be expected to succeed; or (C) asserting that the Company or its subsidiary infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development, infringe or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others, and the Company is currently unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim that, if asserted on the date hereof, could reasonably be expected to

succeed. Except as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiary have complied with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company or its subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the Time of Sale Prospectus and the Prospectus as under development by the Company or its subsidiary fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or its subsidiary.

(u) ***All Necessary Permits, etc.*** The Company and its subsidiary possess such valid and current certificates, authorizations or permits required by state, federal or foreign regulatory agencies or bodies to conduct their respective businesses as currently conducted and as described in the Registration Statement, the Time of Sale Prospectus or the Prospectus ("Permits"), except where the failure to so possess could not reasonably be expected to, individually or in the aggregate, result in a Material Adverse Effect. Except as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, neither the Company nor its subsidiary is in violation of, or in default under, any of the Permits or has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such certificate, authorization or permit.

(v) ***Title to Properties.*** The Company does not own any real property. The Company and its subsidiary have good and marketable title to all personal property and other assets reflected as owned in the financial statements referred to in Section 1(j) above (or elsewhere in the Registration Statement, the Time of Sale Prospectus or the Prospectus), in each case free and clear of any security interests, mortgages, liens, encumbrances, equities, adverse claims and other defects. The real property, improvements, equipment and personal property held under lease by the Company or its subsidiary are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property, improvements, equipment or personal property by the Company or its subsidiary.

(w) ***Tax Law Compliance.*** The Company and its subsidiary have filed all necessary federal, state and foreign income and franchise tax returns or have properly requested extensions thereof and have paid all taxes required to be paid by any of them and, if due and payable, any related or similar assessment, fine or penalty levied against any of them except as may be being contested in good faith and by appropriate proceedings. The Company has made adequate charges, accruals and reserves in the applicable financial statements referred to in Section 1(j) above in respect of all federal, state and foreign income and franchise taxes for all periods as to which the tax liability of the Company or its subsidiary has not been finally determined, except to the extent of any inadequacy that could not reasonably be expected to result in a Material Adverse Effect.

(x) ***Insurance.*** Each of the Company and its subsidiary are insured by recognized, financially sound and reputable institutions with policies in such amounts and with such deductibles and covering such risks as are generally deemed adequate and customary for their businesses including, but not limited to, policies covering real and personal property owned or leased by the Company and its subsidiary against theft, damage, destruction, acts of vandalism and earthquakes and policies covering the Company and its subsidiary for product liability claims and clinical trial liability claims. The Company has no reason to believe that it or its subsidiary will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that could not reasonably be expected to

have a Material Adverse Effect. Neither the Company nor its subsidiary has been denied any insurance coverage which it has sought or for which it has applied.

(y) ***Compliance with Environmental Laws.*** Except as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect: (i) neither the Company nor its subsidiary is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, "**Hazardous Materials**") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "**Environmental Laws**"); (ii) the Company and its subsidiary have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements; (iii) there are no pending or, to the Company's knowledge, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or its subsidiary; and (iv) there are no events or circumstances existing as of the date hereof that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against or affecting the Company or its subsidiary relating to Hazardous Materials or any Environmental Laws.

(z) ***ERISA Compliance.*** The Company and its subsidiary and any "employee benefit plan" (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, "**ERISA**")) established or maintained by the Company, its subsidiary or their "ERISA Affiliates" (as defined below) are in compliance in all material respects with ERISA. "**ERISA Affiliate**" means, with respect to the Company or its subsidiary, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the "**Code**") of which the Company or its subsidiary is a member. No "reportable event" (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any "employee benefit plan" established or maintained by the Company, its subsidiary or any of their ERISA Affiliates. No "employee benefit plan" established or maintained by the Company, its subsidiary or any of their ERISA Affiliates, if such "employee benefit plan" were terminated, would have any "amount of unfunded benefit liabilities" (as defined under ERISA). Neither the Company, its subsidiary nor any of their ERISA Affiliates has incurred or reasonably expects to incur any liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "employee benefit plan" or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each employee benefit plan established or maintained by the Company, its subsidiary or any of their ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

(aa) ***Company Not an "Investment Company."*** The Company is not, and will not be, either after receipt of payment for the Offered Shares or after the application of the proceeds therefrom as described under "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus or the Prospectus, required to register as an "investment company" under the Investment Company Act of 1940, as amended (the **"Investment Company Act")**.

(bb) ***No Price Stabilization or Manipulation; Compliance with Regulation M.*** Neither the Company nor its subsidiary has taken, directly or indirectly, any action designed to or that might reasonably be expected to cause or result in stabilization or manipulation of the price of the Shares or of any "reference security" (as defined in Rule 100 of Regulation M under the Exchange Act (**"Regulation M"**)) with respect to the Shares, whether to facilitate the sale or resale of the Offered Shares or otherwise, and has taken no action which would directly or indirectly violate Regulation M.

(cc) ***Related-Party Transactions.*** There are no business relationships or related-party transactions involving the Company or its subsidiary or any other person required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus that have not been described as required.

(dd) ***FINRA Matters.*** To the Company's knowledge, all of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its counsel, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Offered Shares is true, complete, correct and compliant with FINRA's rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules or NASD Conduct Rules is true, complete and correct.

(ee) ***Parties to Lock-Up Agreements.*** The Company has furnished to the Underwriters a letter agreement in the form attached hereto as Exhibit C (the "**Lock-up Agreement**") from each of the persons listed on Exhibit D. Such Exhibit D lists under an appropriate caption the directors and officers of the Company and stockholders of the Company. If any additional persons shall become directors or officers of the Company prior to the end of the Company Lock-up Period (as defined below), the Company shall cause each such person, prior to or contemporaneously with their appointment or election as a director or officer of the Company, to execute and deliver to the Representative a Lock-up Agreement.

(ff) ***Statistical and Market-Related Data.*** All statistical, demographic and market-related data included in the Registration Statement, the Time of Sale Prospectus or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects. To the extent required, the Company has obtained the written consent to the use of such data from such sources.

(gg) ***No Unlawful Contributions or Other Payments.*** Neither the Company nor its subsidiary nor, to the Company's knowledge, after reasonable inquiry, any employee or agent of the Company or its subsidiary, has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law or of the character required to be disclosed in the Registration Statement, the Time of Sale Prospectus or the Prospectus.

(hh) ***Foreign Corrupt Practices Act.*** Neither the Company nor its subsidiary nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or its subsidiary has, in the course of its actions for, or on behalf of, the Company or its subsidiary (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made any direct or indirect unlawful payment to any domestic government official, "foreign official" (as defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (collectively, the "**FCPA**") or employee from corporate funds; (iii) violated or is in violation of any provision of the FCPA or any applicable non-U.S. anti-bribery statute or regulation; or (iv) made any unlawful bribe, rebate, payoff, influence payment,

kickback or other unlawful payment to any domestic government official, such foreign official or employee; and the Company and its subsidiary and, to the knowledge of the Company, the Company's affiliates have conducted their respective businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(ii) ***Money Laundering Laws.*** The operations of the Company and its subsidiary are, and have been conducted at all times, in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar applicable rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Money Laundering Laws**") and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or its subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, after reasonable inquiry, threatened.

(jj) ***OFAC.*** Neither the Company nor its subsidiary nor, to the knowledge of the Company, after due inquiry, any director, officer, agent, employee, affiliate or person acting on behalf of the Company or its subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("**OFAC**"); and the Company will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, or any joint venture partner or other person or entity, for the purpose of financing the activities of or business with any person, or in any country or territory, that currently is the subject to any U.S. sanctions administered by OFAC or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of U.S. sanctions administered by OFAC.

(kk) ***Brokers.*** Except pursuant to this Agreement, there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(ll) ***Forward-Looking Statements.*** Each financial or operational projection or other "forward-looking statement" (as defined by Section 27A of the Securities Act or Section 21E of the Exchange Act) contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus (i) was so included by the Company in good faith and with reasonable basis after due consideration by the Company of the underlying assumptions, estimates and other applicable facts and circumstances and (ii) is accompanied by meaningful cautionary statements identifying those factors that could cause actual results to differ materially from those in such forward-looking statement. No such statement was made with the knowledge of an executive officer or director of the Company that is was false or misleading.

(mm) ***Dividend Restrictions***. The subsidiary of the Company is not prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to the subsidiary's equity securities or from repaying to the Company any amounts that may from time to time become due under any loans or advances to the subsidiary from the Company or from transferring any property or assets to the Company.

(nn) ***No Outstanding Loans or Other Extensions of Credit***. Neither the Company nor its subsidiary has any outstanding extension of credit, in the form of a personal loan, to or for any director or

executive officer (or equivalent thereof) of the Company and/or its subsidiary except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(oo) ***Emerging Growth Company Status***. From the time of initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged in any Section 5(d) Written Communication or any Section 5(d) Oral Communication) through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the Securities Act (an "**Emerging Growth Company**").

(pp) ***Communications***. The Company (i) has not alone engaged in communications with potential investors in reliance on Section 5(d) of the Securities Act other than Permitted Section 5(d) Communications or Section 5(d) Oral Communications with the consent of the Representative with entities that are QIBs or IAIs and (ii) has not authorized anyone other than the Representative to engage in such communications; the Company reconfirms that the Representative has been authorized to act on its behalf in undertaking Marketing Materials, Section 5(d) Oral Communications and Section 5(d) Written Communications; as of the Applicable Time, each Permitted Section 5(d) Communication, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Permitted Section 5(d) Communication, if any, does not, as of the date hereof, conflict with the information contained in the Registration Statement, the Preliminary Prospectus and the Prospectus; and the Company has filed publicly on EDGAR at least 21 calendar days prior to any "road show" (as defined in Rule 433 under the Act), any confidentially submitted registration statement and registration statement amendments relating to the offer and sale of the Offered Shares.

(qq) ***Clinical Data and Regulatory Compliance.*** The preclinical tests and clinical trials, and other studies (collectively, "studies") that are described in, or the results of which are referred to in, the Registration Statement, the Time of Sale Prospectus or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its subsidiary have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the Time of Sale Prospectuses or the Prospectus; the Company and its subsidiary have made all such filings and obtained all such approvals as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the "**Regulatory Agencies**") except where the failure to make such filing or obtain such approval could not reasonably be expected to, individually or in the aggregate, result in a Material Adverse Effect; neither the Company nor its subsidiary has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or material modification of any clinical trials that are described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus; and the Company and its subsidiary have each operated and currently are in compliance in all material respects with all applicable rules, regulations and policies of the Regulatory Agencies.

(rr) ***Compliance with Health Care Laws.*** The Company and its subsidiary are, and at all times have been, in compliance with all applicable Health Care Laws, except where failure to be in compliance

would not reasonably be expected to, individually or in the aggregate, result in a Material Adverse Effect. For purposes of this Agreement, "**Health Care Laws**" means: (i) the Federal Food, Drug, and Cosmetic Act and the regulations promulgated thereunder; (ii) all applicable federal, state, local and all applicable foreign health care related fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Anti-Inducement Law (42 U.S.C. § 1320a-7a(a)(5)), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), all applicable federal, state, local and all foreign criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 ("**HIPAA**") (42 U.S.C. Section 1320d et seq.), the exclusion laws, the statutes, regulations and directives of applicable government funded or sponsored healthcare programs, and the regulations promulgated pursuant to such statutes; (iii) the Standards for Privacy of Individually Identifiable Health Information (the "**Privacy Rule**"), the Security Standards, and the Standards for Electronic Transactions and Code Sets promulgated under HIPAA, the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.), and the regulations promulgated thereunder and any state or non-U.S. counterpart thereof or other law or regulation the purpose of which is to protect the privacy of individuals or prescribers; (iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, the regulations promulgated thereunder; (v) the U.S. Controlled Substances Act (21 U.S.C. Section 801 et seq.); (vi) quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies; and (vii) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its subsidiary. Neither the Company nor its subsidiary has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Health Care Laws nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company and its subsidiary have filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). Neither the Company nor its subsidiary is a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, its subsidiary nor any of their respective employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

(ss) ***No Contract Terminations.*** Neither the Company nor its subsidiary has sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in any preliminary prospectus, the Prospectus or any free writing prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or its subsidiary or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

Any certificate signed by any officer of the Company or its subsidiary and delivered to any Underwriter or to counsel for the Underwriters in connection with the offering, or the purchase and sale, of

the Offered Shares shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

The Company has a reasonable basis for making each of the representations set forth in this Section 1. The Company acknowledges that the Underwriters and, for purposes of the opinions to be delivered pursuant to Section 6 hereof, counsel to the Company and counsel to the Underwriters, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

Section 2. Purchase, Sale and Delivery of the Offered Shares.

(a) ***The Firm Shares.*** Upon the terms herein set forth, the Company agrees to issue and sell to the several Underwriters an aggregate of [•] Firm Shares. On the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of Firm Shares set forth opposite their names on Schedule A. The purchase price per Firm Share to be paid by the several Underwriters to the Company shall be $[•] per share.

(b) ***The First Closing Date.*** Delivery of certificates for the Firm Shares to be purchased by the Underwriters and payment therefor shall be made at the offices of Cooley LLP, 4401 Eastgate Mall, San Diego, California (or such other place as may be agreed to by the Company and the Representative) at 9:00 a.m. New York City time, on [•], 2014, or such other time and date not later than 1:30 p.m. New York City time, on [•], 2014 as the Representative shall designate by notice to the Company (the time and date of such closing are called the "**First Closing Date**"). The Company hereby acknowledges that circumstances under which the Representative may provide notice to postpone the First Closing Date as originally scheduled include, but are not limited to, any determination by the Company or the Representative to recirculate to the public copies of an amended or supplemented Prospectus or a delay as contemplated by the provisions of Section 11.

(c) ***The Optional Shares; Option Closing Date.*** In addition, on the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to an aggregate of [•] Optional Shares from the Company at the purchase price per share to be paid by the Underwriters for the Firm Shares. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Representative to the Company, which notice may be given at any time within 30 days from the date of this Agreement. Such notice shall set forth (i) the aggregate number of Optional Shares as to which the Underwriters are exercising the option and (ii) the time, date and place at which certificates for the Optional Shares will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date; and in the event that such time and date are simultaneous with the First Closing Date, the term "**First Closing Date**" shall refer to the time and date of delivery of certificates for the Firm Shares and such Optional Shares). Any such time and date of delivery, if subsequent to the First Closing Date, is called an "**Option Closing Date**," shall be determined by the Representative and shall not be earlier than three or later than five full business days after delivery of such notice of exercise. If any Optional Shares are to be purchased, (a) each Underwriter agrees, severally and not jointly, to purchase the number of Optional Shares (subject to such adjustments to eliminate fractional shares as the Representative may determine) that bears the same proportion to the total number of Optional Shares to be purchased as the number of Firm Shares set forth on Schedule A opposite the name of such Underwriter bears to the total number of Firm Shares and (b) the Company agrees to sell the number of Optional Shares set forth in the paragraph

"Introductory" of this Agreement (subject to such adjustments to eliminate fractional shares as the Representative may determine). The Representative may cancel the option at any time prior to its expiration by giving written notice of such cancellation to the Company.

(d) ***Public Offering of the Offered Shares.*** The Representative hereby advises the Company that the Underwriters intend to offer for sale to the public, initially on the terms set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus, their respective portions of the Offered Shares as soon after this Agreement has been executed and the Registration Statement has been declared effective as the Representative, in its sole judgment, has determined is advisable and practicable.

(e) ***Payment for the Offered Shares.*** (i) Payment for the Offered Shares to be sold by the Company shall be made at the First Closing Date (and, if applicable, at each Option Closing Date) by wire transfer of immediately available funds to the order of the Company.

(ii) It is understood that the Representative has been authorized, for its own account and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price for, the Firm Shares and any Optional Shares the Underwriters have agreed to purchase. Jefferies, individually and not as the Representative of the Underwriters, may (but shall not be obligated to) make payment for any Offered Shares to be purchased by any Underwriter whose funds shall not have been received by the Representative by the First Closing Date or the applicable Option Closing Date, as the case may be, for the account of such Underwriter, but any such payment shall not relieve such Underwriter from any of its obligations under this Agreement.

(f) ***Delivery of the Offered Shares.*** The Company shall deliver, or cause to be delivered to the Representative for the accounts of the several Underwriters certificates for the Firm Shares to be sold by them at the First Closing Date, against the release of a wire transfer of immediately available funds for the amount of the purchase price therefor. If the Representative so elects, delivery of the Offered Shares may be made by credit to the accounts designated by the Representative through The Depository Trust Company's full fast transfer or DWAC programs. If the Representative so elects, the certificates for the Offered Shares shall be in definitive form and registered in such names and denominations as the Representative shall have requested at least two full business days prior to the First Closing Date (or the applicable Option Closing Date, as the case may be) and shall be made available for inspection on the business day preceding the First Closing Date (or the applicable Option Closing Date, as the case may be) at a location in New York City as the Representative may designate. Time shall be of the essence, and delivery at the time and place specified in this Agreement is a further condition to the obligations of the Underwriters.

Section 3. Additional Covenants of the Company. The Company further covenants and agrees with each Underwriter as follows:

(a) ***Delivery of Registration Statement, Time of Sale Prospectus and Prospectus.*** The Company shall furnish to you in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Shares, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as you may reasonably request.

(b) ***Representative's Review of Proposed Amendments and Supplements.*** During the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), the Company (i) will furnish to the Representative for review, a reasonable period of time prior to the proposed time of filing of any proposed amendment or supplement to the Registration Statement, a copy of each such amendment or supplement and (ii) will not amend or supplement the Registration Statement without the Representative's prior written consent, which will not be unreasonably withheld, conditioned or delayed. Prior to amending or supplementing any preliminary prospectus, the Time of Sale Prospectus or the Prospectus, the Company shall furnish to the Representative for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Representative's prior written consent, which will not be unreasonably withheld, conditioned or delayed. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(c) ***Free Writing Prospectuses.*** The Company shall furnish to the Representative for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Representative's prior written consent, which will not be unreasonably withheld, conditioned or delayed. The Company shall furnish to each Underwriter, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company as such Underwriter may reasonably request. If at any time when a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Shares (but in any event if at any time through and including the First Closing Date) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict or so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Representative for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Representative's prior written consent, which will not be unreasonably withheld, conditioned or delayed.

(d) ***Filing of Underwriter Free Writing Prospectuses.*** The Company shall not take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder.

(e) ***Amendments and Supplements to Time of Sale Prospectus.*** If the Time of Sale Prospectus is being used to solicit offers to buy the Offered Shares at a time when the Prospectus is not yet

available to prospective purchasers, and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus so that the Time of Sale Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, the Company shall (subject to Section 3(b) and Section 3(c) hereof) promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the information contained in the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(f) ***Certain Notifications and Required Actions.*** After the date of this Agreement, the Company shall promptly advise the Representative in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus; (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or of any order preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its best efforts to obtain the lifting of such order at the earliest possible moment. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430A under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

(g) ***Amendments and Supplements to the Prospectus and Other Securities Act Matters.*** If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Representative or counsel for the Underwriters it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, the Company agrees (subject to Section 3(b) and Section 3(c)) to promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is

delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law. Neither the Representative's consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 3(b) or Section 3(c).

(h) ***Blue Sky Compliance.*** The Company shall cooperate with the Representative and counsel for the Underwriters to qualify or register the Offered Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws (or other foreign laws) of those jurisdictions designated by the Representative, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Offered Shares. The Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Representative promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Offered Shares for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof at the earliest possible moment.

(i) ***Use of Proceeds.*** The Company shall apply the net proceeds from the sale of the Offered Shares sold by it substantially in the manner described under the caption "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(j) ***Transfer Agent.*** The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares.

(k) ***Earning Statement.*** The Company will make generally available to its security holders and to the Representative as soon as practicable an earning statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder.

(l) ***Continued Compliance with Securities Laws.*** The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Offered Shares as contemplated by this Agreement**,** the Registration Statement, the Time of Sale Prospectus and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), file on a timely basis with the Commission and the NASDAQ all reports and documents required to be filed under the Exchange Act. Additionally, the Company shall report the use of proceeds from the issuance of the Offered Shares as may be required under Rule 463 under the Securities Act.

(m) ***Listing.*** The Company will use its best efforts to list, subject to notice of issuance, the Offered Shares on the NASDAQ.

(n) ***Company to Provide Copy of the Prospectus in Form That May be Downloaded from the Internet.*** The Company shall cause to be prepared and delivered, at its expense, within one business

day from the effective date of this Agreement, to the Representative an "**electronic Prospectus**" to be used by the Underwriters in connection with the offering and sale of the Offered Shares. As used herein, the term "**electronic Prospectus**" means a form of Time of Sale Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, satisfactory to the Representative, that may be transmitted electronically by the Representative and the other Underwriters to offerees and purchasers of the Offered Shares; (ii) it shall disclose the same information as the paper Time of Sale Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, satisfactory to the Representative, that will allow investors to store and have continuously ready access to the Time of Sale Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Time of Sale Prospectus.

(o) ***Agreement Not to Offer or Sell Additional Shares.*** During the period commencing on and including the date hereof and continuing through and including the 180th day following the date of the Prospectus (such period being referred to herein as the "**Lock-up Period**"), the Company will not, without the prior written consent of the Representative (which consent may be withheld in its sole discretion), directly or indirectly: (i) sell, offer to sell, contract to sell or lend any Shares or Related Securities (as defined below); (ii) effect any short sale, or establish or increase any "put equivalent position" (as defined in Rule 16a-1(h) under the Exchange Act) or liquidate or decrease any "call equivalent position" (as defined in Rule 16a-1(b) under the Exchange Act) of any Shares or Related Securities; (iii) pledge, hypothecate or grant any security interest in any Shares or Related Securities; (iv) in any other way transfer or dispose of any Shares or Related Securities; (v) enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of any Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise; (vi) announce the offering of any Shares or Related Securities; (vii) file any registration statement under the Securities Act in respect of any Shares or Related Securities (other than as contemplated by this Agreement with respect to the Offered Shares or except for registration statements on Form S-8 with respect to any and all Shares or Related Securities to be issued pursuant to any employee benefit or compensation plans described in the Prospectus); or (viii) publicly announce the intention to do any of the foregoing; *provided, however*, that the Company may (A) effect the transactions contemplated hereby; (B) issue Shares or options to purchase Shares, or issue Shares upon exercise of options, pursuant to any stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, the Time of Sale Prospectus and the Prospectus; and (C) issue Shares or Related Securities in connection with a licensing arrangement, joint venture, acquisition or business combination or other collaboration or strategic transaction (including the filing of a registration statement on Form S-4 or other appropriate form with respect thereto); *provided that*, in the case of clauses (B) and (C) recipients of such Shares or Related Shares agree in writing with the Underwriters not to sell, offer, dispose of or otherwise transfer any such Shares or options during such Lock-up Period without the prior written consent of the Representative (which consent may be withheld in its sole discretion), and, in the case of clause (C), the sum of the aggregate number of Shares or Related Securities so issued shall not exceed 5% of the total outstanding Shares. For purposes of the foregoing, "**Related Securities**" shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible

into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for, or convertible into, Shares.

(p) ***Future Reports to the Representative.*** During the period of five years hereafter, the Company will furnish to Jefferies, at 520 Madison Avenue, New York, New York 10022, Attention: Global Head of Syndicate: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders' equity and cash flows for the year then ended and the opinion thereon of the Company's independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission, FINRA or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; *provided, however,* that the requirements of this Section 3(p) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

(q) ***Investment Limitation.*** The Company shall not invest or otherwise use the proceeds received by the Company from its sale of the Offered Shares in such a manner as would require the Company or its subsidiary to register as an investment company under the Investment Company Act.

(r) ***No Stabilization or Manipulation; Compliance with Regulation M.*** The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, any action designed to or that might cause or result in stabilization or manipulation of the price of the Shares or any reference security with respect to the Shares, whether to facilitate the sale or resale of the Offered Shares or otherwise, and the Company will, and shall cause each of its affiliates to, comply with all applicable provisions of Regulation M.

(s) ***Enforce Lock-Up Agreements.*** During the Lock-up Period, the Company will enforce all agreements between the Company and any of its security holders that restrict or prohibit, expressly or in operation, the offer, sale or transfer of Shares or Related Securities or any of the other actions restricted or prohibited under the terms of the form of Lock-up Agreement. In addition, the Company will direct the transfer agent to place stop transfer restrictions upon any such securities of the Company that are bound by such "lock-up" agreements for the duration of the periods contemplated in such agreements, including, without limitation, "lock-up" agreements entered into by the Company's officers, directors and stockholders pursuant to Section 6(i) hereof.

(t) ***Company to Provide Interim Financial Statements.*** Prior to the First Closing Date and each applicable Option Closing Date, the Company will furnish the Underwriters, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement and the Prospectus.

(u) ***Amendments and Supplements to Permitted Section 5(d) Communications***. If at any time following the distribution of any Permitted Section 5(d) Communication, there occurred or occurs an event or development as a result of which such Permitted Section 5(d) Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representative and will promptly amend or supplement,

at its own expense, such Permitted Section 5(d) Communication to eliminate or correct such untrue statement or omission.

(v) ***Emerging Growth Company Status***. The Company will promptly notify the Representative if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) the time when a prospectus relating to the Offered Shares is not required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) and (ii) the expiration of the Lock-Up Period (as defined herein).

(w) ***Announcement Regarding Lock-ups.*** The Company agrees to announce the Representative's intention to release any director or "officer" (within the meaning of Rule 16a-1(f) under the Exchange Act) of the Company from any of the restrictions imposed by any Lock-Up Agreement, by issuing, through a major news service, a press release in form and substance satisfactory to the Representative or, if consented to by the Representative, in a registration statement that is publicly filed in connection with a secondary offering of the Company's shares promptly following the Company's receipt of any notification from the Representative in which such intention is indicated, but in any case not later than the close of the third business day prior to the date on which such release or waiver is to become effective; *provided*, *however*, that nothing shall prevent the Representative, on behalf of the Underwriters, from announcing the same through a major news service, irrespective of whether the Company has made the required announcement; and *provided, further,* that no such announcement shall be made of any release or waiver granted solely to permit a transfer of securities that is not for consideration and where the transferee has agreed in writing to be bound by the terms of a Lock-Up Agreement in the form set forth as Exhibit C hereto.

Section 4. Payment of Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Offered Shares (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Shares, (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Offered Shares to the Underwriters, (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Time of Sale Prospectus, the Prospectus, each free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and each preliminary prospectus, each Permitted Section 5(d) Communication, and all amendments and supplements thereto, and this Agreement, (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Underwriters in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Representative, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper", and any supplements thereto, advising the Underwriters of such qualifications, registrations and exemptions in an amount not to exceed [$15,000], (vii) the costs, fees and expenses incurred by the Underwriters in connection with determining their compliance with the rules and regulations of FINRA related to the Underwriters' participation in the offering and distribution of the Offered Shares, including any related filing fees and the legal fees of, and disbursements by, counsel to the Underwriters in an amount not to exceed [$20,000] (excluding filing fees), (viii) the costs and expenses of the Company relating to investor presentations on any "road show", any Permitted Section 5(d) Communication or any Section 5(d) Oral Communication undertaken in

connection with the offering of the Offered Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives, employees and officers of the Company and any such consultants, and the cost of any aircraft chartered in connection with the road show, *provided, however*, that the Underwriters and the Company agree that the Underwriters will be responsible for the payment of the Underwriters' food and lodging expenses and fifty percent (50%) of the cost of aircraft and other transportation chartered in connection with the road show, (ix) the fees and expenses associated with listing the Offered Shares on the NASDAQ, and (x) all other fees, costs and expenses of the nature referred to in Item 13 of Part II of the Registration Statement. Except as provided in this Section 4 or in Section 7, Section 9 or Section 10 hereof, the Underwriters shall pay their own expenses, including the fees and disbursements of their counsel.

Section 5. Covenant of the Underwriters. Each Underwriter severally and not jointly covenants with the Company not to take any action that would result in the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not, but for such actions, be required to be filed by the Company under Rule 433(d).

Section 6. Conditions of the Obligations of the Underwriters. The respective obligations of the several Underwriters hereunder to purchase and pay for the Offered Shares as provided herein on the First Closing Date and, with respect to the Optional Shares, each Option Closing Date, shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 1 hereof as of the date hereof and as of the First Closing Date as though then made and, with respect to the Optional Shares, as of each Option Closing Date as though then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following additional conditions:

(a) ***Comfort Letters.*** On the date hereof, the Representative shall have received (i) from Deloitte & Touche LLP, independent registered public accounting firm for the Company and Sonkei, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representative, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited financial statements of the Company and Sonkei, the pro forma financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any; and (ii) from PricewaterhouseCoopers LLP, independent registered public accounting firm for Mind-NRG, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representative, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited financial statements of Mind-NRG and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any.

(b) ***Compliance with Registration Requirements; No Stop Order; No Objection from FINRA.*** For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Shares purchased after the First Closing Date, each Option Closing Date:

(i) The Company shall have filed the Prospectus with the Commission (including the information required by Rule 430A under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act; or the Company shall have filed a post-effective amendment to the Registration Statement containing the information required by such Rule 430A, and such post-effective amendment shall have become effective.

(ii) No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment to the Registration Statement shall be in effect, and no proceedings for such purpose shall have been instituted or threatened by the Commission.

(iii) FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(c) ***No Material Adverse Change.*** For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Shares purchased after the First Closing Date, each Option Closing Date, in the judgment of the Representative there shall not have occurred any Material Adverse Change.

(d) ***Opinion of Counsel for the Company.*** On each of the First Closing Date and each Option Closing Date, the Representative shall have received the opinion of Morgan, Lewis & Bockius LLP, counsel for the Company, dated as of such date, in the form attached hereto as Exhibit A and to such further effect as the Representative shall reasonably request.

(e) ***Opinion of Walder Wyss***. On each of the First Closing Date and each Option Closing Date, the Representative shall have received the opinion of Walder Wyss, Swiss counsel for the Company with respect to certain matters relating to the Company's subsidiary, dated as of such date, in the form attached hereto as Exhibit B and to such further effect as the Representative shall reasonably request.

(f) ***Opinion of Counsel for the Underwriters.*** On each of the First Closing Date and each Option Closing Date, the Representative shall have received the opinion of Cooley LLP, counsel for the Underwriters in connection with the offer and sale of the Offered Shares, in form and substance satisfactory to the Representative, dated as of such date.

(g) ***Officers' Certificate.*** On each of the First Closing Date and each Option Closing Date, the Representative shall have received a certificate executed by the Chief Executive Officer or President of the Company and the Chief Financial Officer of the Company, dated as of such date, to the effect set forth in Section 6(b)(ii) and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not occurred any Material Adverse Change;

(ii) the representations, warranties and covenants of the Company set forth in Section 1 of this Agreement are true and correct with the same force and effect as though expressly made on and as of such date; and

(iii) the Company has complied with all the agreements hereunder and satisfied all the conditions on its part to be performed or satisfied hereunder at or prior to such date.

(h) ***Bring-down Comfort Letters.*** On each of the First Closing Date and each Option Closing Date, the Representative shall have received from each of Deloitte & Touche LLP and PricewaterhouseCoopers LLP, a letter dated such date, in form and substance satisfactory to the Representative, which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

(i) ***Lock-Up Agreements.*** On or prior to the date hereof, the Company shall have furnished to the Representative an agreement in the form of Exhibit C hereto from each of the persons listed on Exhibit D hereto, which includes without limitation each director, officer and each beneficial owner (as defined and determined according to Rule 13d-3 under the Exchange Act, except that a 180 day period shall be used rather than the 60 day period set forth therein) of any outstanding issued share capital of the Company, and each such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

(j) ***Rule 462(b) Registration Statement.*** In the event that a Rule 462(b) Registration Statement is filed in connection with the offering contemplated by this Agreement, such Rule 462(b) Registration Statement shall have been filed with the Commission on the date of this Agreement and shall have become effective automatically upon such filing.

(k) ***Approval of Listing***. At the First Closing Date, the Offered Shares shall have been approved for listing on the NASDAQ, subject only to official notice of issuance.

(l) ***Additional Documents***. On or before each of the First Closing Date and each Option Closing Date, the Representative and counsel for the Underwriters shall have received such information, documents and opinions as they may reasonably request for the purposes of enabling them to pass upon the issuance and sale of the Offered Shares as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Offered Shares as contemplated herein and in connection with the other transactions contemplated by this Agreement shall be satisfactory in form and substance to the Representative and counsel for the Underwriters.

If any condition specified in this Section 6 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Representative by notice from the Representative to the Company at any time on or prior to the First Closing Date and, with respect to the Optional Shares, at any time on or prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 7. Reimbursement of Underwriters' Expenses. If this Agreement is terminated by the Representative pursuant to Section 6, Section 11 or Section 12, or if the sale to the Underwriters of the Offered Shares on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Representative and the other Underwriters (or such Underwriters as have terminated this Agreement with respect to themselves), severally, upon demand for all out-of-pocket expenses that shall have been reasonably incurred by the Representative and the Underwriters in connection with the proposed purchase and the offering and sale of the Offered Shares, including, but not limited to, fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges. The Company will not pay or reimburse any costs, fees or expenses incurred by any Underwriter that defaults on its obligations to purchase the Offered Shares.

Section 8. Effectiveness of this Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

Section 9. Indemnification.

(a) ***Indemnification of the Underwriters.*** The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors, officers, employees and agents, and each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which such Underwriter or such affiliate, director, officer, employee, agent or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (A) (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any Marketing Material, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement to the foregoing), or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by any Underwriter in connection with, or relating in any manner to, the Shares or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above, or (B) the violation of any laws or regulations of foreign jurisdictions where Offered Shares have been offered or sold; and to reimburse each Underwriter and each such affiliate, director, officer, employee, agent and controlling person for any and all expenses (including the fees and disbursements of counsel) as such expenses are incurred by such Underwriter or such affiliate, director, officer, employee, agent or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; *provided, however*, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company by the Representative in writing expressly for use in the

Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any such free writing prospectus, any Marketing Material, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information consists of the information described in Section 9(b) below. The indemnity agreement set forth in this Section 9(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) ***Indemnification of the Company, its Directors and Officers***. Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, against any loss, claim, damage, liability or expense, as incurred, to which the Company, or any such director, officer, or controlling person may become subject, under the Securities Act, the Exchange Act, or other federal or state statutory law or regulation, or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus, that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433 of the Securities Act, any Section 5(d) Written Communication or the Prospectus (or any such amendment or supplement) or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, such preliminary prospectus, the Time of Sale Prospectus, such free writing prospectus, such Section 5(d) Written Communication or the Prospectus (or any such amendment or supplement), in reliance upon and in conformity with information relating to such Underwriter furnished to the Company by the Representative in writing expressly for use therein; and to reimburse the Company, or any such director, officer, or controlling person for any and all expenses (including the fees and disbursements of counsel) as such expenses are incurred by the Company, or any such director, officer, or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action. The Company hereby acknowledges that the only information that the Representative has furnished to the Company expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement to the foregoing) are the statements set forth in [the first sentence of the third paragraph, the third sentence of the fourth paragraph, the first two sentences of the first paragraph under the section entitled "Commission and Expenses," and the first sentence of the first paragraph under the section entitled "Stabilization,"] each under the caption "Underwriting" in the Preliminary Prospectus and the Prospectus. The indemnity agreement set forth in this Section 9(b) shall be in addition to any liabilities that each Underwriter may otherwise have.

(c) ***Notifications and Other Indemnification Procedures.*** Promptly after receipt by an indemnified party under this Section 9 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 9, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any

indemnified party to the extent the indemnifying party is not materially prejudiced as a proximate result of such failure and shall not in any event relieve the indemnifying party from any liability that it may have otherwise than on account of this indemnity agreement. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; *provided, however*, that if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 9 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the Representative (in the case of counsel for the indemnified parties referred to in Section 9(a) above) or by the Company (in the case of counsel for the indemnified parties referred to in Section 9(b) above)) or (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(d) ***Settlements.*** The indemnifying party under this Section 9 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 9(c) hereof, the indemnifying party shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding and does not include an admission of fault or culpability or a failure to act by or on behalf of such indemnified party.

Section 10. Contribution. If the indemnification provided for in Section 9 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Offered Shares pursuant to this Agreement or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Offered Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the total proceeds from the offering of the Offered Shares pursuant to this Agreement (before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth on the front cover page of the Prospectus, bear to the aggregate initial public offering price of the Offered Shares as set forth on such cover. The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or the Underwriters, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 9(c), any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 9(c) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 10; *provided, however,* that no additional notice shall be required with respect to any action for which notice has been given under Section 9(c) for purposes of indemnification.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 10 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 10.

Notwithstanding the provisions of this Section 10, no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions received by such Underwriter in connection with the Offered Shares underwritten by it and distributed to the public. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 10 are several, and not joint, in proportion to their respective underwriting commitments as set forth opposite their respective names on Schedule A. For purposes of this Section 10, each affiliate, director, officer, employee and agent of an Underwriter and each person, if any, who controls an Underwriter within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the

Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Section 11. Default of One or More of the Several Underwriters. If, on the First Closing Date or any Option Closing Date any one or more of the several Underwriters shall fail or refuse to purchase Offered Shares that it or they have agreed to purchase hereunder on such date, and the aggregate number of Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase does not exceed 10% of the aggregate number of the Offered Shares to be purchased on such date, the Representative may make arrangements satisfactory to the Company for the purchase of such Offered Shares by other persons, including any of the Underwriters, but if no such arrangements are made by such date, the other Underwriters shall be obligated, severally and not jointly, in the proportions that the number of Firm Shares set forth opposite their respective names on Schedule A bears to the aggregate number of Firm Shares set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as may be specified by the Representative with the consent of the non-defaulting Underwriters, to purchase the Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date. If, on the First Closing Date or any Option Closing Date any one or more of the Underwriters shall fail or refuse to purchase Offered Shares and the aggregate number of Offered Shares with respect to which such default occurs exceeds 10% of the aggregate number of Offered Shares to be purchased on such date, and arrangements satisfactory to the Representative and the Company for the purchase of such Offered Shares are not made within 48 hours after such default, this Agreement shall terminate without liability of any party to any other party except that the provisions of Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination. In any such case either the Representative or the Company shall have the right to postpone the First Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days in order that the required changes, if any, to the Registration Statement and the Prospectus or any other documents or arrangements may be effected.

As used in this Agreement, the term "**Underwriter**" shall be deemed to include any person substituted for a defaulting Underwriter under this Section 11. Any action taken under this Section 11 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

Section 12. Termination of this Agreement. Prior to the purchase of the Firm Shares by the Underwriters on the First Closing Date, this Agreement may be terminated by the Representative by notice given to the Company if at any time: (i) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by the NASDAQ, or trading in securities generally on either the NASDAQ or the New York Stock Exchange shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges; (ii) a general banking moratorium shall have been declared by any federal, New York or New Jersey authorities; (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States' or international political, financial or economic conditions, as in the judgment of the Representative is material and adverse and makes it impracticable to market the Offered Shares in the manner and on the terms described in the Time of Sale Prospectus or the Prospectus or to enforce contracts for the sale of securities; (iv) in the judgment of the Representative there shall have occurred any Material Adverse Change; or (v) the Company shall have sustained a loss by strike, fire, flood, earthquake, accident or other calamity of such character as in the judgment of the Representative may interfere materially with

the conduct of the business and operations of the Company regardless of whether or not such loss shall have been insured. Any termination pursuant to this Section 12 shall be without liability on the part of (a) the Company to any Underwriter, except that the Company shall be obligated to reimburse the expenses of the Representative and the Underwriters pursuant to Section 4 or Section 7 hereof or (b) any Underwriter to the Company; *provided, however,* that the provisions of Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 13. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Offered Shares pursuant to this Agreement, including the determination of the public offering price of the Offered Shares and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering contemplated hereby and the process leading to such transaction, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or the Company's stockholders, or its creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and no Underwriter has any obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

Section 14. Representations and Indemnities to Survive Delivery. The respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers , and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Offered Shares sold hereunder and any termination of this Agreement.

Section 15. Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Representative:

Jefferies LLC
520 Madison Avenue
New York, New York 10022
Facsimile: (646) 619-4437
Attention: General Counsel

with a copy to:

Cooley LLP
4401 Eastgate Mall
San Diego, California 92121

Facsimile: (858) 550-6420
Attention: Charles S. Kim

If to the Company:	Minerva Neurosciences, Inc. 245 First Street Suite 1800 Cambridge, MA 02142 Attention: Rogerio Vivaldi Coelho
with a copy to:	Morgan, Lewis & Bockius LLP 101 Park Avenue New York, New York 10178 Facsimile: (212) 309-6001 Attention: David W. Pollak

Any party hereto may change the address for receipt of communications by giving written notice to the others.

Section 16. Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, including any substitute Underwriters pursuant to Section 11 hereof, and to the benefit of the affiliates, directors, officers, employees, agents and controlling persons referred to in Section 9 and Section 10, and in each case their respective successors, and personal representatives, and no other person will have any right or obligation hereunder. The term "**successors**" shall not include any purchaser of the Offered Shares as such from any of the Underwriters merely by reason of such purchase.

Section 17. Partial Unenforceability. The invalidity or unenforceability of any section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or provision hereof. If any section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

Section 18. Governing Law Provisions. This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby ("**Related Proceedings**") may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the "**Specified Courts**"), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court (a "**Related Judgment**"), as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

Section 19. General Provisions. This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect

as if the signatures thereto and hereto were upon the same instrument. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 9 and the contribution provisions of Section 10, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 9 and Section 10 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs and its business in order to assure that adequate disclosure has been made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, each free writing prospectus and the Prospectus (and any amendments and supplements to the foregoing), as contemplated by the Securities Act and the Exchange Act.

[signature pages follow]

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

MINERVA NEUROSCIENCES, INC.

By: _____
Name:
Title:

The foregoing Underwriting Agreement is hereby confirmed and accepted by the Representative in New York, New York as of the date first above written.

JEFFERIES LLC
Acting individually and as Representative
of the several Underwriters named in
the attached Schedule A.

JEFFERIES LLC

By: _____
Name:
Title:

Schedule A

Underwriters	Number of Firm Shares to be Purchased
Jefferies LLC	[•]
JMP Securities LLC	[•]
Robert W. Baird & Co. Incorporated	
Total	[•]

Schedule B

Free Writing Prospectuses Included in the Time of Sale Prospectus

[•]

Pricing Information Included in the Time of Sale Prospectus

Price per share to the public:	$	[•]
[Number of shares being sold by the Company:		[•]
Number of shares potentially issuable pursuant to the option to purchase additional shares:		[•]]

Schedule C

Permitted Section 5(d) Communications

[•]

Exhibit A

Form of Opinion of Company Counsel

Form of Opinion of Swiss Counsel

Exhibit C

Form of Lock-up Agreement

[•]

Jefferies LLC
As Representative of the Several Underwriters
c/o Jefferies LLC
520 Madison Avenue
New York, New York 10022

RE: Minerva Neurosciences, Inc. (the "**Company**")

Ladies & Gentlemen:

The undersigned is an owner of shares of common stock, par value $[•] per share, of the Company ("**Shares**") or of securities convertible into or exchangeable or exercisable for Shares. The Company proposes to conduct a public offering of Shares (the "**Offering**") for which Jefferies LLC ("**Jefferies**") will act as the representative of the underwriters. The undersigned recognizes that the Offering will benefit each of the Company and the undersigned. The undersigned acknowledges that the underwriters are relying on the representations and agreements of the undersigned contained in this letter agreement in conducting the Offering and, at a subsequent date, in entering into an underwriting agreement (the "**Underwriting Agreement**") and other underwriting arrangements with the Company with respect to the Offering.

Annex A sets forth definitions for capitalized terms used in this letter agreement that are not defined in the body of this agreement. Those definitions are a part of this agreement.

In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agrees that, during the Lock-up Period, the undersigned will not (and will cause any Family Member not to), without the prior written consent of Jefferies, which may withhold its consent in its sole discretion:

- Sell or Offer to Sell any Shares or Related Securities currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned or such Family Member,
- enter into any Swap,
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any Shares or Related Securities, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce any intention to do any of the foregoing.

The foregoing will not apply to the registration of the offer and sale of the Shares, and the sale of the Shares to the underwriters, in each case as contemplated by the Underwriting Agreement. In addition, the

---

foregoing restrictions shall not apply to (a) the transfer of Shares or Related Securities by gift, or by will or intestate succession to a Family Member or to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a Family Member, (b) the entry into any trading plan established pursuant to Rule 10b5-1 of the Exchange Act, provided that no sales or other dispositions of Shares or Related Securities may occur under such plan during the Lock-Up Period and no public announcement or filing under the Exchange Act regarding the establishment of such plan shall be required or made during the Lock-Up Period, (c) any transfer of Shares by the undersigned to the Company upon the exercise of options to cover tax withholding obligations in connection with such exercise or for the primary purpose of paying the exercise price of options to acquire Shares in each case pursuant to a stock option, stock bonus or other stock plan or arrangement existing as of the date hereof and described in the Registration Statement and any Shares acquired shall remain subject to this letter agreement, (d) the transfer of the undersigned's Shares pursuant to a sale of or an offer to purchase 100% of the common stock of the Company in a transaction approved by the Company, whether pursuant to a merger, tender offer or otherwise, to a third party or group of third parties, or (e) if the undersigned is a non-individual, transfer of Shares to any affiliate (as such term is defined in Rule 405 of the Securities Act), limited partners, general partners, limited liability company members or stockholders of the undersigned, or, if the undersigned is a corporation, to any wholly owned subsidiary of such corporation, if, in any such case, such transfer is not for value; *provided, however*, that in any transfer pursuant to clause (a) or (e) above, it shall be a condition to such transfer that:

- each transferee executes and delivers to Jefferies an agreement in form and substance satisfactory to Jefferies stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto), and,

in the case of any transfer pursuant to clause (a), (c) or (e) above, it shall be a condition to such transfer that:

- prior to the expiration of the Lock-up Period, no public disclosure or filing under the Exchange Act by any party to the transfer (donor, donee, transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of Shares in connection with such transfer.

If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any

Company-directed Shares the undersigned may purchase or otherwise receive in the Offering (including pursuant to a directed share program).

In addition, if the undersigned is an officer or director of the Company, (i) Jefferies agrees that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of Shares, Jefferies will notify the Company of the impending release or waiver, and (ii) the Company (in accordance with the provisions of the Underwriting Agreement) will announce the impending release or waiver by press release through a major news service or, if consented to by Jefferies, in a registration statement that is publicly filed in connection with a secondary offering of Shares at least two business days before the effective date of the release or waiver. Any release or waiver granted by Jefferies hereunder to any such officer or director shall only be effective two business days after the publication date of such press release or registration statement. The provisions of this paragraph will not apply if both (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this letter

agreement that are applicable to the transferor to the extent and for the duration that such terms remain in effect at the time of the transfer.

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of Shares or Related Securities held by the undersigned and the undersigned's Family Members, if any, except in compliance with the foregoing restrictions.

With respect to the Offering only, the undersigned waives any registration rights relating to registration under the Securities Act of the offer and sale of any Shares and/or any Related Securities owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offering.

The undersigned confirms that the undersigned has not, and has no knowledge that any Family Member has, directly or indirectly, taken any action designed to or that might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale of the Shares. The undersigned will not, and will cause any Family Member not to take, directly or indirectly, any such action.

Whether or not the Offering occurs as currently contemplated or at all depends on market conditions and other factors. The Offering will only be made pursuant to the Underwriting Agreement, the terms of which are subject to negotiation between the Company and the underwriters.

This letter agreement shall automatically terminate and be of no further effect upon the earliest to occur, if any, of (i) Jefferies or the Company advising the other party in writing, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Offering, (ii) the termination of the Underwriting Agreement before the sale of Shares to the underwriters, (iii) the registration statement filed with the Securities and Exchange Commission with respect to the Offering is withdrawn, and (iv) December 31, 2014, in the event that the Underwriting Agreement has not been executed by such date (provided that the Company may by written notice to the undersigned prior to December 31, 2014, extend such date for a period of up to three additional months).

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this letter agreement. This letter agreement is irrevocable and will be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

[*signature page follows*]

Very truly yours,

_____

Name of Security Holder *(Print exact name*)

By: _____

Signature

If not signing in an individual capacity:

_____

Name of Authorized Signatory *(Print*)

_____

Title of Authorized Signatory *(Print*)

(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

Certain Defined Terms
Used in Lock-up Agreement

For purposes of the letter agreement to which this Annex A is attached and of which it is made a part:

- "**Call Equivalent Position**" shall have the meaning set forth in Rule 16a-1(b) under the Exchange Act.
- "**Exchange Act**" shall mean the Securities Exchange Act of 1934, as amended.
- "**Family Member**" shall mean the spouse of the undersigned, an immediate family member of the undersigned or an immediate family member of the undersigned's spouse, in each case living in the undersigned's household or whose principal residence is the undersigned's household (regardless of whether such spouse or family member may at the time be living elsewhere due to educational activities, health care treatment, military service, temporary internship or employment or otherwise). "**Immediate family member**" as used above shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.
- "**Lock-up Period**" shall mean the period beginning on the date hereof and continuing through the close of trading on the date that is 180 days after the date of the Prospectus (as defined in the Underwriting Agreement).
- "**Put Equivalent Position**" shall have the meaning set forth in Rule 16a-1(h) under the Exchange Act.
- "**Related Securities**" shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for or convertible into Shares.
- "**Securities Act**" shall mean the Securities Act of 1933, as amended.
- "**Sell or Offer to Sell**" shall mean to:
    - sell, offer to sell, contract to sell or lend,
    - effect any short sale or establish or increase a Put Equivalent Position or liquidate or decrease any Call Equivalent Position

- pledge, hypothecate or grant any security interest in, or
- in any other way transfer or dispose of,

in each case whether effected directly or indirectly.

- "**Swap**" shall mean any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this lock-up agreement.

Exhibit D

Directors, Officers and Others
Signing Lock-up Agreement

Directors and Officers:

Rogerio Vivaldi Coelho
Geoff Race
Joseph Reilly
Remy Luthringer
Marc D. Beer
Jan van Heek
Francesco de Rubertis
Michele Ollier
Lorenzo Pellegrini

Others:

Certain holders of the Company's outstanding capital stock, a list of which has been provided to Cooley LLP, as counsel to the several Underwriters.

Exhibit 3.1

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

MINERVA NEUROSCIENCES, INC.

* * * * *

Minerva Neurosciences, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

1. The name of the Corporation is Minerva Neurosciences, Inc. The Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on April 23, 2007 under the original name of the Corporation, Cyrenaic Pharmaceuticals, Inc., and was corrected by a Certificate of Correction filed with the Secretary of State of the State of Delaware on May 16, 2007. An Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on August 29, 2007 and was amended by the Certificate of Merger filed with the Secretary of State of the State of Delaware on November 12, 2013 (as amended, the "Existing Certificate of Incorporation").

2. This Second Amended and Restated Certificate of Incorporation was duly adopted by the board of directors and the stockholders of the Corporation in accordance with Section 242 and Section 245 of the General Corporation Law of the State of Delaware.

3. The Existing Certificate of Incorporation is hereby amended and restated in its entirety to read as follows.

FIRST: The name of the corporation is Minerva Neurosciences, Inc.

SECOND: The registered office of the Corporation is to be located at 2711 Centerville Road, Suite 400, in the City of Wilmington, in the County of New Castle, in the State of Delaware. The name of its registered agent at that address is Corporation Service Company.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware ("GCL").

FOURTH:

A. Authorization. The total number of shares of stock which the Corporation shall have authority to issue is 225,000,000 shares, consisting of 125,000,000 shares of Common

Stock, par value $0.0001 per share ("Common Stock") and 100,000,000 shares of Preferred Stock, par value $0.0001 per share ("Preferred Stock"). Effective immediately upon the filing of the Amended and Restated Certificate of Incorporation, every 3.5 outstanding shares of Common Stock shall without further action by this Corporation or the holder thereof be combined into and automatically become one share of Common Stock. The authorized shares of Common Stock of the Corporation shall remain as set forth above in this Article FOURTH. No fractional share shall be issued in connection with the foregoing stock split; all shares of Common Stock so split that are held by a shareholder will be aggregated and each fractional share resulting from such aggregation shall be rounded up to the nearest whole share and no cash payment will be made in respect to such rounding.

B. Common Stock.

1. General. Except as required by law or as provided in this Amended and Restated Certificate of Incorporation (this "Certificate"), all shares of Common Stock shall be identical in all respects and shall entitle the holders thereof to the same rights and privileges, subject to the same qualifications, limitations and restrictions.

2. Dividends and Distributions. Subject to the provisions of this Certificate, the holders of shares of Common Stock shall be entitled to receive such dividends and distributions, payable in cash or otherwise, as may be declared thereon by the Board of Directors of the Corporation (the "Board") from time to time out of assets or funds of the Corporation legally available therefor. The holders of shares of Common Stock shall be entitled to share equally, on a per share basis, in such dividends or distributions.

3. Voting. Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote; provided, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Amended and Restated Certificate of Incorporation (including, but not limited to, any certificate of designations relating to any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Amended and Restated Certificate of Incorporation (including, but not limited to, any certificate of designations relating to any series of Preferred Stock) or pursuant to the DGCL. Each such holder shall be entitled to one vote per share of Common Stock on each matter to be voted on by such stock.

C. Preferred Stock.

1. General. Shares of Preferred Stock may be issued in one or more series, from time to time, with each such series to consist of such number of shares and to have such voting powers relative to other classes of Preferred Stock, if any, or Common Stock, full or limited, or no voting powers, and such designations, preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions thereof, as shall be stated in the resolution or resolutions providing for the issuance of such series adopted by the Board of Directors of the Corporation, and the Board of Directors is hereby expressly vested with the authority, to the full extent now or hereafter provided by applicable law, to adopt any such resolution or resolutions.

FIFTH: The name and mailing address of the incorporator is as follows:

Name	Address
Elizabeth Kiviat	Morgan, Lewis & Bockius LLP 502 Carnegie Center Princeton, NJ 08540

SIXTH: The Board of Directors of the Corporation is expressly authorized to adopt, amend or repeal the bylaws of the Corporation, but the stockholders may make additional bylaws and may alter or repeal any bylaw whether adopted by them or otherwise.

SEVENTH:

A. Elections of directors need not be by written ballot except and to the extent provided in the bylaws of the Corporation.

B. Except as otherwise provided for or fixed by or pursuant to the provisions of this Amended and Restated Certificate of Incorporation or any resolution or resolutions of the Board of Directors providing for the issuance of Preferred Stock, any action required or permitted to be taken by the stockholders of the Corporation may be effected only at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

C. Subject to the rights of the holders of any series of Preferred Stock, and to the requirements of applicable law, special meetings of stockholders of the Corporation may be called only by either (a) the Chairman of the Board of Directors or (b) the Board of Directors.

EIGHTH: (a) A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the GCL as the same exists or may hereafter be amended. Any amendment, modification or repeal of the foregoing sentence shall not adversely affect any right or protection of a director of the Corporation hereunder in respect of any act or omission occurring prior to the time of such amendment, modification or repeal.

(b) To the full extent permitted by the GCL as it exists on the date hereof or may hereafter be amended, and any other applicable law, the Corporation shall indemnify any director or officer of the Corporation who is or was a party to any proceeding by reason of the fact that he or she is or was such a director or officer or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise. The Board of Directors is hereby empowered to contract in advance to indemnify any director or officer.

(c) Neither any amendment nor repeal of this Article EIGHTH, nor the adoption of any provision of this Corporation's Certificate of Incorporation inconsistent with this Article

EIGHTH, shall eliminate or reduce the effect of this Article EIGHTH in respect of any matter occurring, or any action or proceeding accruing or arising or that, but for this Article EIGHTH, would accrue or arise, prior to such amendment, repeal or adoption of an inconsistent provision.

NINTH: Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state or federal court located within the state of Delaware, in all cases subject to the court's having personal jurisdiction over the indispensible parties named as defendants. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this ARTICLE NINTH.

TENTH: Subject to the special right of the holders of any class or series of stock to elect directors, the Board of Directors shall be classified with respect to the time for which directors severally hold office into three classes, as nearly equal in number as possible. The initial Class I Directors shall serve for a term expiring at the first annual meeting of stockholders of the Corporation following the filing of this Amended and Restated Certificate of Incorporation; the initial Class II Directors shall serve for a term expiring at the second annual meeting of stockholders following the filing of this Amended and Restated Certificate of Incorporation; and the initial Class III Directors shall serve for a term expiring at the third annual meeting of stockholders following the filing of this Amended and Restated Certificate of Incorporation. The Board of Directors is authorized to assign members of the Board of Directors already in office to Class I, Class II and Class III at the time such classification becomes effective. Each director in each class shall hold office until his or her successor is duly elected and qualified. At each annual meeting of stockholders beginning with the first annual meeting of stockholders following the filing of this Amended and Restated Certificate of Incorporation, the successors of the class of directors whose term expires at that meeting shall be elected to hold office for a term expiring at the annual meeting of stockholders to be held in the third year following the year of their election, with each director in each such class to hold office until his or her successor is duly elected and qualified.

ELEVENTH:

A. Amendments to the Bylaws. In furtherance and not in limitation of the powers conferred by law, the Board of Directors is expressly authorized to make, alter, amend or repeal the Bylaws of the Corporation subject to the power of the stockholders of the Corporation to alter, amend or repeal the Bylaws; provided, that with respect to the powers of stockholders to make, alter, amend or repeal the Bylaws, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) of the capital stock of the Corporation entitled to vote generally in an election of directors, voting together as a single class, shall be required to make, alter amend or repeal the Bylaws of the Corporation.

B. Amendments to the Certificate of Incorporation. Notwithstanding any other provision of this Certificate of Incorporation, and notwithstanding that a lesser percentage may be permitted from time to time by applicable law, no provision of paragraphs B and C of ARTICLE SEVENTH, ARTICLE TENTH and ARTICLE ELEVENTH may be altered, amended or repealed in any respect, nor may any provision or bylaw inconsistent therewith be adopted, unless such alteration, amendment, repeal or adoption is approved by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66 2/3%) of the voting power of the outstanding shares of capital stock entitled to vote on the subject matter.

IN WITNESS WHEREOF, the undersigned has caused this Amended and Restated Certificate of Incorporation to be signed by its duly authorized officer, on the 9th day of June 2014.

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho
Title: President and CEO

Exhibit 3.2

AMENDED AND RESTATED

BYLAWS

OF

MINERVA NEUROSCIENCES, INC.

(a Delaware Corporation)

Adopted as of June 9, 2014

ARTICLE I
OFFICES AND FISCAL YEAR

SECTION 1.01. Registered Office. The registered office of the corporation shall be Corporation Service Company, 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, State of Delaware until otherwise established by resolution of the board of directors, and a certificate certifying the change is filed in the manner provided by statute.

SECTION 1.02. Other Offices. The corporation may also have offices at such other places within or without the State of Delaware as the board of directors may from time to time determine or the business of the corporation requires.

SECTION 1.03. Fiscal Year. The fiscal year of the corporation shall end on the 31st of December in each year.

ARTICLE II
NOTICE - WAIVERS - MEETINGS

SECTION 2.01. Notice of Meetings of Board of Directors. Notice of a regular meeting of the board of directors need not be given. Notice of every special meeting of the board of directors shall be given to each director by telephone or in writing at least 24 hours (in the case of notice by telephone, telex, TWX or facsimile transmission) or 48 hours (in the case of notice by telegraph, courier service or express mail) or five days (in the case of notice by first class mail) before the time at which the meeting is to be held. Every such notice shall state the time and place of the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the board need be specified in a notice of the meeting.

SECTION 2.02. Notice of Meetings of Stockholders. Notice of the place, if any, date and time of all meetings of stockholders of the Corporation, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such meeting, and,

in the case of all special meetings of stockholders, the purpose of the meeting, shall be given, not less than 10 nor more than 60 days before the date on which such meeting is to be held, to each stockholder entitled to notice of the meeting.

The Corporation may postpone or cancel any previously called annual or special meeting of stockholders of the Corporation by making a public announcement (as defined in Section 3.03(e)) of such postponement or cancellation prior to the meeting. When a previously called annual or special meeting is postponed to another time or place, if any, notice of the place (if any), date and time of the postponed meeting and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such postponed meeting, shall be given in conformity with this Section 2.02 unless such meeting is postponed not more than 60 days after initial notice of the meeting was provided in conformity with this Section 2.02.

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place, if any, thereof and the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; however, if the date of any adjourned meeting is more than 30 days after the date for which the meeting was originally noticed, or if a new record date is fixed for voting at the adjourned meeting, notice of the place, if any, date and time of the adjourned meeting and the means of remote communication, if any, by which stockholders and proxy holders may be deemed present and vote at such adjourned meeting, shall be given in conformity herewith. At any adjourned meeting, any business may be transacted that may have been transacted at the original meeting.

SECTION 2.03. Method of Notice. If mailed, notice to a stockholder of the Corporation shall be deemed given when deposited in the mail, postage prepaid, directed to a stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders of the Corporation may be given by electronic transmission in the manner provided in Section 232 of the DGCL.

SECTION 2.04. Waiver of Notice. A written waiver of any notice, signed by a stockholder or director, or a waiver by electronic transmission by such person or entity, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person or entity. Neither the business nor the purpose of any meeting need be specified in the waiver. Attendance at any meeting shall constitute waiver of notice except attendance for the sole purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

SECTION 2.05. Conference Telephone Meetings. One or more directors may participate in a meeting of the board, or of a committee of the board, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other. Participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

ARTICLE III
MEETINGS OF STOCKHOLDERS

SECTION 3.01. Place of Meeting. All meetings of the stockholders of the corporation shall be held at the registered office of the corporation, or at such other place within or without the State of Delaware as shall be designated by the board of directors in the notice of such meeting.

SECTION 3.02. Annual Meeting. The board of directors may fix and designate the date and time of the annual meeting of the stockholders, and at said meeting the stockholders then entitled to vote shall elect directors and shall transact such other business as may properly be brought before the meeting.

SECTION 3.03. Advance Notice of Nominations and Proposals of Business.

(a) Nominations of persons for election to the Board of Directors and proposals for business to be transacted by the stockholders at an annual meeting of stockholders may be made (i) pursuant to the Corporation's notice with respect to such meeting, (ii) by or at the direction of the Board of Directors or (iii) by any stockholder of record of the Corporation who (A) was a stockholder of record at the time of the giving of the notice contemplated in Section 3.03(b), (B) is entitled to vote at such meeting and (C) has complied with the notice procedures set forth in this Section 3.03. Except as otherwise required by law, clause (iii) of this Section 3.03(a) shall be the exclusive means for a stockholder to make nominations or propose other business (other than nominations and proposals properly brought pursuant to applicable provisions of federal law, including the Securities Exchange Act of 1934 (as amended from time to time, the "Act") and the rules and regulations of the Securities and Exchange Commission thereunder) before an annual meeting of stockholders.

(b) Except as otherwise required by law, for nominations or proposals to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of Section 3.03(a), (i) the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation with the information contemplated by Section 3.03(c), and (ii) the business must be a proper matter for stockholder action under the GCL.

(c) To be timely for purposes of Section 3.03(b), a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation a date (i) not less than 90 nor more than 120 days prior to the anniversary date of the prior year's annual meeting or (ii) if there was no annual meeting in the prior year or if the date of the current year's annual meeting is more than 30 days before or after the anniversary date of the prior year's annual meeting, on or before 15 days after the day on which the date of the current year's annual meeting is first disclosed in a public announcement. In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the delivery of such notice. Such notice from a stockholder must state (i) as to each nominee that the stockholder proposes for election or reelection as a director, (A) all information relating to such nominee that

would be required to be disclosed in solicitations of proxies for the election of such nominee as a director pursuant to Regulation 14A under the Act and such nominee's written consent to serve as a director if elected, and (B) a description of all direct and indirect compensation and other material monetary arrangements, agreements or understandings during the past three years, and any other material relationship, if any, between or concerning such stockholder and its respective affiliates or associates, on the one hand, and the proposed nominee, and his or her respective affiliates or associates, on the other hand; (ii) as to each proposal that the stockholder seeks to bring before the meeting, a brief description of such proposal, the reasons for making the proposal at the meeting, and any material interest that the stockholder has in the proposal; (iii) (A) the name and address of the stockholder, (B) the class (and, if applicable, series) and number of shares of stock of the Corporation that are, directly or indirectly, owned beneficially or of record by the stockholder or any Stockholder Associated Person (as defined below), (C) any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class (or, if applicable, series) of shares of stock of the Corporation or with a value derived in whole or in part from the value of any class (or, if applicable, series) of shares of stock of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of the Corporation or otherwise (each, a "Derivative Instrument") directly or indirectly owned beneficially or of record by such stockholder or any Stockholder Associated Person and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of stock of the Corporation of the stockholder or any Stockholder Associated Person, (D) any proxy, contract, arrangement, understanding or relationship pursuant to which such stockholder or any Stockholder Associated Person has a right to vote any securities of the Corporation, (E) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such stockholder or any Stockholder Associated Person is a general partner or beneficially owns an interest in a general partner, (F) any performance-related fees (other than an asset-based fee) that such stockholder or any Stockholder Associated Person is entitled to based on any increase or decrease in the value of the shares of stock of the Corporation or Derivative Instruments and (G) whether either the stockholder intends to deliver a proxy statement and form of proxy to holders of, in the case of a proposal, at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the Corporation's voting shares reasonably believed by such stockholder to be sufficient to elect such nominee or nominees. For purposes of these by-laws, a "STOCKHOLDER ASSOCIATED PERSON" of any stockholder means any "affiliate" or "associate" (as those terms are defined in Rule 12b-2 under the Act) of the stockholder that owns beneficially or of record any capital stock or other securities of the Corporation. In addition, any nominee proposed by a stockholder shall complete a questionnaire, in a form provided by the Corporation, within 10 days of receipt of the form of questionnaire from the Corporation.

(d) Subject to the certificate of incorporation of the Corporation and applicable law, only persons nominated in accordance with procedures stated in this Section 3.03 shall be eligible for election as and to serve as members of the Board of Directors and the only business that shall be conducted at an annual meeting of stockholders is the business that has been brought before the meeting in accordance with the procedures set forth in this Section 3.03. The chairman of the

meeting shall have the power and the duty to determine whether a nomination or any proposal has been made according to the procedures stated in this Section 3.03 and, if any nomination or proposal does not comply with this Section 3.03, unless otherwise required by law, the nomination or proposal shall be disregarded.

(e) For purposes of this Section 3.03, "public announcement" means disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Act.

(f) Notwithstanding the foregoing provisions of this Section 3.03, a stockholder shall also comply with applicable requirements of the Act and the rules and regulations thereunder with respect to matters set forth in this Section 3.03. Nothing in this Section 3.03 shall affect any rights, if any, of stockholders to request inclusion of nominations or proposals in the Corporation's proxy statement pursuant to applicable provisions of federal law, including the Act.

SECTION 3.04. Special Meetings. Special meetings of the stockholders of the Corporation may be called only in the manner set forth in the certification of incorporation of the Corporation. Notice of every special meeting of the stockholders of the Corporation shall state the purpose of such meeting. Except as otherwise required by law, the business conducted at a special meeting of stockholders of the Corporation shall be limited exclusively to the business set forth in the Corporation's notice of meeting, and the individual or group calling such meeting shall have exclusive authority to determine the business included in such notice.

SECTION 3.05. Quorum, Manner of Acting and Adjournment.

(a) Quorum. The holders of a majority of the shares entitled to vote, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders except as otherwise provided by the GCL, by the certificate of incorporation or by these bylaws. If a quorum is not present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present or represented. At any such adjourned meeting at which a quorum is present or represented, the corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) Manner of Acting. Directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. In all matters other than the election of directors, the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote thereon shall be the act of the stockholders, unless the question is one upon which, by express provision of the applicable statute, the certificate of incorporation or these bylaws, a different vote is required in

which case such express provision shall govern and control the decision of the question. The stockholders present in person or by proxy at a duly organized meeting can continue to do business until adjournment, notwithstanding withdrawal of enough stockholders to leave less than a quorum.

SECTION 3.06. Organization. At every meeting of the stockholders, the chairman of the board, if there be one, or in the case of a vacancy in the office or absence of the chairman of the board, one of the following persons present in the order stated: the vice chairman, if one has been appointed, the president, the vice presidents in their order of rank or seniority, a chairman designated by the board of directors or a chairman chosen by the stockholders entitled to cast a majority of the votes which all stockholders present in person or by proxy are entitled to cast, shall act as chairman, and the secretary, or, in the absence of the secretary, an assistant secretary, or in the absence of the secretary and the assistant secretaries, a person appointed by the chairman, shall act as secretary.

SECTION 3.07. Voting.

(a) General Rule. Unless otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote, in person or by proxy, for each share of capital stock having voting power held by such stockholder.

(b) Voting and Other Action by Proxy.

(1) A stockholder may execute a writing authorizing another person or persons to act for the stockholder as proxy. Such execution may be accomplished by the stockholder or the authorized officer, director, employee or agent of the stockholder signing such writing or causing his or her signature to be affixed to such writing by any reasonable means including, but not limited to, by facsimile signature. A stockholder may authorize another person or persons to act for the stockholder as proxy by transmitting or authorizing the transmission of a telegram, cablegram, or other means of electronic transmission to the person who will be the holder of the proxy or to a proxy solicitation firm, proxy support service organization or like agent duly authorized by the person who will be the holder of the proxy to receive such transmission if such telegram, cablegram or other means of electronic transmission sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other electronic transmission was authorized by the stockholder.

(2) No proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period.

(3) A duly executed proxy shall be irrevocable if it states that it is irrevocable and if, and only so long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the corporation generally.

SECTION 3.08. Voting Lists. A complete list of stockholders of the corporation entitled to vote at any meeting of stockholders of the corporation, arranged in alphabetical order for each class

of stock and showing the address of each such stockholder and the number of shares registered in the name of such stockholder, shall be open to the examination of any such stockholder, for any purpose germane to a meeting of the stockholders of the corporation, for a period of at least 10 days before the meeting (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting or (ii) during ordinary business hours at the principal place of business of the corporation; provided, however, if the record date for determining the stockholders entitled to vote is less than 10 days before the meeting date, the list shall reflect the stockholders entitled to vote as of the 10th day before such meeting date.

The stock list shall also be open to the examination of any such stockholder during the entire meeting. The corporation may look to this list as the sole evidence of the identity of the stockholders entitled to vote at a meeting and the number of shares held by each stockholder.

SECTION 3.09. Inspectors of Election. Prior to a meeting of the stockholders of the Corporation, the Corporation shall appoint one or more inspectors to act at a meeting of stockholders of the Corporation and make a written report thereof. The corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the person presiding at the meeting may, and to the extent required by applicable law, shall, appoint one or more inspectors to act at the meeting. Each inspector, before beginning the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of inspectors. The inspectors shall have the duties prescribed by applicable law.

ARTICLE IV
BOARD OF DIRECTORS

SECTION 4.01. Powers. All powers vested by law in the corporation shall be exercised by or under the authority of, and the business and affairs of the corporation shall be managed under the direction of, the board of directors.

SECTION 4.02. Number and Term of Office. The board of directors shall consist of such number of directors, not less than 1, as may be determined from time to time by resolution of the board of directors. Each director shall hold office until the expiration of the term for which he or she was selected and until a successor shall have been elected and qualified or until his or her earlier death, resignation or removal. Directors need not be residents of Delaware or stockholders of the corporation.

SECTION 4.03. Vacancies. Vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having a right to vote as a single class may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until their successors are elected and qualified or until their earlier death, resignation or removal. If there are no directors in

office, then an election of directors may be held in the manner provided by statute. Whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the provisions of the certificate of incorporation, vacancies and newly created directorships of such class or classes or series may be filled by a majority of the directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of the whole board (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

SECTION 4.04. Resignations. Any director may resign at any time upon written notice to the corporation. The resignation shall be effective upon receipt thereof by the corporation or at such subsequent time as shall be specified in the notice of resignation and, unless otherwise specified in the notice, the acceptance of the resignation shall not be necessary to make it effective.

SECTION 4.05. Removal. Any director or the entire board of directors may be removed, but only with cause, by the holders of shares entitled to cast a majority of the votes which all stockholders are entitled to cast at an election of directors.

SECTION 4.06. Organization. At every meeting of the board of directors, the chairman of the board, if there be one, or, in the case of a vacancy in the office or absence of the chairman of the board, one of the following officers present in the order stated: the vice chairman of the board, if there be one, the president, the vice presidents in their order of rank and seniority, or a chairman chosen by a majority of the directors present, shall preside, and the secretary, or, in the absence of the secretary, an assistant secretary, or in the absence of the secretary and the assistant secretaries, any person appointed by the chairman of the meeting, shall act as secretary.

SECTION 4.07. Place of Meeting. Meetings of the board of directors shall be held at such place within or without the State of Delaware as the board of directors may from time to time determine, or as may be designated in the notice of the meeting.

SECTION 4.08. Regular Meetings. Regular meetings of the board of directors shall be held without notice at such time and place as shall be designated from time to time by resolution of the board of directors.

SECTION 4.09. Special Meetings. Special meetings of the board of directors shall be held whenever called by the president or by two or more of the directors.

SECTION 4.10. Quorum, Manner of Acting and Adjournment.

(a) General Rule. At all meetings of the board, a majority of the total number of directors shall constitute a quorum for the transaction of business. If a quorum is not present at any meeting of the board of directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the board of directors, except as may be otherwise specifically provided by the GCL or by the certificate of incorporation.

(b) Unanimous Written Consent. Unless otherwise restricted by the certificate of incorporation, any action required or permitted to be taken at any meeting of the board of directors may be taken without a meeting, if all members of the board consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the board.

SECTION 4.11. Committees. The board of directors may designate committees of the board of directors, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the board of directors and shall, for those committees, appoint a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of such committee. In the absence or disqualification of any member of any committee and any alternate member in his or her place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may by unanimous vote appoint another member of the board of directors to act at the meeting in the place of the absent or disqualified member.

SECTION 4.12. Compensation of Directors. Unless otherwise restricted by the certificate of incorporation, the board of directors shall have the authority to fix the compensation of directors.

ARTICLE V
OFFICERS

SECTION 5.01. Number, Qualifications and Designation. The officers of the corporation shall be chosen by the board of directors and shall be a president, one or more vice presidents, a secretary, a treasurer, a chief financial officer and such other officers as may from time to time be appointed by the board or directors. Any number of offices may be held by the same person. Officers may, but need not, be directors or stockholders of the corporation. The board of directors may elect from among the members of the board a chairman of the board and a vice chairman of the board who shall be officers of the corporation. Unless otherwise determined by the Board of Directors, the President shall be the Chief Executive Officer of the Corporation.

SECTION 5.02. Subordinate Officers, Committees and Agents. The board of directors may from time to time elect such other officers and appoint such committees, employees or other

agents as it deems necessary, who shall hold their offices for such terms and shall exercise such powers and perform such duties as are provided in these bylaws, or as the board of directors may from time to time determine. The board of directors may delegate to any officer or committee the power to elect subordinate officers and to retain or appoint employees or other agents, or committees thereof, and to prescribe the authority and duties of such subordinate officers, committees, employees or other agents.

SECTION 5.03. The Chairman and Vice Chairman of the Board. The chairman of the board, if there be one, or in the absence of the chairman, the vice chairman of the board, if there be one, shall preside at all meetings of the stockholders and of the board of directors, and shall perform such other duties as may from time to time be assigned to them by the board of directors.

SECTION 5.04. The President. The president shall have general supervision over the business and operations of the corporation, subject, however, to the control of the board of directors. The president shall, in general, perform all duties incident to the office of president, and such other duties as from time to time may be assigned by the board of directors and, if the chairman of the board is the chief executive officer, the chairman of the board.

SECTION 5.05. The Vice Presidents. The vice presidents shall perform the duties of the president in the absence of the president and such other duties as may from time to time be assigned to them by the board of directors or by the president.

SECTION 5.06. The Secretary. The secretary, or an assistant secretary, shall attend all meetings of the stockholders and of the board of directors and shall record the proceedings of the stockholders and of the directors and of committees of the board in a book or books to be kept for that purpose; shall see that notices are given and records and reports properly kept and filed by the corporation as required by law; shall be the custodian of the seal of the corporation and see that it is affixed to all documents to be executed on behalf of the corporation under its seal; and, in general, shall perform all duties incident to the office of secretary, and such other duties as may from time to time be assigned by the board of directors or the president.

SECTION 5.07. The Chief Financial Officer. The chief financial officer shall keep or cause to be kept the books of account of the corporation in a thorough and proper manner and shall render statements of the financial affairs of the corporation in such form and as often as required by the board or the president. The chief financial officer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the corporation. The chief financial officer shall perform other duties commonly incident to his office and shall also perform such other duties and have such other powers as the board or the president shall designate from time to time. The president may direct the treasurer or any assistant treasurer to assume and perform the duties of the chief financial officer in the absence or disability of the chief financial officer, and each treasurer and assistant treasurer shall perform other duties commonly incident to his office and shall also perform such other duties and have such other powers as the board of directors or the president shall designate from time to time.

SECTION 5.08. Officers' Bonds. No officer of the corporation need provide a bond to guarantee the faithful discharge of the officer's duties unless the board of directors shall by resolution so require a bond in which event such officer shall give the corporation a bond (which shall be renewed if and as required) in such sum and with such surety or sureties as shall be satisfactory to the board of directors for the faithful performance of the duties of office.

SECTION 5.09. Salaries. The salaries of the officers and agents of the corporation elected by the board of directors shall be fixed from time to time by the board of directors or a committee thereof or by the officers as may be designated by resolution of the board of directors

SECTION 5.10. Removal. The board of directors may remove any officer of the corporation at any time, with or without cause.

ARTICLE VI
CERTIFICATES OF STOCK, TRANSFER, ETC.

SECTION 6.01. Form and Issuance.

(a) Issuance. The shares of the corporation shall be represented by certificates unless the board of directors shall by resolution provide that some or all of any class or series of stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until the certificate is surrendered to the corporation. Notwithstanding the adoption of any resolution providing for uncertificated shares, every holder of stock represented by certificates and upon request every holder of uncertificated shares shall be entitled to have a certificate signed by, or in the name of the corporation by, the chairman or vice chairman of the board of directors, or the president or vice president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary, representing the number of shares registered in certificate form.

(b) Form and Records. Stock certificates of the corporation shall be in such form as approved by the board of directors. The stock record books and the blank stock certificate books shall be kept by the secretary or by any agency designated by the board of directors for that purpose. The stock certificates of the corporation shall be numbered and registered in the stock ledger and transfer books of the corporation as they are issued.

(c) Signatures. Any of or all the signatures upon the stock certificates of the corporation may be a facsimile. In case any officer, transfer agent or registrar who has signed, or whose facsimile signature has been placed upon, any share certificate shall have ceased to be such officer, transfer agent or registrar, before the certificate is issued, it may be issued with the same effect as if the signatory were such officer, transfer agent or registrar at the date of its issue.

SECTION 6.02. Transfer. Transfers of shares shall be made on the share register or transfer books of the corporation upon surrender of the certificate therefor, endorsed by the person named in the certificate or by an attorney lawfully constituted in writing. No transfer shall be made

which would be inconsistent with the provisions of Article 8, Title 6 of the Delaware Uniform Commercial Code-Investment Securities.

SECTION 6.03. Lost, Stolen, Destroyed or Mutilated Certificates. The board of directors may direct a new certificate of stock or uncertificated shares to be issued in place of any certificate theretofore issued by the corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed. When authorizing such issue of a new certificate or certificates, the board of directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or the legal representative of the owner, to give the corporation a bond sufficient to indemnify against any claim that may be made against the corporation on account of the alleged loss, theft or destruction of such certificate or the issuance of such new certificate or uncertificated shares.

SECTION 6.04. Record Holder of Shares. The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and to hold liable for calls and assessments a person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

SECTION 6.05. Determination of Stockholders of Record.

(a) Meetings of Stockholders. In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors, and which record date shall not be more than 60 nor less than ten days before the date of such meeting. If no record date is fixed by the board of directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting unless the board of directors fixes a new record date for the adjourned meeting.

(d) Dividends. In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights of the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

ARTICLE VII
INDEMNIFICATION OF DIRECTORS, OFFICERS AND OTHER AUTHORIZED REPRESENTATIVES

SECTION 7.01. Indemnification of Authorized Representatives in Third Party Proceedings. The corporation shall indemnify any person who was or is an authorized representative of the corporation, and who was or is a party, or is threatened to be made a party to any third party proceeding, by reason of the fact that such person was or is an authorized representative of the corporation, against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such third party proceeding if such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal third party proceeding, had no reasonable cause to believe such conduct was unlawful. The termination of any third party proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not of itself create a presumption that the authorized representative did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to, the best interests of the corporation, and, with respect to any criminal third party proceeding, had reasonable cause to believe that such conduct was unlawful.

SECTION 7.02. Indemnification of Authorized Representatives in Corporate Proceedings. The corporation shall indemnify any person who was or is an authorized representative of the corporation and who was or is a party or is threatened to be made a party to any corporate proceeding, by reason of the fact that such person was or is an authorized representative of the corporation, against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such corporate proceeding if such person acted in good faith and in a manner reasonably believed to be in, or not opposed to, the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such corporate proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such authorized representative is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

SECTION 7.03. Mandatory Indemnification of Authorized Representatives. To the extent that an authorized representative or other employee or agent of the corporation has been successful on the merits or otherwise in defense of any third party or corporate proceeding or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses actually and reasonably incurred by such person in connection therewith.

SECTION 7.04. Determination of Entitlement to Indemnification. Any indemnification under section 7.01, 7.02 or 7.03 of this Article (unless ordered by a court) shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the authorized representative or other employee or agent is proper in the circumstances because such

person has either met the applicable standard of conduct set forth in section 7.01 or 7.02 or has been successful on the merits or otherwise as set forth in section 7.03 and that the amount requested has been actually and reasonably incurred. Such determination shall be made:

(1) by the board of directors by a majority vote of a quorum consisting of directors who were not parties to such third party or corporate proceeding; or

(2) if such a quorum is not obtainable, or even if obtainable, a quorum of disinterested directors so directs, by independent legal counsel in a written opinion; or

(3) by the stockholders.

SECTION 7.05. Advancing Expenses. Expenses actually and reasonably incurred in defending a third party or corporate proceeding shall be paid on behalf of an authorized representative by the corporation in advance of the final disposition of such third party or corporate proceeding upon receipt of an undertaking by or on behalf of the authorized representative to repay such amount if it shall ultimately be determined that the authorized representative is not entitled to be indemnified by the corporation as authorized in this Article. The financial ability of any authorized representative to make a repayment contemplated by this section shall not be a prerequisite to the making of an advance. Expenses incurred by other employees and agents may be so paid upon such terms and conditions, if any, as the board of directors deems appropriate.

SECTION 7.06. Definitions. For purposes of this Article:

(1) "authorized representative" shall mean any and all directors and officers of the corporation and any person designated as an authorized representative by the board of directors of the corporation (which may, but need not, include any person serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise);

(2) "corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under the provisions of this Article with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued;

(3) "corporate proceeding" shall mean any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor or investigative proceeding by the corporation;

(4) "criminal third party proceeding" shall include any action or investigation which could or does lead to a criminal third party proceeding;

(5) "expenses" shall include attorneys' fees and disbursements;

(6) "fines" shall include any excise taxes assessed on a person with respect to an employee benefit plan;

(7) "not opposed to the best interests of the corporation" shall include actions taken in good faith and in a manner the authorized representative reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan;

(8) "other enterprise" shall include employee benefit plans;

(9) "party" shall include the giving of testimony or similar involvement;

(10) "serving at the request of the corporation" shall include any service as a director, officer or employee of the corporation which imposes duties on, or involves services by, such director, officer or employee with respect to an employee benefit plan, its participants, or beneficiaries; and

(11) "third party proceeding" shall mean any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, or investigative, other than an action by or in the right of the corporation.

SECTION 7.07. Insurance. The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against the person and incurred by the person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Article.

SECTION 7.08. Scope of Article. The indemnification of authorized representatives and advancement of expenses, as authorized by the preceding provisions of this Article, shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any agreement, vote of stockholders or disinterested directors or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office. The indemnification and advancement of expenses provided by or granted pursuant to

this Article shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be an authorized representative and shall inure to the benefit of the heirs, executors and administrators of such a person.

SECTION 7.09. Reliance on Provisions. Each person who shall act as an authorized representative of the corporation shall be deemed to be doing so in reliance upon rights of indemnification provided by this Article.

ARTICLE VIII
GENERAL PROVISIONS

SECTION 8.01. Dividends. Subject to the restrictions contained in the GCL and any restrictions contained in the certificate of incorporation, the board of directors may declare and pay dividends upon the shares of capital stock of the corporation.

SECTION 8.02. Contracts. Except as otherwise provided in these bylaws, the board of directors may authorize any officer or officers including the chairman and vice chairman of the board of directors, or any agent or agents, to enter into any contract or to execute or deliver any instrument on behalf of the corporation and such authority may be general or confined to specific instances.

SECTION 8.03. Corporate Seal. The corporation shall have a corporate seal, which shall have inscribed thereon the name of the corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

SECTION 8.04. Deposits. All funds of the corporation shall be deposited from time to time to the credit of the corporation in such banks, trust companies, or other depositories as the board of directors may approve or designate, and all such funds shall be withdrawn only upon checks signed by such one or more officers or employees as the board of directors shall from time to time determine.

SECTION 8.05. Amendment of Bylaws. These bylaws may be altered, amended or repealed in accordance with the certificate of incorporation of the corporation.

Exhibit 3.3

CERTIFICATE OF MERGER

MERGING

SONKEI PHARMACEUTICALS, INC.
(a Delaware corporation)

WITH AND INTO

CYRENAIC PHARMACEUTICALS, INC.
(a Delaware corporation)

Pursuant to the provisions of Section 251 of the General Corporation Law of the State of Delaware

The undersigned hereby certifies as follows as of November 12, 2013:

FIRST: The name and state of incorporation of each of the constituent corporations participating in the merger herein certified (the "Constituent Corporations") are as follows:

(i) Sonkei Pharmaceuticals, Inc., which is incorporated under the laws of the State of Delaware ("Sonkei"); and

(ii) Cyrenaic Pharmaceuticals, Inc., which is incorporated under the laws of the State of Delaware ("Cyrenaic").

SECOND: An Agreement and Plan of Merger dated as of November 12, 2013 (the "Merger Agreement"), by and between the Constituent Corporations, providing for the merger of Sonkei with and into Cyrenaic (the "Merger"), has been approved, adopted, certified, executed and acknowledged by each of the Constituent Corporations in accordance with Section 251 of the General Corporation Law of the State of Delaware (the "DGCL").

THIRD: Upon the filing of this Certificate of Merger with the Secretary of the State of Delaware, Sonkei will merge with and into Cyrenaic, and Cyrenaic will be the surviving corporation in the Merger (the "Surviving Corporation"). The Surviving Corporation will continue its existence under the name "Minerva Neurosciences, Inc."

FOURTH: The First Article of the Certificate of Incorporation of the Surviving Corporation is hereby amended in its entirety to read as follows:

"The name of the corporation is Minerva Neurosciences, Inc. (the "Corporation")."

FIFTH: An executed copy of the Merger Agreement is on file at the principal place of

business of the Surviving Corporation in accordance with Section 251 and Section 103 of the DGCL. The address of the principal place of business of the Surviving Corporation is 245 First Street, Suite 1800, Cambridge, MA 02142.

SIXTH: A copy of the Merger Agreement will be furnished by the Surviving Corporation, on request and without cost, to any stockholder of any of the Constituent Corporations.

SEVENTH: The Merger shall be effective upon the filing of this Certificate of Merger with the Secretary of State of the State of Delaware.

[*Remainder of page intentionally left blank.*]

IN WITNESS WHEREOF, the undersigned has caused this Certificate of Merger to be duly executed by the undersigned authorized officer as of the date first written above.

Surviving Corporation:

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho
Title: President and CEO

Exhibit 4.1

MINERVA NEUROSCIENCES, INC.

a Delaware corporation

COMMON STOCK
PAR VALUE $0.0001 PER SHARE

See Reverse for Certain Definitions

This is to Certify that ______ SPECIMEN ______ is the owner of

*** fully paid and non-assessable shares of the above Corporation transferable only on the books of the Corporation by the holder thereof in person or by a duly authorized Attorney upon surrender of this Certificate properly endorsed.

Witness, the seal of the Corporation and the Signatures of its duly authorized officers.

Dated

Rogerio Vivaldi Coelho, MD, MBA, President

Joe Reilly, Secretary

CORPKIT NEW YORK

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	— as tenants in common	UNIF GIFT MIN ACT —	Custodian
TEN ENT	— as tenants by the entireties		(Cust) (Minor) under Uniform Gifts to Minors
JT TEN	— as joint tenants with right of survivorship and not as tenants in common		Act (State)

Additional abbreviations may also be used though not in the above list.

For value received ____ *hereby sell, assign and transfer unto*

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS INCLUDING POSTAL ZIP CODE OF ASSIGNEE)

_____ *Shares*

represented by the within Certificate, and do hereby irrevocably constitute and appoint

_____ *Attorney*

to transfer the said Shares on the books of the within named Corporation with full power of substitution in the premises.

Dated _____

In presence of

_____

_____

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATEVER.

THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR UNDER THE SECURITIES LAWS OF APPLICABLE STATES, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. THESE SECURITIES ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER THE ACT AND APPLICABLE STATE SECURITIES LAWS, PURSUANT TO REGISTRATION OR EXEMPTION THEREFROM. OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME.

THE SALE OR TRANSFER OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN SECOND AMENDED AND RESTATED RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT DATED AUGUST 29, 2007 (AS SUCH MAY BE AMENDED FROM TIME TO TIME) BY AND AMONG THE REGISTERED HOLDER (OR HIS PREDECESSOR IN INTEREST), THE COMPANY, CERTAIN INVESTORS OF THE COMPANY, AND THE OTHER PARTIES NAMED THEREIN. A COPY OF SUCH AGREEMENT IS ON FILE AT THE PRINCIPAL OFFICE OF THE COMPANY.

THE SALE OR TRANSFER OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN LOCKUP AGREEMENT BY AND AMONG THE REGISTERED HOLDER (OR HIS PREDECESSOR IN INTEREST), AND JEFFERIES LLC, AS LEAD UNDERWRITER FOR THE COMPANY IN ITS INITIAL PUBLIC OFFERING OF SHARES OF COMMON STOCK . A COPY OF SUCH AGREEMENT IS ON FILE AT THE PRINCIPAL OFFICE OF THE COMPANY.

EXHIBIT 4.2

INVESTOR RIGHTS AGREEMENT

THIS INVESTOR RIGHTS AGREEMENT (this "Agreement") is made on August 29, 2007 (the "Effective Date") by and among Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and the Investors listed on Schedule I hereto (the "Investors").

WHEREAS, the Company proposes to issue and sell an aggregate of up to 35,000,000 shares of Common Stock, par value $.0001 per share, to certain Investors (the "New Investors") pursuant to that certain Stock Purchase Agreement of even date herewith (the "Purchase Agreement"); and

WHEREAS, as a condition to entering into the Purchase Agreement, the New Investors have requested that the Company enter into this Agreement in order to provide for certain rights and covenants as set forth herein.

NOW, THEREFORE, in consideration of the covenants and agreements set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto covenant and agree as follows:

1. GENERAL PROVISIONS

1.1 Shares Subject to this Investor Rights Agreement. The Investors expressly agree that the terms and restrictions of this Agreement shall apply to all shares of capital stock of the Company which any of them now owns or hereafter acquires by any means, including, without limitation, by purchase, assignment or operation of law, or as a result of any stock dividend, stock split, reorganization, reclassification, whether voluntary or involuntary, or other similar transaction, and to any shares of capital stock of any successor in interest of the Company, whether by sale, merger, consolidation or other similar transaction, or by purchase, assignment or operation of law (the "Shares").

1.2 No Partnership Relationship. Notwithstanding, but not in limitation of, any other provision of this Agreement, the parties hereto understand and agree that the creation, management and operation of the Company shall not create or imply a general partnership between or among the Investors and shall not make any Investor the agent or partner of any other Investor for any purpose.

1.3 Certain Definitions. As used in this Agreement, the following terms shall have the following respective meanings:

"Affiliate" means, with respect to any person or entity, any other person or entity which controls, or is controlled by, or is under common control with the subject referenced, any successor entities, and any investment funds managed by or advisor of such person or entity or an affiliate of such manager or advisor; and, for the purposes hereof, the term "control" (including the terms "controlling", "controlled by" and "under common control with") shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a person or entity, whether through the ownership of voting securities or by contract or otherwise.

"Commission" shall mean the U.S. Securities and Exchange Commission and any successor agency of the Federal government administering the Securities Act and the Exchange Act.

"Common Stock" shall mean (i) the common stock, $.0001 par value per share, of the Company, (ii) any other capital stock of the Company, however designated, authorized on or after the

date hereof, which shall neither be limited to a fixed sum or percentage of par value in respect of the rights of the holders thereof to participate in dividends nor entitled to a preference in the distribution of assets upon the voluntary or involuntary liquidation, dissolution or winding up of the Company; and (iii) any other securities into which or for which any of the securities described in (i) or (ii) may be converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, consolidation, sale of assets or other similar transaction.

"Exchange Act" shall mean the U.S. Securities Exchange Act of 1934, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission promulgated thereunder, all as the same shall be in effect from time to time.

"Federal" shall mean with respect to any executive, legislative or judicial branch of government or other agency or organ of government, a branch or other agency or organ of the government of the United States.

"Person" shall mean an individual, corporation, partnership, joint venture, trust or unincorporated organization, or a government or any agency or political subdivision thereof.

"Qualified IPO" shall mean an underwritten public offering of Common Stock of the Company, offered on a firm commitment basis, pursuant to a registration statement filed with the Commission under the Securities Act on Form S-1 or its then equivalent, in which (i) the public offering price per share (before underwriters' commissions and expenses) is not less than $2.00, being two times the original purchase price of a share of Common Stock (such dollar amount being subject to equitable adjustment in the event of any stock dividend, reorganization, recapitalization or similar event involving a change in the Common Stock) and (ii) the aggregate net proceeds to the Company equals or exceeds $40,000,000.

The terms "register," "registered" and "registration" shall mean a registration effected by preparing and filing a registration statement in compliance with the Securities Act and applicable rules and regulations thereunder, and the declaration or ordering of the effectiveness of such registration statement, or, as the context may require, under the Exchange Act or applicable state securities laws.

"Registrable Securities" shall mean shares of Common Stock, excluding any securities which have been (a) registered under the Securities Act pursuant to an effective registration statement filed thereunder and disposed of in accordance with the registration statement covering them or (b) publicly sold pursuant to Rule 144 under the Securities Act.

"Registration Expenses" shall mean the expenses so described in Section 4.5.

"Securities Act" shall mean the U.S. Securities Act of 1933, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission thereunder, all as the same shall be in effect from time to time.

"Selling Expenses" shall mean the expenses so described in Section 4.5.

"Subsidiary" or "Subsidiaries" shall mean any corporation, partnership, trust or other entity of which the Company and/or any of its other Subsidiaries directly or indirectly owns at the time a majority of the outstanding shares of any class of equity security of such corporation, partnership, trust or other entity.

2. PERCENTAGE MAINTENANCE RIGHTS

2.1 Right of First Offer. Except with respect to "Exempt Issuances" as defined in Section 2.3, in the event that the Company proposes to issue (the "New Issuance") any (i) shares of Common Stock, (ii) warrants, options or other rights to purchase Common Stock (collectively, "Rights"), or (iii) any debentures or other securities convertible into or exchangeable for shares of Common Stock (collectively, "Convertible Securities"), the Company will first offer (the "Offer") to sell such securities to the holders of Common Stock who own at least ten percent (10%) of the Common Stock then outstanding (each, a "Major Investor") and deliver a notice to the Major Investors (the "Offer Notice") of such Offer, stating the price (or, to the extent the consideration is other than cash, the fair market value of the consideration to be paid to the Company, as determined by the Board of Directors of the Company (the "Board") and other terms and conditions thereof.

2.2 Right to Purchase Shares, Rights or Convertible Securities.

(a) Each Major Investor which, at the time of the New Issuance, is either (i) an "accredited investor" (as that term is defined in Rule 501 of the Regulation D promulgated under the Securities Act) or (ii) not a "U.S. person" (as that term is defined in Rule 902 promulgated under the Securities Act) and may purchase such securities from the Company pursuant to Regulation S promulgated under the Securities Act, shall have the right to purchase up to such number of shares of Common Stock, Rights or Convertible Securities, as applicable, of the New Issuance at the price and on the terms stated in the Offer Notice, such price to be paid in full in cash or by check at the time of issuance of such securities to the Major Investor so that, after giving effect to the New Issuance, each Major Investor who exercises such right in full will continue to maintain its same proportionate ownership of Common Stock as of the date immediately preceding the Offer, treating each Major Investor for the purpose of such computation, as the holder of the number of shares of Common Stock which would be issuable to it upon conversion, exercise and exchange of all Rights and Convertible Securities held by it on the date immediately preceding the Offer and assuming the like conversion, exercise and exchange of all such securities held by other persons. The rights set forth in this Section 2 shall be exercised by the Major Investors, if at all, by written notice (the "Acceptance Notice") to the Company delivered not later than twenty (20) days after the receipt by the Major Investors of the Offer Notice in accordance with the terms and conditions stated therein, and such right shall expire at the end of the twentieth day after the day of the receipt by the Major Investors of the Offer Notice. The rights provided in this Section 2.2 shall be assignable to any Affiliate of an Investor.

(b) If any Major Investor fails to exercise its right hereunder to purchase its proportionate ownership interest ("Equity Percentage") of the New Issuance (or fails to pay the purchase price in respect of such New Issuance in full at the proposed time of closing) (a "Nonparticipating Major Investor"), the Company shall so notify the other Major Investors in a written notice (the "Excess Securities Notice"). The Excess Securities Notice shall be given by the Company promptly after it learns of the intention of any Major Investor not to purchase any or all of its Equity Percentage of the New Issuance or the failure of any Major Investor to pay such purchase price, but in no event later than fifteen (15) days after the expiration of the 20-day period. The Major Investors who or which have agreed to purchase their Equity Percentage of the New Issuance (each, a "Participating Major Investor") shall have the right to purchase a portion of the securities not purchased by such Nonparticipating Major Investor (the "Excess Securities"), determined by dividing such Participating Major Investor's Equity Percentage by the sum of all Participating Major Investors' Equity Percentages. If a Participating Major Investor desires to exercise such right, it must provide notice of its intention to exercise such right to the Company within ten (10) days after receipt of the Excess Securities Notice from the Company (an "Excess Securities Acceptance Notice"). The twenty-five (25) day period during which (i) the Company must give the Excess Securities Notice to the other Major Investors, and (ii) each of the Participating Major Investors must give the Company an Excess Securities Acceptance Notice, is hereinafter referred to as the "Excess Securities Period."

(c) To the extent that an Acceptance Notice or Excess Securities Acceptance Notice has not been given by the Investors with respect to any portion of the New Issuance which the Investors are entitled to purchase pursuant to this Section 2, the Company shall have 120 days from the expiration of the foregoing 25-day period to sell all or any part of such portion of the New Issuance to any other person or persons, but only upon terms and conditions in all material respects, including, without limitation, unit price and interest rates, which are no more favorable to such other person or persons and no less favorable to the Company than those set forth in the Offer.

2.3 Exempt Issuances. The term "Exempt Issuances" referred to in Section 2.1 which will not give the Major Investors the rights described in Section 2.2 to any of the following equity securities:

(a) shares of Common Stock (and/or options, warrants or other Common Stock purchase rights issued pursuant to such options, warrants or other rights) issued or to be issued to employees, officers or directors of, or consultants or advisors to the Company or any Subsidiary, pursuant to compensation plans, compensation agreements, or other compensation arrangements that are approved by the Board;

(b) shares of Common Stock issuable pursuant to the Purchase Agreement;

(c) any equity securities issued for consideration other than cash pursuant to a merger, consolidation, acquisition or similar business combination that is approved by the Board;

(d) shares of Common Stock issued in connection with any stock split, stock dividend or recapitalization by the Company;

(e) any equity securities issued pursuant to any equipment leasing arrangement, or debt financing from a bank or similar financial institution; *provided,* such equipment leasing arrangement, or debt financing is approved by the Board and, if such issuances exceed in the aggregate 1,000,000 shares, the consent of the holders of at least a majority of the Common Stock;

(f) any Equity Securities issued in connection with strategic transactions involving the Company and other entities, including (i) joint ventures, manufacturing, marketing or distribution arrangements or (ii) technology transfer or development arrangements; *provided* that such strategic transactions and the issuance of shares therein has been approved by the Board and, if such issuances exceed in the aggregate 1,000,000 shares, the consent of the holders of at least a majority of the Common Stock; and

(g) any equity securities issued in connection with the Company's Qualified IPO;

2.4 Termination. The respective rights and obligations of the parties under this Section 2 shall terminate upon the closing of, and shall not apply to the offer and sale of securities in connection with, the Company's Qualified IPO.

3. TRANSFER OF REGISTRABLE SECURITIES

3.1 Restrictive Legend. Each certificate representing Registrable Securities shall, except as otherwise provided in this Section 3.1 or in Section 3.2, be stamped or otherwise imprinted with

a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

> "The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), or any other securities laws. These securities have been acquired for investment and not with a view to distribution or resale. Such securities may not be offered for sale, sold, delivered after sale, transferred, pledged or hypothecated in the absence of an effective registration statement covering such securities under the Securities Act and any other applicable securities laws, unless the holder shall have obtained an opinion of counsel reasonably satisfactory to the corporation that such registration is not required."

Upon the request of a holder of such a certificate, the Company shall remove the foregoing legend from the certificate or issue to such holder a new certificate therefor free of any transfer legend, if (i) there is an effective registration statement covering the securities represented by such certificate, (ii) with such request, the Company shall have received either the opinion referred to in Section 3.2(a)(i) or the "no-action" letter referred to in Section 3.2(a)(ii), or (iii) the request is made in connection with a proposed transfer in accordance with the provisions of Rule 144 (or any other rule permitting public sale without registration under the Securities Act).

3.2 Notice of Proposed Transfer.

(a) Prior to any proposed sale, pledge, hypothecation or other transfer of any Registrable Securities (other than under the circumstances described in Section 4.1, 4.2 or 4.3), the holder thereof shall give written notice to the Company of its intention to effect such sale, pledge, hypothecation or other transfer. Each such notice shall describe the manner of the proposed sale, pledge, hypothecation or other transfer and, if requested by the Company shall be accompanied by either (i) an opinion of counsel reasonably satisfactory to the Company to the effect that the proposed sale, pledge, hypothecation or other transfer may be effected without registration under the Securities Act or (ii) a "no action" letter from the Commission to the effect that the distribution of such securities without registration will not result in a recommendation by the staff of the Commission that action be taken with respect thereto, whereupon the holder of such stock shall be entitled to transfer such stock in accordance with the terms of its notice; provided, however, that no such opinion of counsel or "no action" letter shall be required (A) for a distribution to one or more partners or members of the transferor (in the case of a transferor that is a partnership or limited liability company) in each case in respect of the beneficial interest of such partner or member or (B) for transfers made in accordance with the provisions of Rule 144 (or any rule permitting public sale without registration under the Securities Act) including Rule 144(k). Each certificate for Registrable Securities transferred as above provided shall bear the appropriate restrictive legend set forth in Section 3.1, except that such certificate shall not bear such legend if (Y) such transfer is in accordance with the provisions of Rule 144 (or any other rule permitting public sale without registration under the Securities Act) or (Z) the opinion of counsel or "no-action" letter referred to above is to the further effect that the transferee and any subsequent transferee (other than an Affiliate of the Company) would be entitled to transfer such securities in a public sale without registration under the Securities Act or that such legend is not required to establish compliance with any provisions of the Securities Act. Notwithstanding any other provision hereof, the restrictions provided for in this Section 3.2 shall not apply to securities which are not required to bear the legend prescribed by Section 3.1 in accordance with the provisions of that Section.

(b) No such opinion of counsel or "no action" letter from the Commission, as set forth in Section 3.2(a) above, shall be required in the event of a sale, pledge, hypothecation or other

transfer of any Registrable Securities to (i) any Affiliate of an Investor, including, without limitation, any venture capital limited partnership now existing or hereafter formed which controls, is controlled by or is under common control with such Investor; and (ii) any successors or permitted assigns of any of the foregoing persons, provided that the transferee agrees in writing to be subject to this Agreement to the same extent as if such transferee were originally a signatory.

4. REGISTRATION

4.1 Required Registration.

(a) At any time after the expiration of any lock-up period under Section 4.9 below following the Company's initial public offering, one or more of the Investors who own more than twenty percent (20%) of the Common Stock of the Company then outstanding may request that the Company register for sale under the Securities Act all or a part of the Registrable Securities held by such Investor(s) in the manner specified in such notice.

(b) Following receipt of any notice under Section 4.1(a), the Company shall immediately notify in writing all holders of Registrable Securities from whom notice has not been received and such holders shall then be entitled within thirty (30) days after receipt of such notice from the Company to request the Company to include in the requested registration all or any portion of their shares of Registrable Securities. The Company shall use its best efforts to register under the Securities Act for public sale in accordance with the method of disposition specified in the notice from requesting holders described in paragraph (a) above, within one hundred eighty (180) days of its receipt of such notice, the number of shares of Registrable Securities specified in such notice (and in all notices received by the Company from other holders within thirty (30) days after the receipt of such notice by such holders). The Company shall be obligated to register the Registrable Securities pursuant to this Section 4.1 on two (2) occasions only, provided, however, that the Company shall be obligated to effect two (2) additional registrations pursuant to this Section 4.1 to the extent that the holders of Registrable Securities were unable to include such Registrable Securities in the first registration as a result of a reduction by the managing underwriter, if any, pursuant to Section 4.1(d)). Notwithstanding anything to the contrary contained herein, no request may be made under this Section 4.1 after the effective date of a registration statement filed by the Company covering a firm commitment underwritten public offering and prior to the later to occur of the completion of the period of distribution for such offering or ninety (90) days after the effective date of such registration statement.

(c) If the holders requesting such registration intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 4.1 and the Company shall include such information in the written notice referred to in paragraph (b) above. The right of any holder to registration pursuant to this Section 4.1 shall be conditioned upon such holder's agreeing to participate in such underwriting and to permit inclusion of such holder's Registrable Securities in the underwriting. The Board shall designate the managing underwriter of such offering. A holder may elect to include in such underwriting all or a part of the Registrable Securities it holds.

(d) A registration statement filed pursuant to this Section 4.1 may, subject to the following provisions, include (i) shares of Common Stock for sale by the Company for its own account, (ii) shares of Common Stock held by officers or directors of the Company, and (iii) shares of Common Stock held by certain employees and consultants of the Company who by virtue of currently existing agreements with the Company granting them "piggy-back" registration rights are entitled to include such shares in such registration (the "Other Shareholders"), in each case for sale in accordance with the method of disposition specified by the requesting holders; provided, however, that if the number

of shares so included pursuant to clauses (i) and (ii) above exceeds the number of Registrable Securities presented by the holders requesting registration thereof, then such registration shall be deemed to be a registration in accordance with Section 4.2 and not this Section 4.1. If such registration shall be underwritten, the Company and such officers and directors and Other Shareholders proposing to distribute their shares through such underwriting shall enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected for such underwriting on terms no less favorable to such officers, directors or Other Shareholders than the terms afforded the holders of Registrable Securities. If and to the extent that the managing underwriter determines that marketing factors require a limitation on the number of shares to be included in such registration, such exclusion, to the extent required by the managing underwriter, shall be applied in the following order: first, to the shares held by the directors and officers and the Other Shareholders, second, to the shares of Common Stock of the Company to be included for its own account. If the managing underwriter determines that marketing factors require a limitation of the number of Registrable Securities to be registered under this Section 4.1, then Registrable Securities shall be excluded in such manner that the securities to be sold shall be allocated among the selling holders pro rata based on their ownership of Registrable Securities. In any event all securities to be sold other than Registrable Securities will be excluded prior to any exclusion of Registrable Securities. No Registrable Securities or any other security excluded from the underwriting by reason of the underwriter's marketing limitation shall be included in such registration. If any holder of Registrable Securities, officer, director or Other Shareholder who has requested inclusion in such registration as provided above, disapproves of the terms of the underwriting, such holder of securities may elect to withdraw therefrom by written notice to the Company and the managing underwriter. The securities so withdrawn shall also be withdrawn from registration. Except for registration statements on Form S-4, S-8 or any comparable form or successor thereto, the Company will not file with the Commission any other registration statement with respect to its Common Stock, whether for its own account or that of other stockholders, from the date of receipt of a notice from requesting holders pursuant to this Section 4.1 until the completion of the period of distribution of the registration contemplated thereby or one hundred twenty (120) days after the effective date of such registration, whichever is later.

4.2 Incidental Registration. If the Company at any time (other than pursuant to Section 4.1 or Section 4.3) proposes to register any of its securities under the Securities Act for sale to the public, whether for its own account or for the account of other security holders or both (except with respect to registration statements on Forms S-4, S-8 or any successor to such forms or another form not available for registering the Registrable Securities for sale to the public), each such time it will promptly give written notice to all holders of the Registrable Securities of its intention so to do. Upon the written request of any such holder received by the Company within thirty (30) days after the giving of any such notice by the Company (provided that at least one Major Investor elects to register any or all of its Registrable Securities), to register any or all of its Registrable Securities, the Company will use its best efforts to cause the Registrable Securities as to which registration shall have been so requested to be included in the securities to be covered by the registration statement proposed to be filed by the Company, all to the extent requisite to permit the sale or other disposition by the holder (in accordance with its written request) of such Registrable Securities so registered. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the holders of Registrable Securities as a part of the written notice given pursuant to this Section 4.2. In such event the right of any holder of Registrable Securities to registration pursuant to this Section 4.2 shall be conditioned upon such holder's participation in such underwriting to the extent provided herein. All holders of Registrable Securities proposing to distribute their securities through such underwriting shall (together with the Company and the Other Shareholders distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for underwriting by the Company. Notwithstanding any other provision of this Section 4.2, if the underwriter determines that marketing factors require a limitation on the number of

shares to be underwritten, the Company shall so advise all holders of securities requesting registration of any limitations on the number of shares to be underwritten, and the number of shares of securities that are entitled to be included in the registration and underwriting shall be allocated (i) first to the Company with respect to shares of Common Stock being sold for its own account; (ii) second, to holders of Registrable Securities requesting registration in proportion, as nearly as practicable, to the respective amounts of securities owned by them and (iii) then, to the Other Shareholders requesting registration in proportion, as nearly as practicable, to the respective amounts of securities owned by them. Notwithstanding the foregoing provisions, the Company may withdraw any registration statement referred to in this Section 4.2 without thereby incurring any liability to the holders of Registrable Securities. If any holder of Registrable Securities disapproves of the terms of any such underwriting, it may elect to withdraw therefrom by written notice to the Company and the underwriter. Any Registrable Securities or other securities excluded or withdrawn from such underwriting shall be withdrawn from such registration.

4.3 Registration on Form S-3. In addition to the rights provided in Sections 4.1 and 4.2, if at any time (i) any Investor who owns more than twenty percent (20%) of the Common Stock of the Company requests that the Company file a registration statement on Form S-3 or any comparable or successor form thereto for a public offering of all or any portion of the shares of Registrable Securities held by such requesting holder or holders, the reasonably anticipated aggregate offering price to the public of which would exceed $5,000,000, and (ii) the Company is a registrant entitled to use Form S-3 or any comparable or successor form thereto to register such shares, then the Company shall use its best efforts to register under the Securities Act on Form S-3 or any comparable or successor form thereto, for public sale in accordance with the method of disposition specified in such notice, the number of shares of Registrable Securities specified in such notice. Whenever the Company is required by this Section 4.3 to use its best efforts to effect the registration of Registrable Securities, each of the procedures and requirements of Sections 4.1 and 4.4, including, but not limited to, the requirement that the Company notify all holders of Registrable Securities from whom notice has not been received and provide them with the opportunity to participate in the offering, shall apply to such registration, provided, however, that the Company shall not be obligated to effect more than two (2) registrations pursuant to this Section 4.3 in any twelve (12) month period.

4.4 Registration Procedures. If and whenever the Company is required by the provisions of Section 4.1, 4.2 or 4.3 to use its best efforts to effect the registration of any Registrable Securities under the Securities Act, the Company will, as expeditiously as possible:

(a) prepare and file with the Commission a registration statement (which, in the case of an underwritten public offering pursuant to Section 4.1, shall be on Form S-1 or other form of general applicability satisfactory to the managing underwriter selected as therein provided) with respect to such securities including executing an undertaking to file post-effective amendments and use its best efforts to cause such registration statement to become and remain effective for the period of the distribution contemplated thereby; provided, that before filing a registration statement or prospectus, the Company shall furnish to the counsel selected by the holders of a majority of the Registrable Securities covered by such registration statement copies of all such documents proposed to be filed, which documents shall be subject to review and comment of such counsel;

(b) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective for the period specified herein and comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities covered by such registration statement in accordance with the sellers' intended method of disposition set forth in such registration statement for such period; provided, that before filing any such amendment or supplement, the Company shall furnish to the counsel selected by the holders of a majority of the Registrable

Securities covered by such amendment or supplement copies of all such documents proposed to be filed, which documents shall be subject to review and comment of such counsel;

(c) furnish to each seller of Registrable Securities and to each underwriter such number of copies of the registration statement and each such amendment and supplement thereto (in each case including all exhibits) and the prospectus included therein (including each preliminary prospectus) as such persons reasonably may request in order to facilitate the public sale or other disposition of the Registrable Securities covered by such registration statement;

(d) use its best efforts to register or qualify the Registrable Securities covered by such registration statement under the securities or "blue sky" laws of such jurisdictions as the sellers of Registrable Securities or, in the case of an underwritten public offering, the managing underwriter reasonably shall request, provided, however, that the Company shall not for any such purpose be required to qualify generally to transact business as a foreign corporation in any jurisdiction where it is not so qualified or to consent to general service of process in any such jurisdiction, unless the Company is already subject to service in such jurisdiction;

(e) use its best efforts to list the Registrable Securities covered by such registration statement with any securities exchange on which the Common Stock of the Company is then listed and, if not so listed, to be listed on the NASD automated quotation system and, if listed on the NASD automated quotation system, use its best efforts to secure designation of all such Registrable Securities covered by such registration statements as a NADSAQ "national market system security" within the meaning of Rule 11Aa2-1 of the Exchange Act or, failing that, to secure NASDAQ authorization for such Registrable Securities;

(f) comply with all applicable rules and regulations under the Securities Act and Exchange Act;

(g) provide a transfer agent and registrar for all such Registrable Securities and a CUSIP number for all such Registrable Securities in each case not later than the effective date of such registration statement;

(h) immediately notify each seller of Registrable Securities and each underwriter under such registration statement, at any time when a prospectus relating thereto is required to be delivered under the Securities Act, of the happening of any event of which the Company has knowledge as a result of which the prospectus contained in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, and promptly prepare and furnish to such seller a reasonable number of copies of a prospectus supplemented or amended so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing;

(i) if the offering is underwritten and at the request of any seller of Registrable Securities, use its best efforts to furnish on the date that Registrable Securities are delivered to the underwriters for sale pursuant to such registration: (i) an opinion dated such date of counsel representing the Company for the purposes of such registration, addressed to the underwriters to such effects as reasonably may be requested by counsel for the underwriters, and (ii) a letter dated such date from the independent public accountants retained by the Company, addressed to the underwriters stating that they are independent public accountants within the meaning of the Securities Act and that, in the

opinion of such accountants, the financial statements of the Company included in the registration statement or the prospectus, or any amendment or supplement thereof, comply as to form in all material respects with the applicable accounting requirements of the Securities Act, and such letter shall additionally cover such other financial matters (including information as to the period ending no more than five (5) business days prior to the date of such letter) with respect to such registration as such underwriters reasonably may request;

(j) make available for inspection by each seller of Registrable Securities, any underwriter participating in any distribution pursuant to such registration statement, and any attorney, accountant or other agent retained by such seller or underwriter, reasonable access to all financial and other records, pertinent corporate documents and properties of the Company, as such parties may reasonably request, and cause the Company's officers, directors and employees to supply all information reasonably requested by any such seller, underwriter, attorney, accountant or agent in connection with such registration statement;

(k) cooperate with the selling holders of Registrable Securities and the managing underwriter, if any, to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold, such certificates to be in such denominations and registered in such names as such holders or the managing underwriter may request at least two (2) business days prior to any sale of Registrable Securities;

(l) permit any holder of Registrable Securities which holder, in the sole and exclusive judgment, exercised in good faith, of such holder, might be deemed to be a controlling person of the Company, to participate in good faith in the preparation of such registration or comparable statement and to require the insertion therein of material, furnished to the Company in writing, which in the reasonable judgment of such holder and its counsel should be included;

(m) in the event of the issuance of any stop order suspending the effectiveness of a registration statement, or of any order suspending or preventing the use of any related prospectus or suspending the qualification of any common stock included in such registration statement for sale in any jurisdiction, the Company shall use its best efforts promptly to obtain the withdrawal of such order;

(n) use its best efforts to cause such Registrable Securities covered by such registration statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the sellers thereof to consummate the disposition of such Registrable Securities; and

(o) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering and take all such other actions as the underwriters reasonably request in order to expedite or facilitate the disposition of Registrable Securities.

For purposes of this Agreement, the period of distribution of Registrable Securities in a firm commitment underwritten public offering shall be deemed to extend until each underwriter has completed the distribution of all securities purchased by it, and the period of distribution of Registrable Securities in any other registration shall be deemed to extend until the earlier of the sale of all Registrable Securities covered thereby or one hundred eighty (180) days after the effective date thereof, provided, however, in the case of any registration of Registrable Securities on Form S-3 or a comparable or successor form which are intended to be offered on a continuous or delayed basis, such one hundred eighty (180) day period shall be extended, if necessary, to keep the registration statement effective until

all such Registrable Securities are sold, provided that Rule 415, or any successor rule under the Securities Act, permits an offering on a continuous or delayed basis, and provided further that applicable rules under the Securities Act governing the obligation to file a post-effective amendment, permit, in lieu of filing a post-effective amendment which (y) includes any prospectus required by Section 10(a)(3) of the Securities Act or (z) reflects facts or events representing a material or fundamental change in the information set forth in the registration statement, the incorporation by reference of information required to be included in (y) and (z) above contained in periodic reports filed pursuant to Section 13 or 15(d) of the Exchange Act in the registration statement.

In connection with each registration hereunder, the sellers of Registrable Securities will furnish to the Company, in writing, such information requested by the Company with respect to themselves and the proposed distribution by them as shall be reasonably necessary in order to assure compliance with Federal and applicable state securities laws.

4.5 Expenses.

(a) All expenses other than Selling Expenses incurred by the Company in complying with Sections 4.1, 4.2 and 4.3, are called "Registration Expenses" and shall include, without limitation, (i) all registration and filing fees, printing expenses, fees and disbursements of counsel and independent public accountants for the Company, fees and expenses (including counsel fees) incurred in connection with complying with state securities or "blue sky" laws, fees of the National Association of Securities Dealers, Inc., transfer taxes, fees of transfer agents and registrars, costs of any insurance which might be obtained by the Company with respect to the offering by the Company, and (ii) reasonable attorneys fees and disbursements of one counsel for the holders of Registrable Securities in an amount not to exceed an aggregate of $50,000, such counsel to be selected by the holders of at least a majority of the Registrable Securities being sold. All underwriting discounts and selling commissions applicable to the sale of Registrable Securities are called "Selling Expenses."

(b) The Company shall pay all Registration Expenses in connection with each registration statement under Section 4.1, 4.2 and 4.3; provided, that, in the event of a registration pursuant to Section 4.1 hereof which is withdrawn at the request of the Investors other than (i) as a result of the Company's failure to perform its obligations hereunder, (ii) as a result of a cutback by the underwriter of such registration in the amount of Registrable Securities which may be included in such registration by more than twenty percent (20%) or (iii) as a result of information concerning a materially adverse change in the Company's business or financial condition that is made known to the Investors after the date on which such registration was requested, each Investor shall pay a percentage portion of the Registration Expenses with respect to such withdrawn registration statement equal to the number of Registrable Securities of such Investor proposed to be included in such registration divided by the number of Registrable Securities of all Investors proposed to be included in such registration. In the event that a registration pursuant to Section 4.1 hereof is withdrawn pursuant to clauses (i), (ii) or (iii) of this Section 4.5(b), the Investors shall, immediately following such withdrawal, be entitled to that number of registration requests pursuant to Section 4.1 hereof to which they would have been entitled not taking into account the withdrawn request. All Selling Expenses in connection with each registration statement under Section 4.1, 4.2 or 4.3 shall be borne by the participating sellers in proportion to the number of shares registered by each, or by such participating sellers other than the Company (except to the extent the Company shall be a seller) as they may agree.

4.6 Indemnification and Contribution.

(a) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, the Company will indemnify and hold harmless

each holder of Registrable Securities, its officers, directors, managers, members and partners, each underwriter of such Registrable Securities thereunder and each other person, if any, who controls such holder or underwriter within the meaning of the Securities Act (each, an "Indemnitee"), against any losses, claims, damages or liabilities, joint or several, to which such Indemnitee may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in any prospectus, offering circular or other document incident to such registration (including any related notification, registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereof), (ii) any blue sky application or other document executed by the Company specifically for that purpose or based upon written information furnished by the Company filed in any state or other jurisdiction in order to qualify any or all of the Registrable Securities under the securities laws thereof (any such application, document or information herein called a "Blue Sky Application"), (iii) any omission or alleged omission to state in any such registration statement, prospectus, amendment or supplement or in any Blue Sky Applications executed or filed by the Company, a material fact required to be stated therein or necessary to make the statements therein not misleading, (iv) any violation by the Company or its agents of the Securities Act or any rule or regulation promulgated under the Securities Act applicable to the Company or its agents and relating to action or inaction required of the Company in connection with such registration, or (v) any failure to register or qualify the Registrable Securities in any state where the Company or its agents has affirmatively undertaken or agreed in writing that the Company (the undertaking of any underwriter chosen by the Company being attributed to the Company) will undertake such registration or qualification and will reimburse each Indemnitee for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action, promptly after being so incurred, provided, however, that the Company will not be liable to an Indemnitee if, and to the extent that, any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with written information furnished by such Indemnitee, in writing specifically stated to be for use in such registration statement or prospectus.

(b) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, each seller of such Registrable Securities thereunder, severally and not jointly, will indemnify and hold harmless the Company, each person, if any, who controls the Company within the meaning of the Securities Act, each officer of the Company who signs the registration statement, each director of the Company, each other seller of Registrable Securities, each underwriter and each person who controls any underwriter within the meaning of the Securities Act, against all losses, claims, damages or liabilities, joint or several, to which the Company or such officer, director, other seller, underwriter or controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any prospectus offering circular or other document incident to such registration (including any related notification, registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereof), or any Blue Sky Application or arise out of, or are based upon, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse the Company and each such officer, director, other seller, underwriter and

controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, expense, liability or action, promptly after being so incurred, provided, however, that such seller will be liable hereunder in any such case if and only to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or

alleged omission made in reliance upon and in conformity with information pertaining to such seller, as such, furnished in writing to the Company by such seller specifically for use in such registration statement or prospectus; and provided further, however, that the liability of each seller hereunder shall be limited to the proportion of any such loss, claim, damage, liability or expense which is equal to the proportion that the public offering price of the securities sold by such seller under such registration statement bears to the total public offering price of all securities sold thereunder, but not in any event to exceed the net proceeds received by such seller from the sale of Registrable Securities covered by such registration statement. Not in limitation of the foregoing, it is understood and agreed that the indemnification obligations of any seller hereunder pursuant to any underwriting agreement entered into in connection herewith shall be limited to the obligations contained in this Section 4.6(b), absent any fraud on the part of such seller.

(c) Promptly after receipt by an indemnified party hereunder of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party hereunder, notify the indemnifying party in writing thereof, but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to such indemnified party other than under this Section 4.6 and shall only relieve it from any liability which it may have to such indemnified party under this Section 4.6 if, and to the extent, the indemnifying party is prejudiced by such omission. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in and, to the extent it shall wish, to assume and undertake the defense thereof with counsel satisfactory to such indemnified party, and, after notice from the indemnifying party to such indemnified party of its election so to assume and undertake the defense thereof, the indemnifying party shall not be liable to such indemnified party under this Section 4.6 for any legal expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation and of liaison with counsel so selected, provided, however, that, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the indemnifying party or that the interests of the indemnified party reasonably may be deemed to conflict with the interests of the indemnifying party, the indemnified party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the indemnifying party as incurred. No indemnifying party, in the defense of any such claim or action, shall, except with the consent of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect to such claim or action. Each indemnified party shall furnish such information regarding itself or the claim in question as an indemnifying party may reasonably request in writing and as shall be reasonably required in connection with defense of such claim and litigation resulting therefrom.

(d) In order to provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any holder of Registrable Securities exercising rights under this Agreement, or any controlling person of any such holder, makes a claim for indemnification pursuant to this Section 4.6 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case notwithstanding the fact that this Section 4.6 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any such selling holder or any such controlling person in circumstances for which indemnification is provided under this Section 4.6; then, and in each such case, the Company and such holder will contribute to the aggregate losses, claims, damages or liabilities to which they may be subject (after contribution from others) in such proportion so that such holder is

responsible for the portion represented by the percentage that the public offering price of its Registrable Securities offered by the registration statement bears to the public offering price of all securities offered by such registration statement, and the Company is responsible for the remaining portion, provided, however, that, in any such case, (A) no such holder of Registrable Securities will be required to contribute any amount in excess of the proceeds received from the sale of all such Registrable Securities offered by it pursuant to such registration statement; and (B) no person or entity guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person or entity who was not guilty of such fraudulent misrepresentation.

(e) The indemnities and obligations provided in this Section 4.6 shall survive the transfer of any Registrable Securities by such holder.

4.7 Changes in Common Stock. If, and as often as, there is any change in the Common Stock by way of a stock split, stock dividend, combination or reclassification, or through a merger, consolidation, reorganization or recapitalization, or by any other means, appropriate adjustment shall be made in the provisions hereof so that the rights and privileges granted hereby shall continue with respect to the Common Stock as so changed.

4.8 Rule 144 and 144A Reporting. With a view to making available the benefits of certain rules and regulations of the Commission which may at any time permit the sale of the Registrable Securities to the public without registration, except as provided in paragraph (c) below, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, the Company agrees to:

(a) use its best efforts to comply with all of the reporting requirements of the Exchange Act (whether or not it shall be required to do so) and shall comply with all other public information reporting requirements of the Commission as a condition to the availability of an exemption from the Securities Act for the sale of any of the Registrable Securities by any holder of Registrable Securities (including any such exemption pursuant to Rule 144 or Rule 144A thereof, as amended form time to time, or any successor rule thereto or otherwise);

(b) cooperate with each holder of Registrable Securities in supplying such information as may be necessary for such holder of Registrable Securities to complete and file any information reporting forms presently or hereafter required by the Commission as a condition to the availability of an exemption from the Securities Act (under Rule 144 or Rule 144A thereunder or otherwise) for the sale of any of the Registrable Securities by any holder of Registrable Securities; and

(c) furnish to each holder of Registrable Securities forthwith upon request a written statement by the Company as to its compliance with the reporting requirements of such Rule 144 or Rule 144A (or any successor rule) and, at any time after it has become subject to such reporting requirements, of the Securities Act and the Exchange Act, a copy of the most recent annual or quarterly report of the Company, and such other reports and documents so filed by the Company as such holder may reasonably request in availing itself of any rule or regulation of the Commission allowing such holder to sell any Registrable Securities without registration.

4.9 "Market Stand-Off" Agreement. Each of the Investors agrees, severally and not jointly, that, if requested by the Company and an underwriter of Common Stock (or other securities) of the Company, not to sell or otherwise transfer or dispose of any Common Stock (or other securities) of the Company held by such Investor during a period not to exceed one hundred and eighty (180) days following the effective date of the first registration statement of the Company filed under the Securities Act, and to enter into an agreement to such effect, to the extent such Investor is not participating in the

offering to which the registration statement relates, in each case so long as all of the Company's officers, directors and holders of at least one-half of one percent (0.5%) of the outstanding Common Stock (or securities convertible into such Common Stock) also enter into agreements to such effect.

The Company may impose stop-transfer instructions with respect to the shares (or securities) subject to the foregoing restriction until the end of said period.

4.10 Assignment of Registration Rights. The rights to cause the Company to register Registrable Securities pursuant to this Section 4 may be assigned (but only with all related obligations) by a holder of Registrable Securities to a transferee or assignee of such securities who is not engaged in a business activity competitive with the Company (as reasonably determined by the Board), provided that the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned; and provided, further, that such assignment shall be effective only if (i) immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Act and (ii) the transferee or assignee shall acknowledge in writing that the transferred or assigned Registrable Securities shall remain subject to this Agreement.

4.11 Other Registration Rights. Other than the registration rights granted to the Investors under this Section 4, the Company shall not grant to a holder of capital stock or other equity securities of the Company any registration rights that are superior to or on parity with the registration rights granted to the Investors under this Section 4.

4.12 Termination. The respective rights and obligations of the parties under this Section 4 shall terminate upon the earlier of (i) the fifth (5^{th}) anniversary of the closing of the Company's Qualified IPO and (ii) with respect to a particular holder, when such holder can sell all of such holder's shares under Rule 144 promulgated under the Securities Act without regard to volume limitations.

5. BOARD OF DIRECTORS

5.1 Election of Directors. The Company shall take or cause to be taken such actions as may be required from time to time to establish and maintain the number of persons comprising the Board at four (4), and the Investors shall take or cause to be taken such actions as may be required from time to time to elect as directors (i) two (2) directors designated by Care Capital LLC ("Care Capital"), who shall initially be Jerry Karabelas and Lorenzo Pellegrini and (ii) two (2) directors designated by Index Ventures III (Delaware) L.P. ("Index") who shall initially be Michele Ollier and Francesco de Rubertis. Without limiting the generality of the foregoing, at each annual meeting of the stockholders, and at each special meeting of the stockholders called in accordance with the provisions of the By-Laws for the purpose of electing directors of the Company, and at any time at which the stockholders have the right to, or shall, elect directors of the Company, then, and in each event, the Investors shall vote all Shares owned by them (or shall consent in writing in lieu of a meeting of stockholders, as the case may be) to set the number of, and to elect persons as, directors of the Company in accordance with this Section. Each Investor with a right to so designate a director of the Company shall have the right to remove any such director and appoint one (1) natural person as an alternate member for each director appointed by such Investor.

5.2 Board Observers and Committees.

(a) Remy Luthringer, along with one or more individuals appointed by each of Care Capital and Index, shall be entitled to observe at all meetings of the Board and each meeting of all committees of such Board and to participate in all discussions during each such meeting; provided, that

the Board (or committee of the Board, as the case may be) shall have the right to exclude such observers from all or any portion of a meeting (and to exclude such observers from receiving any related materials) to the extent the Board (or such committee), in its sole discretion, deems reasonably necessary to: (i) preserve the attorney-client privilege; or (ii) avoid any conflicts of interest. The Company shall send to each such observers the notice of the time and place of such meeting (with such notice being given no later than to any other outside director), the agenda and any other materials to be discussed at the meeting and shall give each such observers notice of each such meeting in the form and manner such notice is given to the Company's directors. The Company shall also provide to each such observers, in a timely manner, copies of all notices, reports, minutes and consents at the time and in the manner as they are provided to the Board or committee, except for information reasonably designated as proprietary information by the Board.

(b) In the event that the Company creates any committee of its Board, Care Capital and Index shall each have the right to have the directors of the Board designated by them appointed to such committee and such directors shall continue to serve on such committee until removed by the Investor who appointed such director.

5.3 Expenses. The Company shall reimburse directors and observers (but, in the case of observers, only if, and to the extent, such observer is attending a meeting in lieu of a director) for all out-of-pocket expenses incurred in attending meetings of the Board and, if applicable, committees of the Board, and shall provide customary compensation including, but not limited to, the right to receive options, fees and equity interests in accordance with the Company's policies as they may be amended from time to time.

5.4 Removal of Directors; Filling of Vacancies. Each Investor shall take all action necessary to remove forthwith any director when such removal is requested for any reason, with or without cause, by the Investor that designated such director for election. In the case of the death, resignation or removal as herein provided of a director, each Investor shall vote all Shares owned by him, her or it to elect another person designated by the same Investor that designated the deceased, resigning or removed director if, at the time such vacancy occurs, such Investor shall have the right to have a person designated by him, her or it elected as a director pursuant to Section 5.1. The Company and each Investor agrees to use his, her or its best efforts to prevent any action from being taken by the Board during the pendency of any vacancy due to the death, resignation or removal of a director unless the party entitled to have a person designated by him to fill such vacancy shall have failed for a period (10) days after written notice of such vacancy to designate a replacement.

5.5 Termination. The provisions set forth in this Section 5 shall be of no further force and effect upon the closing of the Company's Qualified IPO.

5.6 Quorum and Casting Vote. Notwithstanding anything to the contrary in the bylaws of the Company, (a) the chairman of the Board shall not have a casting vote and (b) a quorum of the Board must include at least one director designated by Care Capital and at least one director designated by Index.

6. AFFIRMATIVE COVENANTS OF THE COMPANY

The Company covenants and agrees that, from the date of the First Closing under the Purchase Agreement and thereafter so long as any Investor owns at least twenty percent (20%) of the Common Stock then outstanding (each, a "Rights Holder"), it will perform and observe the following covenants and provisions.

6.1 Financial Statements; Other Reports. The Company shall maintain proper books of account and records in accordance with generally accepted accounting principles applied on a consistent basis, and shall deliver to each Rights Holder:

(a) as soon as available and in any event within thirty (30) days after the end of each of the first three quarters of each fiscal year of the Company, a consolidated balance sheet of the Company and its Subsidiaries, if any, as of the end of such quarter and the related statements of income and stockholders' equity and of cash flows of the Company for the period commencing at the end of the previous fiscal year and ending with the end of such quarter, setting forth in each case in comparative form the corresponding figures for the corresponding period of the preceding fiscal year, if applicable, and the budget for such current year, all in reasonable detail and prepared in accordance with generally accepted accounting principles consistently applied, and duly certified (subject to year-end audit adjustments) by the chief financial officer (or if there is no chief financial officer, the chief executive officer) of the Company.

(b) as soon as available and in any event within ninety (90) days after the end of each fiscal year of the Company, a copy of the financial statements for such year for the Company, prepared in accordance with generally accepted accounting principles, including therein a consolidated balance sheet of the Company and its Subsidiaries, if any, as of the end of such fiscal year and statements of income and stockholders' equity and of cash flows of the Company for such fiscal year, setting forth in each case in comparative form the corresponding figures for the preceding fiscal year, all duly certified by the chief financial officer (or if there is no chief financial officer, the chief executive officer) of the Company;

(c) promptly after receipt thereof, notice of all material actions, suits and proceedings before any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, affecting the Company; and

(d) within thirty (30) days after the last day of each month (or such other calendar period as is approved by the Board), financial statements, including a balance sheet as of the last date of such month, a statement of income (or monthly operating expenses) for such month, together with a cumulative statement of income from the first day of the current year to the last day of such month, which statements shall be prepared from the books and records of the Company, and a comparison between the actual monthly operating expenses and the projected figures for such month and the comparable figures for the prior year.

Neither the foregoing provisions of this Section 6.1 nor any other provision of this Agreement shall be in limitation of any rights which an Investor may have with respect to the books and records of the Company, or to inspect their properties or discuss their affairs, finances and accounts, under the laws of the jurisdictions in which they are incorporated.

6.2 Inspection and Other Information. Each Rights Holder and such agents, advisors and counsel as such Rights Holder may designate, may, at its expense, visit and inspect any of the properties of the Company, examine the books of account of the Company, take extracts therefrom and discuss the affairs, finances and accounts of the Company with its officers and employees and public accountants (and by this provision the Company hereby authorizes said accountants to discuss with such Rights Holder and such persons its finances and accounts), at reasonable times and with reasonable prior notice during normal business hours. All such visits and inspections shall be conducted in a manner which will not unreasonably interfere with the normal business operations of the Company. The Company shall furnish to each such Rights Holder such other information as it from time to time may reasonably request.

6.3 Directors and Officers Insurance. Within thirty (30) days of the Effective Date, the Company shall have in place directors' and officers' liability insurance policy on the directors and officers of the Company with a financially sound and reputable company or association in an amount mutually acceptable to the Company and the New Investors. So long as any New Investor owns any Common Stock, the Company shall maintain such insurance at the same or higher coverage level.

6.4 Termination of Affirmative Covenants. The covenants set forth in this Article 6 shall be of no further force or effect upon the closing of the Company's Qualified IPO.

7. MISCELLANEOUS

7.1 Notices. All notices, requests, consents and other communications hereunder shall be in writing, shall be addressed to the receiving party's address set forth below or to such other address as a party may designate by notice hereunder, and shall be either (i) delivered by hand, (ii) made by telecopy or facsimile transmission with receipt confirmed, (ii) sent by electronic mail with return receipt and no response was received back from the mail server indicating a problem delivering such electronic mail, (iv) sent by a nationally recognized (or substantially equivalent international) overnight courier, or (v) sent by registered or certified mail, return receipt requested, postage prepaid; provided, however, that certified mail shall not be used to effectuate any such notice, request, consent or other communication to addresses outside the United States.

If to the Company:	Cyrenaic Pharmaceuticals, Inc. 47 Hulfish Street, Suite 310 Princeton, NJ 08542 Attn: Lorenzo Pelligrini Tel: 609.683.3677 Fax: 609.683.5787
With a copy to:	Morgan, Lewis & Bockius LLP 502 Carnegie Center Princeton, New Jersey 08540 Attn: Denis Segota, Esq. Tel: 609.919.6622 Fax: 609.919.6639
If to the Investors:	To the addresses set forth on Schedule I. With a copy (which shall not constitute notice) to: [ ] [ ] [ ] Attn: [ ] Tel: [ ] Fax: [ ]

All notices, requests, consents and other communications hereunder shall be deemed to have been given either (i) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (ii) if made by telecopy or facsimile transmission, at the time that receipt thereof has been acknowledged by electronic confirmation or otherwise, (iii) if sent by overnight

courier, on the next business day following the day such notice is delivered to the courier service, or (iv) if sent by registered or certified mail, on the seventh business day following the day such mailing is made.

7.2 Entire Agreement. This Agreement embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof (including without limitation the Original Agreement). No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in this Agreement shall affect, or be used to interpret, change or restrict, the express terms and provisions of this Agreement.

7.3 Modifications and Amendments. This Agreement may not be amended or modified, and no provision hereof may be waived, without the written consent of the Company and the holders of at least seventy-seven percent (77%) of the outstanding shares of Common Stock; provided, however, that any amendment or modification to Sections 5.1 or 5.2 above that adversely impacts the rights of any Investor thereunder shall not be made without the written consent of such Investor. Any waiver or consent hereunder shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

7.4 Benefit. All statements, representations, warranties, covenants and agreements in this Agreement shall be binding on the parties hereto and shall inure to the benefit of the respective successors and permitted assigns of each party hereto.

7.5 Governing Law. This Agreement and the rights and obligations of the parties hereunder shall be construed in accordance with and governed by the law of the State of Delaware, without giving effect to the conflict of law principles thereof.

7.6 Severability. In the event that it is determined that any provision, or any portion thereof, contained in this Agreement shall be unenforceable in any respect, then such provision shall be deemed limited to the extent that it shall be deemed enforceable and as so limited, shall remain in full force and effect. In the event that any such provision, or portion thereof, is deemed wholly unenforceable, the remaining provisions of this Agreement, nevertheless, shall remain in full force and effect.

7.7 Headings and Captions. The headings and captions of the various subdivisions of this Agreement are for convenience of reference only and shall in no way modify or affect the meaning or construction of any of the terms or provisions hereof.

7.8 Enforcement. Each of the parties hereto acknowledges and agrees that the rights acquired by each party hereunder are unique and that irreparable damage would occur in the event that any of the provisions of this Agreement to be performed by the other parties were not performed in accordance with their specific terms or were otherwise breached. Accordingly, in addition to any other remedy to which the parties hereto are entitled at law or in equity, each party hereto shall be entitled to an injunction or injunctions to prevent breaches of this Agreement by any other party.

7.9 Waiver of Jury Trial. THE COMPANY AND EACH INVESTOR HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHTS TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

7.10 No Waiver of Rights, Powers and Remedies. No failure or delay by a party hereto in exercising any right, power or remedy under this Agreement, and no course of dealing among

the parties hereto, shall operate as a waiver of any such right, power or remedy of the party. No single or partial exercise of any right, power or remedy under this Agreement by a party hereto, nor any abandonment or discontinuance of steps to enforce any such right, power or remedy, shall preclude such party from any other or further exercise thereof or the exercise of any other right, power or remedy hereunder. The election of any remedy by a party hereto shall not constitute a waiver of the right of such party to pursue other available remedies. No notice to or demand on a party not expressly required under this Agreement shall entitle the party receiving such notice or demand to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of the party giving such notice or demand to any other or further action in any circumstances without such notice or demand.

7.11 Counterparts. This Agreement may be executed in two or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed and delivered via facsimile, which facsimile transmission shall be deemed an original for all purposes.

7.12 Right to Conduct Activities. The Company and each Investor hereby acknowledge that some or all of the Investors are professional investment funds and, as such, invest in numerous portfolio companies, some or which may be competitive with the Company's business. No such Investor shall be liable to the Company or to any other Investor for any claim to the extent it arises out of, or is based upon, (a) the investment by the Investor in any entity competitive to the Company, or (b) actions taken by any partner, officer or other representative of such Investor to assist any such competitive entity, whether or not such action was taken as a board member of such competitive entity or otherwise, and whether or not such action has a detrimental effect on the Company (except for any detrimental effect as a consequence of any fraudulent act or willful misconduct), so long as (i) no confidential information of the Company is used or disclosed by such Investor in connection with any such competitive activities, and (ii) the provisions hereof shall not excuse or eliminate the liability of any Investor or its directors, officers, employees or Affiliates, for the breach of any agreement with or legal obligation to the Company (it being understood that the acts identified above shall not, in and of themselves, be deemed to be a breach of any such legal obligation).

IN WITNESS WHEREOF, the parties hereto have executed this Second Agreement or caused this Second Agreement to be executed by their duly authorized representatives as of the date first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo
Name: Daniel J. Cabo
Title: Chief Financial Officer

INVESTORS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Title:
Address:

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Name: David R. Ramsay
Title:
Address:

INDEX VENTURES III (JERSEY) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

INDEX VENTURES III (DELAWARE) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

YUCCA PARTNERS LP JERSEY BRANCH

By: OGIER EMPLOYEE BENEFIT SERVICES LIMITED as Authorised Signatory of Yucca Partners LP Jersey Branch in its Capacity of Administrator of The Index Co-Investment Scheme

By: /s/ Peter George Le Breton
Name: Peter George Le Breton
Title: Authorised Signatory
Address:

SCHEDULE I

Schedule of Investors

Name	Number of Shares of Common Stock Owned
Care Capital Investments III LP 47 Hulfish Street, Suite 310 Princeton, NJ 08542	49,277
Care Capital Offshore Investments III, LP 47 Hulfish Street, Suite 310 Princeton, NJ 08542	823
Index Ventures III (Jersey) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	16,039
Index Ventures III (Delaware) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	32,581
Index Ventures III Parallel Entrepreneur Fund (Jersey) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	580
Yucca Partners LP Jersey Branch P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	800

Exhibit 4.3

AMENDMENT NO. 1

TO

INVESTOR RIGHTS AGREEMENT

THIS AMENDMENT NO. 1 TO INVESTMENT RIGHTS AGREEMENT (this "**Amendment**"), dated as of December 20, 2013, is made by and among Minerva Neurosciences, Inc., a Delaware corporation, as the corporate successor to Cyrenaic Pharmaceuticals, Inc. (the "**Company**"), and the undersigned investors of the Company (the "**Investors**").

WHEREAS, the Company and the Investors are parties to that certain Investor Rights Agreement, dated as of August 29, 2007 (the "**Agreement**");

WHEREAS, on November 12, 2013, the name of the Company was changed to "Minerva Neurosciences, Inc."; and

WHEREAS, the Company and the Investors, in accordance with Section 7.3 of the Agreement, desire to amend the Agreement as set forth below.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto intending to be legally bound, hereby agree as follows:

Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Agreement.

1. The following definitions are hereby amended and restated to read in their entirety as follows:

"'Company' means Minerva Neurosciences, Inc., a Delaware corporation."

2. Section 5.1 of the Agreement is hereby amended in its entirety to read as follows:

"5.1 Election of Directors. The Company shall take or cause to be taken such actions as may be required from time to time to establish and maintain the number of persons comprising the Board at six (6), and the Investors shall take or cause to be taken such actions as may be required from time to time to elect as directors (i) two (2) directors designated by Care Capital LLC ("Care Capital"), who shall as of the date of Amendment No. 1 to this Agreement be Robert Seltzer and Lorenzo Pellegrini, (ii) two (2) directors designated by Index Ventures III (Delaware) L.P. ("Index") who shall as of the date of Amendment No. 1 to this Agreement be Michele Ollier and

Francesco de Rubertis, (iii) the Chief Executive Officer of the Company, and (iv) one (1) independent director, who shall as of the date of Amendment No. 1 to this Agreement be Marc D. Beer. Without limiting the generality of the foregoing, at each annual meeting of the stockholders, and at each special meeting of the stockholders called in accordance with the provisions of the By-Laws for the purpose of electing directors of the Company, and at any time at which the stockholders have the right to, or shall, elect directors of the Company, then, and in each event, the Investors shall vote all Shares owned by them (or shall consent in writing in lieu of a meeting of stockholders, as the case may be) to set the number of, and to elect persons as, directors of the Company in accordance with this Section. Each Investor with a right to so designate a director of the Company shall have the right to remove any such director and appoint one (1) natural person as an alternate member for each director appointed by such Investor."

3. Except as amended by this Amendment, the Agreement shall remain unchanged and continue in full force and effect.

4. This Amendment shall be governed by and construed in accordance with the laws of the State of Delaware (without reference to the conflicts of law provisions thereof).

5. Any number of counterparts (including facsimile or electronic copies) of this Amendment may be signed and delivered, each of which shall be considered an original and which together shall constitute one and the same.

Exhibit 4.4

PROMISSORY NOTE

1,112,500 Euros March 30, 2012

WHEREAS, Sonkei Pharmaceuticals, Inc., a Delaware corporation (the "Company") has agreed to sell 1,112,500 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of 1.006 Euros per share, for an aggregate purchase price of 1,119,017 Euros;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at c/o NAT Services, 2 rue de Jargonnant, 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of 1,112,500 Euros plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Sections 6 and 7 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on April 30, 2015 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in Euros, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any

time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing all or any portion of the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause, Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon;

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon;

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker;

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 4.5

PROMISSORY NOTE

$3,058,326 April 26, 2012

WHEREAS, Cyrenaic Pharmaceutcals, Inc., a Delaware corporation (the "Company") has agreed to sell 2,825,000 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of $1.063766 per share, for an aggregate purchase price of $3,058,326;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at NAT Services 2 rue de Jargonnant 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of $3,058,326 plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Section 5 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on February 28, 2014 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in lawful tender of the United States, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause , Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon;

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon;

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker;

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 4.6

PROMISSORY NOTE

$97,737 **December 20, 2013**

WHEREAS, Minerva Neurosciences, Inc., a Delaware corporation (the "Company") has agreed to sell 97,737 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of $1.00 per share, for an aggregate purchase price of $97,737.00;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at NAT Services 2 rue de Jargonnant 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of $97,737.00 plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Section 5 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on May 31, 2014 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in lawful tender of the United States, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause, Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon.

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon.

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker.

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense.

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 5.1

June 10, 2014

Minerva Neurosciences, Inc.
245 First Street
Suite 1800
Cambridge, MA 02142

RE: Minerva Neurosciences, Inc., Registration Statement on Form S-1 (Registration No. 333-195169)

Ladies and Gentlemen:

We have acted as counsel to Minerva Neurosciences, Inc., a Delaware corporation (the "Company"), in connection with the filing of the referenced Registration Statement (the "Registration Statement") under the Securities Act of 1933, as amended (the "Act"), with the Securities and Exchange Commission (the "SEC"). The Registration Statement relates to the proposed offering and sale of up to $69,000,000 of shares of common stock, par value $0.0001 per share (the "Common Stock"), of the Company, including shares that may be purchased by the underwriters pursuant to an option to purchase additional shares of Common Stock (the "Shares"). The number of Shares shall include all shares of Common Stock registered in connection with the offering contemplated by the Registration Statement, including any additional shares of Common Stock registered by the Company pursuant to Rule 462(b) under the Act.

In connection with this opinion letter, we have examined the Registration Statement and originals, or copies certified or otherwise identified to our satisfaction, of the Certificate of Incorporation and Bylaws of the Company and such other documents, records and other instruments as we have deemed appropriate for purposes of the opinion set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies.

Based upon the foregoing, we are of the opinion that the Shares have been duly authorized by the Company and, when issued and sold by the Company and delivered by the Company against receipt of the purchase price therefor, at a price not less than the par value of the Common Stock and not less than a price per share at which the total number of Shares would exceed the total number of shares of Common Stock available under the Company's Certificate of Incorporation, in the manner contemplated by the Registration Statement, will be validly issued, fully paid and non-assessable.

The opinions expressed herein are limited to Delaware General Corporation Law.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement and any post-effective amendment to the Registration Statement, and to the reference to us under the caption "Legal Matters" in the prospectus included in the Registration Statement. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the SEC thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

Exhibit 10.1

FORM OF INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT (the "***Agreement***") is made and entered into as of , between Minerva Neurosciences, Inc., a Delaware corporation (the "***Company***"), and ("***Indemnitee***").

WITNESSETH THAT:

WHEREAS, highly competent persons have become more reluctant to serve corporations as directors or in other capacities unless they are provided with adequate protection through insurance or adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Company (the *"**Board***") has determined that, in order to attract and retain qualified individuals, the Company will attempt to maintain on an ongoing basis, at its sole expense, liability insurance to protect persons serving the Company and its subsidiaries from certain liabilities. Although the furnishing of such insurance has been a customary and widespread practice among United States-based corporations and other business enterprises, the Company believes that, given current market conditions and trends, such insurance may be available to it in the future only at higher premiums and with more exclusions. At the same time, directors, officers, and other persons in service to corporations or business enterprises are being increasingly subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Company or business enterprise itself. The Amended and Restated By-laws of the Company (the "***By-laws***") and the Amended and Restated Certificate of Incorporation of the Company (as amended from time to time, the "***Certificate of Incorporation***") require indemnification of the directors of the Company. Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("***DGCL***"). The By-laws and Certificate of Incorporation and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, the uncertainties relating to such insurance and to indemnification have increased the difficulty of attracting and retaining such persons;

WHEREAS, the Board has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company's stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the By-laws and Certificate of Incorporation of the Company and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee

thereunder;

WHEREAS, Indemnitee does not regard the protection available under the Company's By-laws and Certificate of Incorporation and insurance as adequate in the present circumstances, and may not be willing to serve as a director without adequate protection, and the Company desires Indemnitee to serve in such capacity. Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Company on the condition that he be so indemnified; and

WHEREAS, Indemnitee may have certain rights to indemnification and/or insurance provided by [Care Capital, LLC] [Index Ventures], ("***Fund***"), which Indemnitee and Fund intend to be secondary to the primary obligation of the Company to indemnify Indemnitee as provided herein, with the Company's acknowledgement and agreement to the foregoing being a material condition to Indemnitee's willingness to serve on the Board.

NOW, THEREFORE, in consideration of Indemnitee's agreement to serve as a director from and after the date hereof, the parties hereto agree as follows:

1. Indemnity of Indemnitee. The Company hereby agrees to hold harmless and indemnify Indemnitee to the fullest extent permitted by law, as such may be amended from time to time. In furtherance of the foregoing indemnification, and without limiting the generality thereof:

(a) Proceedings Other Than Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section 1(a) if, by reason of his Corporate Status (as hereinafter defined), the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding (as hereinafter defined) other than a Proceeding by or in the right of the Company. Pursuant to this Section 1(a), Indemnitee shall be indemnified against all Expenses (as hereinafter defined), judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him, or on his behalf, in connection with such Proceeding or any claim, issue or matter therein, if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and with respect to any criminal Proceeding, had no reasonable cause to believe the Indemnitee's conduct was unlawful.

(b) Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section 1(b) if, by reason of his Corporate Status, the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding brought by or in the right of the Company. Pursuant to this Section 1(b), Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee, or on the Indemnitee's behalf, in connection with such Proceeding if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company; provided, however, if applicable law so provides, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Company unless and to the extent that the Court of Chancery of the State of Delaware shall determine that such indemnification may be made.

(c) Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a party to and is successful, on the merits or otherwise, in any Proceeding, he shall be indemnified to the maximum extent permitted by law, as such may be amended from time to time, against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or on his behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

2. Additional Indemnity. In addition to, and without regard to any limitations on, the indemnification provided for in Section 1 of this Agreement, the Company shall and hereby does indemnify and hold harmless Indemnitee against all Expenses, judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf if, by reason of his Corporate Status, he is, or is threatened to be made, a party to or participant in any Proceeding (including a Proceeding by or in the right of the Company), including, without limitation, all liability arising out of the negligence or active or passive wrongdoing of Indemnitee. The only limitation that shall exist upon the Company's obligations pursuant to this Agreement shall be that the Company shall not be obligated to make any payment to Indemnitee that is finally determined (under the procedures, and subject to the presumptions, set forth in Sections 6 and 7 hereof) to be unlawful.

3. Contribution.

(a) Whether or not the indemnification provided in Sections 1 and 2 hereof is available, in respect of any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall pay, in the first instance, the entire amount of any judgment or settlement of such action, suit or proceeding without requiring Indemnitee to contribute to such payment and the Company hereby waives and relinquishes any right of contribution it may have against Indemnitee. The Company shall not enter into any settlement of any action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding) unless such settlement provides for a full and final release of all claims asserted against Indemnitee.

(b) Without diminishing or impairing the obligations of the Company set forth in the preceding subparagraph, if, for any reason, Indemnitee shall elect or be required to pay all or any portion of any judgment or settlement in any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall contribute to the amount of Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by Indemnitee in proportion to the relative benefits received by the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand,

and Indemnitee, on the other hand, from the transaction or events from which such action, suit or proceeding arose; provided, however, that the proportion determined on the basis of relative benefit may, to the extent necessary to conform to law, be further adjusted by reference to the relative fault of the Company and all officers, directors or employees of the Company other than Indemnitee who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, in connection with the transaction or events that resulted in such expenses, judgments, fines or settlement amounts, as well as any other equitable considerations which applicable law may require to be considered. The relative fault of the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, shall be determined by reference to, among other things, the degree to which their actions were motivated by intent to gain personal profit or advantage, the degree to which their liability is primary or secondary and the degree to which their conduct is active or passive.

(c) The Company hereby agrees to fully indemnify and hold Indemnitee harmless from any claims of contribution which may be brought by officers, directors or employees of the Company, other than Indemnitee, who may be jointly liable with Indemnitee.

(d) To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

4. Indemnification for Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a witness, or is made (or asked) to respond to discovery requests, in any Proceeding to which Indemnitee is not a party, he shall be indemnified against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith.

5. Advancement of Expenses. Notwithstanding any other provision of this Agreement, the Company shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding by reason of Indemnitee's Corporate Status within thirty (30) days after the receipt by the Company of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee and shall include or be preceded or accompanied by a written undertaking by or on behalf of Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses. Any advances and undertakings to repay pursuant to this Section 5 shall be unsecured and interest free.

6. Procedures and Presumptions for Determination of Entitlement to Indemnification. It is the intent of this Agreement to secure for Indemnitee rights of indemnity that are as favorable as may be permitted under the DGCL and public policy of the State of Delaware. Accordingly, the parties agree that the following procedures and presumptions shall apply in the event of any question as to whether Indemnitee is entitled to indemnification under this Agreement:

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification. Notwithstanding the foregoing, any failure of Indemnitee to provide such a request to the Company, or to provide such a request in a timely fashion, shall not relieve the Company of any liability that it may have to Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company.

(b) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 6(a) hereof, a determination with respect to Indemnitee's entitlement thereto shall be made in the specific case by one of the following four methods, which shall be at the election of the Board: (1) by a majority vote of the disinterested directors, even though less than a quorum, (2) by a committee of disinterested directors designated by a majority vote of the disinterested directors, even though less than a quorum, (3) if there are no disinterested directors or if the disinterested directors so direct, by Independent Counsel (as hereinafter defined) in a written opinion to the Board, a copy of which shall be delivered to, and may be relied upon or otherwise used by, the Indemnitee, or (4) if so directed by the Board, by the stockholders of the Company. For purposes hereof, disinterested directors are those members of the Board who are not parties to the action, suit or proceeding in respect of which indemnification is sought by Indemnitee.

(c) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 6(b) hereof, the Independent Counsel shall be selected as provided in this Section 6(c). The Independent Counsel shall be selected by the Board. Indemnitee may, within 10 days after such written notice of selection shall have been given, deliver to the Company a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "***Independent Counsel***" as defined in Section 13 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If a written objection is made and substantiated, the Independent Counsel selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit. If, within 20 days after submission by Indemnitee of a written request for indemnification pursuant to Section 6(a) hereof, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware or other court of competent jurisdiction for resolution of any objection which shall have been made by the Indemnitee to the Company's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by

the court or by such other person as the court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 6(b) hereof. The Company shall pay any and all reasonable fees and expenses of Independent Counsel incurred by such Independent Counsel in connection with acting pursuant to Section 6(b) hereof, and the Company shall pay all reasonable fees and expenses incident to the procedures of this Section 6(c), regardless of the manner in which such Independent Counsel was selected or appointed.

(d) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence. Neither the failure of the Company (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(e) Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise (as hereinafter defined), including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Enterprise. In addition, the knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement. Whether or not the foregoing provisions of this Section 6(e) are satisfied, it shall in any event be presumed that Indemnitee has at all times acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Company. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(f) If the person, persons or entity empowered or selected under Section 6 to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Company of the request therefor, the requisite determination of entitlement to indemnification shall be deemed to have been made and Indemnitee shall be entitled to such indemnification absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making such determination with respect to entitlement to indemnification in good faith requires such additional time to obtain or evaluate documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 6(f) shall not apply if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 6(b) of this Agreement and if (A) within fifteen (15) days after receipt by the

Company of the request for such determination, the Board or the Disinterested Directors, if appropriate, resolve to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such receipt and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such receipt for the purpose of making such determination, such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat.

(g) Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Independent Counsel, member of the Board or stockholder of the Company shall act reasonably and in good faith in making a determination regarding the Indemnitee's entitlement to indemnification under this Agreement. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(h) The Company acknowledges that a settlement or other disposition short of final judgment may be successful if it permits a party to avoid expense, delay, distraction, disruption and uncertainty. In the event that any action, claim or proceeding to which Indemnitee is a party is resolved in any manner other than by adverse judgment against Indemnitee (including, without limitation, settlement of such action, claim or proceeding with or without payment of money or other consideration) it shall be presumed that Indemnitee has been successful on the merits or otherwise in such action, suit or proceeding. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(i) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his conduct was unlawful.

7. Remedies of Indemnitee.

(a) In the event that (i) a determination is made pursuant to Section 6 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 5 of this Agreement, (iii) no determination of entitlement to indemnification is made pursuant to Section 6(b) of this Agreement within 90 days after receipt by the Company of the request for indemnification, (iv) payment of indemnification is not made pursuant to this Agreement within ten (10) days after receipt by the Company of a written request therefor or (v) payment of indemnification is not

made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Section 6 of this Agreement, Indemnitee shall be entitled to an adjudication in an appropriate court of the State of Delaware, or in any other court of competent jurisdiction, of Indemnitee's entitlement to such indemnification. Indemnitee shall commence such proceeding seeking an adjudication within 180 days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 7(a). The Company shall not oppose Indemnitee's right to seek any such adjudication.

(b) In the event that a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding commenced pursuant to this Section 7 shall be conducted in all respects as a de novo trial on the merits, and Indemnitee shall not be prejudiced by reason of the adverse determination under Section 6(b).

(c) If a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding commenced pursuant to this Section 7, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's misstatement not materially misleading in connection with the application for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) In the event that Indemnitee, pursuant to this Section 7, seeks a judicial adjudication of his rights under, or to recover damages for breach of, this Agreement, or to recover under any directors' and officers' liability insurance policies maintained by the Company, the Company shall pay on his behalf, in advance, any and all expenses (of the types described in the definition of Expenses in Section 13 of this Agreement) actually and reasonably incurred by him in such judicial adjudication, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of expenses or insurance recovery.

(e) The Company shall be precluded from asserting in any judicial proceeding commenced pursuant to this Section 7 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Company is bound by all the provisions of this Agreement. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Company of a written request therefore) advance, to the extent not prohibited by law, such expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advance of Expenses from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery, as the case may be.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

8. Non-Exclusivity; Survival of Rights; Insurance; Primacy of Indemnification; Subrogation.

(a) The rights of indemnification as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the By-laws, any agreement, a vote of stockholders, a resolution of directors of the Company, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in his Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in the DGCL, whether by statute or judicial decision, permits greater indemnification than would be afforded currently under the Certificate of Incorporation, By-laws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents or fiduciaries of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person serves at the request of the Company, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any director, officer, employee, agent or fiduciary under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has directors' and officers' liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) The Company hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement of expenses and/or insurance provided by Fund and certain of its affiliates (collectively, the "***Fund Indemnitors***"). The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to Indemnitee are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by Indemnitee are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by Indemnitee and shall be liable for the full amount of all Expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the terms of this Agreement and the Certificate of Incorporation or Bylaws of the Company (or any other agreement between the Company and Indemnitee), without regard to any rights Indemnitee may have against the Fund Indemnitors, and, (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of Indemnitee with respect to any claim for which Indemnitee has

sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of Indemnitee against the Company. The Company and Indemnitee agree that the Fund Indemnitors are express third party beneficiaries of the terms of this Section 8(c).

(d) Except as provided in paragraph (c) above, in the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee (other than against the Fund Indemnitors), who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(e) Except as provided in paragraph (c) above, the Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(f) Except as provided in paragraph (c) above, the Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise.

9. Exception to Right of Indemnification. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision, provided, that the foregoing shall not affect the rights of Indemnitee or the Fund Indemnitors set forth in Section 8(c) above; or

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of state statutory law or common law; or

(c) in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

10. Duration of Agreement. All agreements and obligations of the Company contained herein shall continue during the period Indemnitee is a director of the Company (or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise) and shall continue thereafter so long as Indemnitee shall be subject to any Proceeding (or any proceeding commenced under Section 7 hereof) by reason of his Corporate Status, whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), assigns, spouses, heirs, executors and personal and legal representatives.

11. Security. To the extent requested by Indemnitee and approved by the Board, the Company may at any time and from time to time provide security to Indemnitee for the Company's obligations hereunder through an irrevocable bank line of credit, funded trust or other collateral. Any such security, once provided to Indemnitee, may not be revoked or released without the prior written consent of the Indemnitee.

12. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumes the obligations imposed on it hereby in order to induce Indemnitee to serve as a director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as a director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof.

(c) The Company shall not seek from a court, or agree to, a "bar order" which would have the effect of prohibiting or limiting the Indemnitee's rights to receive advancement of expenses under this Agreement.

13. Definitions. For purposes of this Agreement:

(a) "***Corporate Status***" describes the status of a person who is or was a director, officer, employee, agent or fiduciary of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person is or was serving at the express written request of the Company.

(b) "***Disinterested Director***" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(c) "***Enterprise***" shall mean the Company and any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that Indemnitee is or

was serving at the express written request of the Company as a director, officer, employee, agent or fiduciary.

(d) "***Expenses***" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, participating, or being or preparing to be a witness in a Proceeding, or responding to, or objecting to, a request to provide discovery in any Proceeding. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding and any federal, state, local or foreign taxes imposed on the Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, including without limitation the premium, security for, and other costs relating to any cost bond, supersede as bond, or other appeal bond or its equivalent. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(e) "***Independent Counsel***" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement. The Company agrees to pay the reasonable fees of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(f) "***Proceeding***" includes any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought by or in the right of the Company or otherwise and whether civil, criminal, administrative or investigative, in which Indemnitee was, is or will be involved as a party or otherwise, by reason of his or her Corporate Status, by reason of any action taken by him or of any inaction on his part while acting in his or her Corporate Status; in each case whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement; including one pending on or before the date of this Agreement, but excluding one initiated by an Indemnitee pursuant to Section 7 of this Agreement to enforce his rights under this Agreement.

14. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision. Without limiting the generality of the foregoing, this Agreement is intended to confer upon Indemnitee indemnification rights to the fullest extent permitted by applicable laws. In the event any

provision hereof conflicts with any applicable law, such provision shall be deemed modified, consistent with the aforementioned intent, to the extent necessary to resolve such conflict.

15. Modification and Waiver. No supplement, modification, termination or amendment of this Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

16. Notice By Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with or otherwise receiving any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification covered hereunder. The failure to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement or otherwise unless and only to the extent that such failure or delay materially prejudices the Company.

17. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent:

(a) To Indemnitee at the address set forth below Indemnitee signature hereto.

(b) To the Company at:

Minerva Neurosciences, Inc.
245 First Street
Suite 1800
Cambridge, MA 02142

or to such other address as may have been furnished to Indemnitee by the Company or to the Company by Indemnitee, as the case may be.

18. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same Agreement. This Agreement may also be executed and delivered by facsimile signature and in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

19. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

20. Governing Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. The Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the State of Delaware (the "***Delaware Court***"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (iv) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement on and as of the day and year first above written.

COMPANY

MINERVA NEUROSCIENCES, INC.

By: _____
Name:
Title:

INDEMNITEE

_____
Name:

Address:

Exhibit 10.2

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (hereinafter referred to as "Agreement") dated as of 30 August, 2007 (hereinafter referred to as "Effective Date"), is entered into between Cyrenaic Pharmaceuticals, Inc., a Delaware corporation, having a place of business located at 47 Hulfish Street, Suite 310 Princeton NJ 08542, the U.S. (hereinafter referred to as "LICENSEE") and Mitsubishi Pharma Corporation, a Japanese corporation, having a place of business located at 6-9, Hiranomachi 2-chome, Chuo-ku, Osaka 541-0046, Japan (hereinafter referred to as "MPC").

WITNESSETH:

WHEREAS, MPC is the owner of the patents, patent applications and other intellectual property relating to a certain pharmaceutical compound coded as MT-210;

WHEREAS, LICENSEE desires to obtain an exclusive license, with a right to grant sublicenses, under the MPC Intellectual Property (hereinafter defined); and

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

For purposes of this Agreement, the terms defined in this Article 1 shall have the respective meanings set forth below, it being understood that words in the singular include the plural and vice versa:

1.1 "Affiliate" shall mean any person, corporation, joint venture or business entity of such party which, directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with such party, as the case may be. As used herein, "control" means (a) to possess, the power to direct the management or policies of such company

or other business entity, through ownership of voting securities or by contract relating to voting rights or corporate governance, or (b) direct or indirect beneficial ownership of more than fifty percent (50%) of the voting share capital in such company or other business entity.

1.2 "Allocable Overhead" shall mean costs incurred by a Party or for its account (and not reimbursed by a Third Party) which are attributable to its supervisory, services, occupancy costs, payroll, information systems, human relations or purchasing functions and which are allocated to company departments involved in and relevant to the subject matter of this Agreement, based on space occupied, headcount, or activity-based method, in all cases as determined by such Party in accordance with GAAP (hereinafter defined). "Allocable Overhead" shall not include any costs attributable to general corporate activities including, by way of example only, executive management, investor relations, business development, legal, finance and government affairs, and shall not include any costs or expenses which are reimbursed by the other Party or any Third Party.

1.3 "Alternate Compound" shall mean a Back-Up Compound or a Metabolite.

1.4 "Application" shall mean a New Drug Application ("NDA") submitted (and the submission of which has been accepted) with the Food and Drug Administration ("FDA") in the United States or a corresponding application for commercial sales which has been submitted (and the submission of which has been accepted for review) with a regulatory agency in a country of the LICENSEE Territory other than the United States, in each case for the Product in the Field.

1.5 "Back-Up Compound" shall mean (i) compounds described in the examples and included in the Valid Claim of MPC's patent (U.S. patent No. 7166617) except for the MT-210

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Compound (hereinafter defined) and (ii) compound coded as BFB-484 which chemical structure is set forth in Schedule 1.5.

1.6 "Bulk Drug Substance" shall mean the Compound in bulk form, which if appropriately formulated and finished, would constitute the Product.

1.7 "Calendar Quarter" shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.8 "Calendar Year" shall mean each successive period of twelve (12) months commencing on January 1 and ending on December 31.

1.9 "Clinical Studies" shall mean Phase I Studies, Phase II(a) Studies, Phase II(b) Studies, and Phase III Studies.

1.10 "CNS Indication" shall mean Schizophrenia and all other CNS diseases including, but not limited to, psychotic disorders, depression, anxiety, sleep disorders, pain, dementia, Alzheimer disease, cognitive disorders and attention disorders (ADHD).

1.11 "Commercially Reasonable Efforts" shall mean efforts and resources normally used by a Party for a product owned by it or to which it has exclusive rights, which is of similar market potential at a similar stage in its development or product life, taking into account issues of safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of the compound or product, the regulatory and reimbursement structure involved, the profitability of the applicable products, and other relevant factors.

1.12 "Competing Product" shall mean any prescription pharmaceutical product of which shall have the same indication of the Product and the same sigma-2 mechanism of action.

1.13 "Compound" shall mean (i) compound known as MT-210 with the chemical name [*] having the molecular structure set forth in Schedule 1.13 (hereinafter referred to as the "MT-

210 Compound"), (ii) any solvate, salt form, enantiomers, racemate, w-crystal, anhydride, hydrate, polymorph or amorphous of the MT-210 Compound (an "MT-210 Back-Up"), (iii) any Back-Up Compound, and (iv) any Metabolite.

1.14 "Development Work" shall mean all works to be performed by or on behalf of LICENSEE, its Affiliates and/or sublicensees, under appropriate support, if requested by LICENSEE, its Affiliates and/or sublicensees, to be provided by FORENAP, to obtain the data and information necessary or useful for the Registration and future commercial operation of the Product, including all necessary pre-clinical, clinical studies and formulation development and manufacturing of the Compound and/or Product.

1.15 "Development Plan" shall mean LICENSEE's and/or Affiliate's and/or its sublicensee's development plan for the Compound and Product with timeline. The initial Development Plan is set forth on Schedule 1.15.

1.16 "Effective Date" shall have the meaning set forth in the introductory paragraph of this Agreement.

1.17 "European Country" shall mean a country which is a member of the European Union as of the Effective Date, or which join the European Union after the Effective Date.

1.18 "Excluded Compounds" shall mean the following compounds: BFB-484, BFB-687, BFB-512, BFB-462 which chemical structures are set forth in Schedule 1.18, and M1, M2, M3 and M4 as defined in Section 1.33.

1.19 "Field" shall mean the use of the Product in humans to treat, manage or prevent CNS Indications. Non-systemic ophthalmic use of the Product shall be specifically excluded from the Field.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.20 "FORENAP" shall mean FORENAP PHARMA EURL, having its registered offices at 27 rue du 4ème RSM - B.P. 27, 68250 Rouffach, France.

1.21 "Fully Burdened Manufacturing Cost" shall mean the cost of production of the Compound or the Product, comprised of the sum of: (a) the manufacturing cost of goods produced as determined in accordance with GAAP as applied by the manufacturer of such Compound or Product including, without limitation, direct labor, material and product testing costs incurred in connection with the manufacture or quality control testing of such product, as well as Allocable Overhead and shipping containers, (b) the manufacturer's allocable intellectual property licensing and acquisition costs paid to Third Parties which are necessary for the manufacture of such Compound or Product and (c) any other costs borne by the manufacturer for the transport, customs clearance and storage of such Compound or Product (if necessary) at the request of LICENSEE or its Affiliates or sublicensees (i.e., freight, duty, insurance, and warehousing).

1.22 "GAAP" shall mean generally accepted accounting principles in the United States.

1.23 "Generic Competition" shall mean, with respect to a particular country in the LICENSEE Territory where LICENSEE, its Affiliate or its sublicensee is selling Product, a Third Party, other than a sublicensee of LICENSEE, is selling a Generic Drug in such country and the average Net Sales in such country for two (2) consecutive Calendar Quarters immediately or at any time after the launch of such Generic Drug in such country is [*] or less than the average Net Sales for the two (2) consecutive Calendar Quarters immediately prior to the launch of such Generic Drug in such country, despite LICENSEE, its Affiliate and/or its

sublicensee using Commercially Reasonable Efforts to market and sell the Product in such country.

1.24 "Generic Drug(s)" shall mean any product containing Compound for which Registration is obtained by an abbreviated NDA ("ANDA") or other abridged procedure in the United States or a corresponding application in any country of the LICENSEE Territory, other than a Product introduced in such country by LICENSEE, its Affiliates or its sublicensees.

1.25 "IND" shall mean an Investigational New Drug filed with FDA in the United States or a corresponding application filed with a regulatory agency with respect to development of a Product in the Field.

1.26 "Know-How" shall mean any proprietary, non-public information or materials, relating to the research, development, registration, manufacture, marketing, use or sale of the Compound and/or Product which prior to or during the term of this Agreement are developed by or is in a Party's possession or control through license or otherwise (provided that such Party is permitted to make disclosure thereof to the other Party without violating the terms of any Third Party agreement). Know-How may include, without limitation: (i) all biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, clinical, safety and quality control data and information related to the Compound and/or Product; (ii) compositions of matter, assays and biological materials, necessary or useful for development, manufacture, use or sale of the Compound and/or Product; (iii) data and information necessary for manufacturing the Compound and/or Product; and (iv) all applications, registrations licenses, authorizations, approvals and correspondences submitted to or received from any regulatory authorities with jurisdiction over an investigational drug containing the Compound and/or Product.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.27 "Launch" shall mean, with respect to any Product after Registration, the first sale to a Third Party by LICENSEE, its Affiliate or its sublicensees of that Product in such country. Sales for test marketing, clinical study purposes or compassionate, named patient or similar use shall not constitute a sale.

1.28 "LICENSEE Intellectual Property" shall mean all intellectual property and proprietary rights in (i) all LICENSEE Patents and (ii) all LICENSEE Know-How.

1.29 "LICENSEE Know-How" shall mean any Know-How owned or controlled by LICENSEE and/or its Affiliates that is developed by LICENSEE or its Affiliates after the Effective Date in connection with its performance of its activities under this Agreement.

1.30 "LICENSEE Patents" shall mean any Patent Right owned or controlled by LICENSEE or its Affiliate, to the extent such Patent Right both (a) covers a Compound or Product and (b) the underlying invention of which was conceived and reduced to practice after the Effective Date by LICENSEE in connection with its performance of its activities under this Agreement.

1.31 "LICENSEE Territory" shall mean all countries in the world, excluding the MPC Territory.

1.32 "Major Countries" shall mean the United States, Canada, the United Kingdom, Germany, France, Italy and Spain.

1.33 "Metabolite" shall mean the following metabolites of the MT-210 Compound: (a) M1 coded as BFB-520; (b) M2 coded as BFB-999; (c) M3; and (d) M4 which chemical structures are set forth in Schedule 1.33.

1.34 "MPC Intellectual Property" shall mean all intellectual property and proprietary rights in (i) all MPC Patents and (ii) all MPC Know-How.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.35 "MPC Know-How" shall mean Know-How owned or controlled by MPC and/or its Affiliates.

1.36 "MPC Patents" shall mean any Patent Right owned or controlled by MPC and/or its Affiliates during the term of this Agreement which relates to Compound or Product, and, absent rights hereunder, would be infringed by the research, development, manufacture, use, importation, sale or offer for sale of the Compound and/or Product, including the Patent Rights listed on Schedule 1.36, and any patents that may issue from, or claim priority to or through, the applications listed on Schedule 1.36.

1.37 "MPC Territory" shall mean Bangladesh, Brunei, India, Indonesia, Japan, Malaysia, Pakistan, People's Republic of China (including Hong Kong), Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam.

1.38 "Net Sales" shall mean, with respect to any Product, the aggregate gross amount invoiced by LICENSEE or its Affiliates or sublicensees on all sales of such Product in the LICENSEE Territory to an unaffiliated Third Party, less reasonable and customary deductions from such gross amounts, including:

1.38.1 bad debts actually written off which are attributable to sales of the Product;

1.38.2 credits or allowances for damaged goods, returns or rejections or recalls of Product and shelf stock and other retroactive price adjustments;

1.38.3 normal and customary trade, cash, quantity and volume based discounts, allowances and credits;

1.38.4 sales or similar taxes (other than income taxes);

1.38.5 freight, postage, shipping, insurance charges;

1.38.6 chargebacks and rebates to managed healthcare organizations or to federal, state and local governments, their agencies, or to trade customers, including without limitation, wholesalers and chain pharmacy buying groups;

1.38.7 inventory management, distribution, warehousing, and related services fees, and

1.38.8 any other reduction or specifically identifiable amounts included in the invoice price that should be credited for any reasons substantially equivalent to those listed above.

Each of the deductions set forth above shall be determined on an accrual basis in accordance with GAAP. To the extent that any discounts or other similar deductions that are based on sales to the customer of multiple products are included in determining Net Sales of the Product, such discounts or deductions shall be allocated to the Product and the other relevant products on a pro rata basis.

1.39 "Onset" shall mean the first dosing of the first patient in a Clinical Study.

1.40 "Party" shall mean one of MPC and LICENSEE, as appropriate. Where used in the plural, "Parties" shall mean MPC and LICENSEE.

1.41 "Patent Rights" shall mean (a) all national, regional and international patents and patent applications, including provisional patent applications, (b) all patent applications filed either from such patents, patent applications or provisional applications or from an application claiming priority from either of these, including divisionals, continuations, continuations-in-part, provisionals, converted provisionals, and continued prosecution applications, (c) any and all patents that have issued or in the future issue from the foregoing patent applications ((a) and (b)), including utility models, petty patents and design patents and certificates of invention, (d) any

and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications ((a), (b) and (c)), and (e) any similar rights, including so-called pipeline protection, or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any such foregoing patent applications and patents.

1.42 "Person" shall mean an individual, corporation, partnership, trust, business trust, association, joint stock company, joint venture, pool, syndicate, sole proprietorship, unincorporated organization, governmental authority or any other form of entity not specifically listed herein.

1.43 "Phase I Studies" shall mean that portion of the clinical development program which provides for the first introduction into humans of a Product including small scale clinical studies conducted in normal volunteers or patients to get information on Product safety.

1.44 "Phase II(a) Studies" shall mean that portion of the clinical development program which provides for the initial trials of a Product on a limited number of patients for the purpose of determining whether the Product affects a surrogate marker or indicator of pharmacological or clinical activity in the proposed disease state/therapeutic indication.

1.45 "Phase II(b) Studies" shall mean that portion of the clinical development program carried out either post-Phase II(a) Studies or concurrently with Phase II(a) Studies and which provides information for the definitive, well controlled clinical trials of a Product in patients, including clinical studies conducted in patients and designed to indicate clinical efficacy for the Product for one or more indications and its safety, as well as to obtain an indication of the dosage regimen required.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.46 "Phase II Studies" shall mean Phase II(a) Studies and Phase II(b) Studies.

1.47 "Phase III Studies" shall mean large scale clinical studies conducted in a sufficient number of patients to establish the Product clinical efficacy in the Field and its safety.

1.48 "Proprietary Information" shall mean any and all scientific, clinical, regulatory, marketing, financial and commercial information or data, whether communicated in writing, orally or by any other means, which is owned and/or under the protection of one Party and is being provided by that Party to the other Party in connection with this Agreement.

1.49 "Product" shall mean a pharmaceutical preparation containing Compound which has been manufactured into an oral dosage form (including sustained release formulation), injectable formulation or any other formulation, packaged and labeled for administration in the Field. Combination product may be included in this defined term of "Product", provided, however, that calculation method of Net Sales of the combination product shall be separately agreed upon between the Parties.

1.50 "Royalty Period" shall mean the period, on a country-by-country and Product-by-Product basis, until the later of: (a) the expiration of the last-to-expire Valid Claim covering such Product in such country or; (b) twelve (12) years from the Launch of such Product in such country of the LICENSEE Territory.

1.51 "Royalty Year" shall mean (i) for the year in which the Launch occurs (the "First Royalty Year"), the period commencing with the first day of the Calendar Quarter in which the Launch occurs and expiring on the last day of the Calendar Year in which the Launch occurs and (ii) for each subsequent year, each successive Calendar Year.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.52 "Registration(s)" shall mean, in relation to any Product, such authorizations of the regulatory authorities in a given country (including marketing, marking and pricing approvals) as may be legally required before such Product may be commercialized or sold in such country.

1.53 "Steering Committee" shall mean a committee established by the Parties subject to Section 4.3.1 to coordinate, review and assess the development of Product, to harmonize worldwide objectives for Product and, after MPC decides to initiate clinical developpent in the MPC Territory, to facilitate the transfer of data and regulatory communications, including the handling and reporting of adverse events, between the Parties.

1.54 "Territory" shall mean the LICENSEE Territory or the MPC Territory, as applicable.

1.55 "Third Party" shall mean any person or entity other than MPC, LICENSEE, or an Affiliate of either Party.

1.56 "Valid Claim" shall mean a claim within the MPC Patents (a) in an unexpired and issued patent that has not been revoked, held invalid, declared unpatentable or unenforceable by a body of competent jurisdiction and (b) that has not been rendered unenforceable through disclaimer or otherwise.

ARTICLE 2
GRANT OF LICENSE

2.1 License Grant to LICENSEE. MPC hereby grants to LICENSEE and its Affiliate an exclusive license (even as to MPC) under the MPC Intellectual Property to develop, have developed, register, have registered, make, have made, use, have used, sell, offer for sale, have sold, import and have imported Product in the Field for purposes of commercialization in the LICENSEE Territory.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

2.2 Compound Manufacturing Right. MPC hereby grants to LICENSEE and its Affiliate under the MPC Intellectual Property (a) a semi-exclusive license, with the right to sublicense, to make and have made Compound in the LICENSEE Territory solely for purposes of researching, developing and/or commercializing Product in the LICENSEE Territory; it being understood that such semi-exclusive license will allow MPC the right to make and have made Compound in the LICENSEE Territory solely for purposes of researching, developing and/or commercializing Product in the MPC TERRITORY and (b) a non-exclusive license, with the right to sublicense, to make and have made Compound in the MPC Territory solely for the purposes of researching, developing and/or commercializing Product in the LICENSEE TERRITORY.

2.3 Sublicense Rights. LICENSEE and its Affiliate shall have the right to grant sublicenses under all or part of the licenses granted under Sections 2.1 and 2.2; provided, however, prior to sublicensing such rights, LICENSEE shall provide MPC with the opportunity to negotiate terms under which MPC would collaborate in or obtain a license for research, development and/or commercialization of the Compound and/or Product in the LICENSEE Territory (a "Right of First Negotiation"). A Right of First Negotiation shall operate as follows:

2.3.1 LICENSEE shall promptly notify MPC in writing (the "Right of First Negotiation Notification") of its intention to enter into a sublicensing arrangement for the research, development and/or commercialization of the relevant Compound and/or Product and shall provide to MPC a reasonably detailed written description of such proposed sublicense, together with any data, results materials or information related to such Compound and/or Product which LICENSEE reasonably believes is necessary and useful for evaluation of an interest in participating in such proposed sublicense by MPC and has not previously been provided to MPC.

2.3.2 Within ten (10) business days of its receipt of the Right of First Negotiation Notification (the "Response Period"), MPC shall notify LICENSEE of its interest, if any, in initiating discussions regarding such proposed sublicense.

2.3.3 In the event that MPC notifies LICENSEE prior to the termination of the Response Period that it has an interest in participating in such proposed sublicense (an "Expression of Interest"), then the Parties shall negotiate in good faith in an effort to reach a definitive agreement regarding such sublicense for a period of up to sixty (60) days from the date of LICENSEE's receipt of the Expression of Interest; provided that, at MPC's option, the negotiation period may be extended one time for an additional sixty (60) days.

2.3.4 In the event that (a) MPC fails to notify LICENSEE prior to the termination of the Response Period that it has an interest in participating in such proposed sublicense, or (b) MPC notifies the LICENSEE prior to the termination of the Response Period that it has no interest in such sublicense, or (c) MPC timely provides LICENSEE with an Expression of Interest but MPC decides and notifies LICENSEE not to continue negotiation regarding such sublicense within the period specified in Section 2.3.3, then LICENSEE shall be free to enter into a sublicense with a Third Party with respect to such Compound and/or Product and the terms of any such sublicense agreement shall not be inconsistent with terms and conditions set forth in this Agreement.

2.3.5 For the duration of the Response Period, and if MPC timely delivers the Expression of Interest, the sixty (60) day period specified in Section 2.3.3, and additional sixty (60) days period specified in Section 2.3.3 if the Parties continue the negotiation regarding such sublicense, LICENSEE shall not negotiate such sublicense arrangement with a Third Party, nor enter into any agreements with such Third Party or propose terms to such Third Party.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

2.4 License Grant to MPC. LICENSEE or its Affiliate shall grant to MPC and its Affiliate a non-exclusive and royalty-free license, with the right to grant sublicenses, under LICENSEE Intellectual Property for the purpose of developing and commercializing the Compound and/or the Product in the MPC Territory. LICENSEE or its Affiliate shall use its Commercially Reasonable Efforts to cause its sublicensees to grant to MPC and its Affiliate a non-exclusive and royalty-free license, with the right to grant sublicenses, under such sublicensee's intellectual property for the purpose of developing or commercializing the Compound and/or the Product in the MPC Territory.

2.5 First Offer to LICENSEE. For an exclusive period of sixty (60) days, MPC will first offer to and discuss with LICENSEE the licensing terms and conditions of the Compound and/or Product before entering into discussion with any Third Party in the MPC Territory. After the expiration of such 60-day period, MPC shall be free to enter into a license with a Third Party with respect to the Compound and/or Product for the MPC Territory.

2.6 Outside the Field. Neither LICENSEE nor any of its Affiliates or sublicensees shall be entitled to develop, have developed, register, have registered, make, have made, use, have used, sell, offer for sale, have sold, import or have imported Compound or Product outside the Field in the LICENSEE Territory. MPC and its respective Affiliates and sublicensees shall be free to develop, have developed, register, have registered, make, have made, use, have used, sell, offer for sale, have sold, import and have imported Compound and Product for use outside the Field in the LICENSEE Territory; provided, however, that such Compound and/or Product must be formulated in a dosage and administration form that does not lead to systemic absorption.

2.6.1 For each individual Compound, MPC will grant to LICENSEE exclusivity for evaluation of its interest for outside the Field applications of such Compound in the

LICENSEE Territory for a period of time until the later to occur of (a) the second anniversary of the Effective Date or (b) the six month anniversary of the completion by LICENSEE of the Phase II(a) Studies with such Compound (the "Grace Period"). For the avoidance of doubt, such initial exclusivity will apply to each Compound taken individually. LICENSEE will keep MPC informed about its progress of the evaluation.

2.6.2 During the Grace Period, MPC will be free to engage Third Parties in discussions regarding use of such Compound outside the Field and/or to plan and conduct research, including clinical research, in the MPC Territory only; provided that in no event during the Grace Period shall MPC be entitled to enter into a license, collaboration or similar agreement with a Third Party for such Compound. No later than thirty (30) days before the end of the Grace Period, MPC will disclose to LICENSEE the results of research and/or licensing activities conducted during the Grace Period, if any such activities were conducted. The Grace Period will continue until thirty (30) days after such disclosure has been made by MPC.

2.6.3 For each individual Compound, LICENSEE will be granted a second period of exclusivity as follows when an Outside the Field Event occurs ("Second Exclusivity Period"). Upon the occurrence of an Outside the Field Event, MPC shall immediately notify LICENSEE of such event. An "Outside the Field Event" is one of the following:

(a) Second Exclusivity Period of one hundred twenty (120) days will be granted upon receipt by LICENSEE of a written communication by MPC informing LICENSEE that MPC has received a fully-negotiated term sheet from a qualified Third Party concerning the use of such Compound outside the Field; or

(b) Second Exclusivity Period of ninety (90) days will be granted (i) after the expiration of the Grace Period and (ii) upon receipt by LICENSEE of a written

communication by MPC to LICENSEE informing LICENSEE that MPC has conducted or has plans to conduct research for use of the Compound outside the Field.

2.6.4 If an Outside the Field Event occurs during the Grace Period, then the Second Exclusivity Period shall begin, in the case of Outside the Field Event (a) above, immediately upon LICENSEE's receipt of written communication by MPC of the Outside the Field Event, and in the case of Outside the Field Event (b) above, after the Grace Period and upon LICENSEE's receipt of written communication by MPC of the Outside the Field Event. MPC will provide LICENSEE with all data and information that LICENSEE will require to complete its assessment, including the Third Party term sheet (if one exists), MPC development plans and/or results obtained through such time.

2.6.5 During the Second Exclusivity Period, LICENSEE will evaluate the information provided by MPC. At the end of the Second Exclusivity Period:

(a) LICENSEE will have the right to purchase perpetual and exclusive evaluation rights for any use of such Compound outside the Field by paying to MPC an initial milestone of [*] before the expiration of the Second Exclusivity Period;

(b) LICENSEE may decide that it needs more time to evaluate the potential risk, and in such an event, LICENSEE may purchase a two-year period of exclusivity for use of such Compound outside the Field by paying to MPC a milestone of [*] before the expiration of the Second Exclusivity Period. For the purpose of determining rights and obligations of both Parties during this additional exclusivity period, the two-year extension will be considered identical to the Grace Period; or

(c) If LICENSEE notifies MPC of its commercial interest in such Compound for use outside the Field before the expiration of the Second Exclusivity Period, then

the Parties shall discuss in good faith the licensing terms and conditions for use of such Compound outside the Field in the LICENSEE Territory; or

(d) If LICENSEE fails to make the intended payment pursuant to either Section 2.6.5(a) or 2.6.5(b) and fails to notify MPC of its intention to enter into licensing discussions pursuant to Section 2.6.5(c) before the expiration of the Second Exclusivity Period, MPC shall be free to pursue use of such Compound outside the Field in the LICENSEE Territory for which it was presented to LICENSEE but not for other uses outside the Field.

2.6.6 Notwithstanding the foregoing, if LICENSEE has made payments to MPC pursuant to Sections 2.6.5(a) and 2.6.5(b), collectively, four times, then from and after such fourth payment, LICENSEE will automatically receive perpetual and exclusive evaluation rights for all Compounds and for all use outside the Field.

ARTICLE 3
DISCLOSURE

3.1 Disclosure by MPC. Within thirty (30) days after the Effective Date, and throughout the term of this Agreement as new MPC Intellectual Property is developed, MPC shall disclose to LICENSEE any and all then-available MPC Intellectual Property, including without limitation, any regulatory filings or information related thereto, which has not already been disclosed and made available to LICENSEE or its Affiliate, on an "as-is" basis.

3.2 Technical Assistance by MPC. Upon specific request from LICENSEE, MPC shall cooperate with LICENSEE and provide LICENSEE with technical assistance, to the extent such technical assistance is reasonably available to MPC, with respect to the MPC Know-How in order to enable LICENSEE to use such MPC Know-How to manufacture and produce the Compound or Product. If LICENSEE requests and MPC accepts in its sole discretion that MPC technical personnel shall be dispatched to the facilities of LICENSEE or its Affiliate or Third

Party contractor for the purposes of providing such technical assistance, LICENSEE shall pay to MPC a reasonable per diem or hourly rate fee for such assistance in an amount to be negotiated in good faith by the Parties and shall reimburse MPC for the actual out-of-pocket costs incurred in providing such technical assistance.

3.3 Disclosure by LICENSEE. During the term of this Agreement, LICENSEE shall disclose to MPC any and all then available LICENSEE Intellectual Property, including without limitation relevant information contained in any IND and NDA. If MPC requests and LICENSEE accepts in its sole discretion to conduct certain study or experiment to obtain certain additional data and information relating to LICENSEE Intellectual Property solely for the purpose of development and/or Application of the Product in MPC Territory specifically but such additional data and information will not be useful for the purpose of development and/or Application of the Product in LICENSEE Territory, MPC shall pay to LICENSEE a reasonable per diem or hourly rate fee for obtaining such additional data and information in an amount to be negotiated in good faith by the Parties and shall reimburse LICENSEE for the actual out-of-pocket costs incurred in providing such additional data and information.

3.4 Technical Assistance by LICENSEE. Upon specific request from MPC, LICENSEE shall reasonably cooperate with MPC and provide MPC with technical assistance with respect to the LICENSEE Know-How in order to enable MPC to use such LICENSEE Know-How to manufacture and produce the Compound or Product. If MPC requests and LICENSEE accepts in its sole discretion that LICENSEE's technical personnel shall be dispatched to the facilities of MPC, its Affiliate, its licensee or Third Party contractor for the purposes of providing such technical assistance, MPC shall pay to LICENSEE a reasonable per diem or hourly rate fee for such assistance in an amount to be negotiated in good faith by the

Parties and shall reimburse LICENSEE for the actual out-of-pocket costs incurred in providing such technical assistance.

3.5 Technical Transfer. Within sixty (60) days of the Effective Date, MPC shall provide to LICENSEE copies in English of all substantive or material information (in electronic format where available), relating to the following: (1) pre-clinical and clinical data and other know-how compiled as of the Effective Date with respect to the Compounds, including any and all data which MPC reasonably considers necessary for LICENSEE to file an IND with the FDA, and (2) all prior correspondence with the FDA or other regulatory equivalent for countries in the LICENSEE Territory other than the United States related to the Compound. MPC acknowledges and agrees that timing shall be of the essence in complying with its obligations under this Section 3.5. Notwithstanding anything to the contrary contained herein, if FDA or equivalent regulatory agency outside the US makes a specific request for information, MPC, as soon as practical but in no event later than 15 days after such request, must provide to LICENSEE such information, to the extent that it is or was in MPC's possession or control at any time, and to the extent such information has not already been transferred to LICENSEE.

ARTICLE 4
DEVELOPMENT; REGULATORY MATTERS; POST REGISTRATION ACTIVITIES

4.1 Development.

4.1.1 Development Work. In accordance with the Development Plan, LICENSEE, its Affiliates and its sublicensees shall, at their own expense, use Commercially Reasonable Efforts to conduct the Development Work and shall pursue Registrations for the Product in the Field in the LICENSEE Territory, including the preparation and filing of regulatory submissions. In conducting the Development Work, LICENSEE and/or its Affiliates or sublicensees may utilize FORENAP for support in conducting the Development Work which

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

shall include the services set forth in the Services Agreement dated June 25, 2007 between LICENSEE and FORENAP, a copy of which is attached as Schedule 4.1.1 (hereinafter referred to as "Services Agreement"). Further, LICENSEE may subcontract portions of the Development Work to any other Third Party having enough knowledge, experience and capability for pre-clinical and/or Clinical Studies; provided, however, that such subcontracted Third Party shall be subject to an agreement with LICENSEE consistent with the confidentiality obligations in accordance with Article 8 below. LICENSEE shall be responsible for the Development Work to be performed by FORENAP and any other subcontracted Third Party.

4.1.2 Development Plan. For each Compound and Product, LICENSEE shall prepare a Development Plan that describes the significant development activities to be undertaken by LICENSEE, its Affiliates and/or its sublicensees with respect to the Compound and Product in the Field in the LICENSEE Territory. As part of the Services Agreement, LICENSEE, and/or its Affiliates shall prepare the initial Development Plan for the MT-210 Compound in consultation with FORENAP. The initial Development Plan for the MT-210 Compound shall take into consideration the following strategies for development;

(a) Characterize the clinical trial subjects for their hepatic metabolic status, particularly by looking to CYP2D6 polymorphism (genotyping and if necessary phenotyping) and probably excluding CYP2D6 poor metabolisers from the initial Phase II(a) Study;

(b) Exclude from the clinical trials subjects who are at risk for cardiovascular side effects;

(c) Explore low doses of MT-210 Compound that have been considered clinically safe as far as QTc prolongation is considered;

(d) Titrate the doses of MT-210 up in a very conservative titration regimen to find the maximum safe dose with respect to QTc prolongation;

(e) For the initial Phase II(a) Study, clinical study subjects shall be inpatients during the first two weeks, or longer, if no clinical efficacy is objectively demonstrated;

(f) Frequently perform ECG recordings, including at Tmax, and before each dose increase;

(g) Regularly monitor plasma levels of Compound and active metabolites in a manner similar to the monitoring conducted by MPC in the Phase I Studies with MT-210 Compound; and

(h) Use only clinical sites that are experienced in conducting clinical studies with antipsychotic compounds.

The Development Plan may be modified from time to time as LICENSEE, its Affiliates and/or sublicensees deem necessary, and with respect to the MT-210 Compound, within the scope of the development strategy set forth in this Section 4.1.2; provided, however, LICENSEE, to the extent it is aware of such revisions, shall promptly inform MPC of any material revision of such Development Plan and will use good faith efforts to inform MPC of any other revision of such Development Plan. If the Development Plan for the MT-210 Compound is modified by LICENSEE, and/or its Affiliates beyond the development strategy considerations set forth in Section 4.1.2(a) — (h), LICENSEE shall promptly inform MPC of such revision of such Development Plan and MPC shall provide any comments it may have on such modifications within eight (8) days and LICENSEE shall consider in good faith any such comments.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

LICENSEE shall be responsible for preparing and implementing any modifications or amendments to the Development Plan.

4.1.3 Back-Up Compounds & Metabolites. If during the course of the Development Work, LICENSEE or its Affiliate or its sublicensee decides (a) that it desires to develop the Product containing an Alternate Compound at the same time as the Development Work on the Product containing MT-210 Compound or (b) that it no longer desires to continue the Development Work of the Product containing MT-210 Compound based on its reasonable judgment of internal scientific and/or economic evaluation, such as safety, efficacy or commercial viability of the Product containing the MT-210 Compound, and, in substitute of the MT-210 Compound, desires to commence Development Work of the Product containing a Back-Up Compound, a MT-210 Back-Up or Metabolite selected by LICENSEE as a back-up Compound, LICENSEE shall notify MPC of such intention and the Development Plan for the Product containing such back-up Compound. LICENSEE shall be free to commence such simultaneous or alternate Development Work unless MPC notifies LICENSEE within thirty (30) days after receipt of notice from LICENSEE that MPC, its Affiliate and/or its licensee is then conducting any research, development and/or commercialization activities for such back-up Compound outside the Field; provided, however, that none of MPC, its Affiliates and/or its licensee shall be permitted to restrict LICENSEE from commencing Development Work on the Excluded Compounds. Upon the Onset of a Phase I Study of the Product containing such back-up Compound, LICENSEE shall notify MPC of such Development Work. For the avoidance of doubt, the development diligence set forth in Section 4.1.4, the milestone payment set forth in Section 5.2 (but subject to Section 5.2) and the royalties set forth in Section 5.3 shall be applied

to the Product containing such back-up Compound to the extent such back-up Compound is an Alternate Compound.

4.1.4 Clinical Studies Protocol. Before commencement of any Clinical Studies conducted by LICENSEE and its Affiliates in accordance with the Development Plan, LICENSEE or its Affiliate shall provide to MPC the final draft of the protocol for such Clinical Study. MPC may comment within fifteen (15) business days on such protocol and LICENSEE or its Affiliate shall consider in good faith any MPC comments; provided, however, the final decision with respect to any such protocol shall be taken by LICENSEE at its sole discretion.

4.1.5 Development Diligence. Without prejudice to any other remedies available at law or otherwise provided for in this Agreement, MPC shall have the right to terminate this Agreement in the event that LICENSEE, its Affiliate or its sublicensee fails to meet any of the following milestones for the Product containing the MT-210 Compound:

(a) Filing of the first IND in one of the Major Countries within [*] months after the Effective Date;

(b) Onset of the first Phase II(b) Study within [*] months after the first IND filing;

(c) Onset of the first Phase III Study within [*] months after completion of the last Phase II(b) Study; and

(d) Filing of the first NDA within [*] years and [*] months after the first IND filing;

Provided, however, that MPC shall not have the right to terminate this Agreement if the failure of LICENSEE, its Affiliate or its sublicensee to meet any of the milestones set forth above is due to or caused by any of the following:

(1) Reason(s) beyond the reasonable control of LICENSEE, its Affiliate or its sublicensee. For the avoidance of doubt and without prejudice to other reasons, the following reasons will be deemed beyond the reasonable control of LICENSEE, its Affiliate or its sublicensee: a requirement by the FDA or other applicable regulatory agency that LICENSEE, its Affiliate or its sublicensee (i) perform additional studies or trials, (ii) reformulate or alter the manufacturing process of any Product, (iii) cease any clinical trial or redesign any clinical trial, or (iv) perform any other action or cease to perform any action that otherwise delays the clinical development of any Product. LICENSEE, its Affiliate or its sublicensee will present to MPC evidence of such FDA or other applicable regulatory agency action.

(2) Activities performed in the best interest of the Product as reasonably determined by LICENSEE, its Affiliate or its sublicensee, subject to MPC's approval, not to be unreasonably withheld. For the avoidance of doubt and without prejudice to other activities, the following activities will be deemed in the best interest of the Product: (i) an expanded clinical program scope; (ii) additional safety studies, including drug-drug interaction studies and special population studies; (iii) reformulation efforts; or (iv) business development efforts following initiation of a Phase II(b) Study. Plan of such activities will be communicated to MPC by LICENSEE, its Affiliate or its sublicensee.

(3) LICENSEE's decision to discontinue development of the Product containing the MT-210 Compound, pursuant to Section 4.1.3(b) or 10.3.

The Steering Committee will review the overall progress of the Development Plan and will agree on reasonable time extensions or milestone adjustments to accommodate delays due to clause (1) or (2) set forth above based on information presented by LICENSEE, its Affiliate or its sublicensee.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

In the event that LICENSEE, its Affiliate or its sublicensee commence alternate Development Work of the Product containing a Back-Up Compound or Metabolite selected by LICENSEE as a back-up Compound pursuant to Section 4.1.3(b), the Parties shall discuss and agree in good faith revisions to the respective timeline for the back-up Compound in consideration of the Development Plan for the Product containing such back-up Compound proposed by LICENSEE pursuant to Section 4.1.3(b).

Notwithstanding the foregoing, LICENSEE may extend the time to achieve any of the milestones set forth in Section 4.1.5(a) through (d) set forth above for one (1) year, at its sole discretion, by making a payment of Five Hundred Thousand United States Dollars ($500,000) to MPC before the date on which such milestone was to have been originally achieved (the "Extension Payment"). If such Extension Payment is made, all following milestones will be concomitantly extended by one (1) year. LICENSEE will have the right to make an unlimited number of Extension Payments in conjunction with the development of Product containing the MT-210 or of a Product containing a Back-Up Compound pursuant to Section 4.1.3(b), provided that the payment amount will increase to [*] beginning with the third Extension Payment. For the avoidance of doubt, Extension Payments will be in addition to any milestone that is otherwise payable to MPC as set forth in Section 5 of this Agreement.

4.1.6 Progress Reports. Every six (6) months until the Registration is obtained in any country in the LICENSEE Territory, LICENSEE shall use its Commercially Reasonable Efforts to prepare and deliver to MPC a written report summarizing LICENSEE's, its Affiliates' and/or sublicensees' significant activities of the Development Work, including all pre-clinical tests and Clinical Studies, with respect to the Compound and Product in the Field in the LICENSEE Territory performed by LICENSEE, its Affiliates and/or sublicensees. MPC may

comment on the progress of the Development Work when reviewing such process reports and LICENSEE or its Affiliates, shall, in its or their sole discretion, consider in good faith any such comments; provided, however, the final decision as to the Development Work shall be taken by the LICENSEE or its Affiliates or sublicensees at its or their sole discretion.

4.1.7 Regulatory Matters. LICENSEE and/or its Affiliates or sublicensees shall own, control and retain primary legal responsibility for, and shall be responsible for funding, the preparation, filing and prosecution of all filings and regulatory applications required to obtain Registration of Product in the LICENSEE Territory in the Field.

4.1.8 Supply of Samples of Compound. Upon request of LICENSEE, MPC will make, at its sole discretion, its reasonable effort to supply LICENSEE with samples of Compound if such samples of Compound are available to MPC at the time.

4.1.9 Reporting of Adverse Events and Adverse Drug Reactions. LICENSEE and its Affiliates and sublicensees and MPC and its Affiliates and licensees shall cooperate with respect to the exchange of adverse event and safety information associated with the Product. Details of the cooperation in the handling of adverse event and safety information related to the Product shall be included in a separate agreement to be negotiated in good faith between the Parties at the time MPC, its Affiliates, its licensee or its sublicensee initiates development of the Product in the MPC Territory. Such agreement shall set forth a standard operating procedure governing the collection, investigation, reporting, and exchange of information concerning adverse drug reactions/experiences sufficient to permit each Party to comply with its legal obligations in its respective Territory. Each Party will designate a regulatory affairs or pharmacovigilance liaison to be responsible for communicating with the other Party regarding

the reporting of adverse event and safety information associated with the Compound and Product.

4.2 Launch and Marketing Efforts. LICENSEE, its Affiliates or its sublicensees shall use Commercially Reasonable Efforts to launch and market the Product in the LICENSEE Territory.

4.3 Coordination of Development Efforts.

4.3.1 Steering Committee. MPC, LICENSEE and their respective Affiliates, agree to establish a Steering Committee on the Effective Date to facilitate the disclosure described in Article 3. The specific composition, role and responsibility of the Steering Committee, and details relating to meetings and decision-making, shall be negotiated in good faith in a separate agreement to be entered into between the Parties within thirty (30) days after the Effective Date.

4.3.2 Development in the MPC Territory. MPC shall own, control and retain primary legal responsibility for, and shall be responsible for funding, the preparation, filing and prosecution of all filings and regulatory applications required to obtain Registration of Product in the MPC Territory. LICENSEE will be allowed to comment on development program for development of the Product in MPC Territory in the Steering Committee.

4.3.3 Supply of the Bulk Drug Substance and Product for Development in the MPC Territory. Upon the reasonable request from MPC, LICENSEE shall discuss in good faith with MPC terms and conditions under which LICENSEE would be willing to supply the Bulk Drug Substance and/or the Product to MPC, its Affiliates or its licensee for development in the MPC Territory. The price of such Bulk Drug Substance and/or the Product shall be equal to the amount of the Fully Burdened Manufacturing Cost plus two percent (2%). The detailed terms

and conditions of such supply shall be discussed in good faith and agreed upon between the Parties.

4.4 Supply of the Bulk Drug Substance and Product for Commercialization in the MPC Territory. Upon the reasonable request from MPC, LICENSEE shall discuss in good faith with MPC terms and conditions under which LICENSEE would be willing to supply the Bulk Drug Substance and/or the Product to MPC, its Affiliate or its licensee for commercialization in the MPC Territory. The detailed terms and conditions of such supply (including supply price) shall be discussed in good faith and agreed upon between the Parties.

ARTICLE 5
PAYMENTS AND ROYALTIES

5.1 Initial License Fee. In consideration of the licenses granted by MPC to LICENSEE, LICENSEE shall pay to MPC the total amount of One Million United States Dollars (US$1,000,000) as the initial license fee within thirty (30) days after the Effective Date. Further, in the event that LICENSEE, its Affiliate or its sublicensee commence the clinical development of the Product containing an Alternate Compound pursuant to Section 4.1.3.(a), LICENSEE shall pay to MPC the additional license fee set forth in Schedule 5.2(b) within thirty (30) days after the Onset of the first Phase I Study for such Alternate Compound; provided, however, that certain costs and expenses for certain preclinical pharmacological efficacy test of such Back-Up Compound agreed upon by MPC could be deducted from such additional license fee but any and all costs and expenses for certain preclinical pharmacological efficacy test of such Metabolite shall not be deducted from such additional license fee. If LICENSEE, its Affiliate or its sublicensee commence alternate Development Work of the Product containing a Back-Up Compound or Metabolite selected by LICENSEE as a back-up Compound pursuant to Section 4.1.3.(b), LICENSEE shall have no obligation to make such additional license fee payment with

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

respect to the replacement Alternate Compound for which it commences Development Work after the discontinuation of the Development Work on the MT-210 Compound.. For the avoidance of doubt, LICENSEE shall have no obligation to pay the additional licensee fee set forth in Schedule 5.2(b) for pre-clinical development work performed on or with an Alternate Compound. For the further avoidance of doubt, the initial license fee set forth in this Section 5.1 shall not be creditable against future milestone payments or royalties.

5.2 Milestone Payments.

5.2.1 Milestone Payments. In addition to the initial license fee, in consideration of the licenses granted by MPC to LICENSEE, LICENSEE shall pay to MPC the milestone payments set forth in Schedule 5.2(a) for Product containing the MT-210 Compound. Further, in the event that LICENSEE, its Affiliates or sublicensees clinically develop and commercialize the Product containing an Alternate Compound in LICENSEE Territory pursuant to Section 4.1.3.(a), in consideration of the licenses granted by MPC to LICENSEE, LICENSEE shall pay to MPC the milestone payments set forth in Schedule 5.2(b). If LICENSEE, its Affiliates or sublicensees clinically develop and commercialize the Product containing a Back-Up Compound or Metabolite selected by LICENSEE as a back-up Compound pursuant to Section 4.1.3.(b) and has made any of the milestone payments set forth in Schedule 5.2(a) for the Product containing the MT-210 Compound, then LICENSEE shall not have to make the same milestone payments for the substituted Product containing such back-up Compound set forth in Schedule 5.2(b). For example, if LICENSEE, its Affiliates or sublicensees discontinues Development Work on the Product containing the MT-210 Compound after the Onset of a Phase II(b) Study, LICENSEE will not have to make a milestone payment on the Product containing such back-up Compound

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

that it develops to replace the Product containing MT-210 Compound unless and until there is an Onset of a Phase III Study utilizing the Product containing such back-up Compound.

5.2.2 Reports and Payments. The milestone payments shall be made no more than once with respect to the achievement of each milestone and no amounts shall be due hereunder for any subsequent or repeated achievement of such milestones (but payable on the first achievement of such milestone). LICENSEE shall notify MPC in writing within thirty (30) days after the achievement of the milestones specified on Schedule 5.2 and each such notice shall be accompanied by the appropriate milestone payment. For the avoidance of doubt, the milestone payments pursuant to this Section 5.2 shall not be creditable against future milestone payments or royalties.

5.3 Royalties Payable by LICENSEE.

5.3.1 In addition, in consideration of the licenses granted by MPC to LICENSEE herein, LICENSEE shall pay to MPC a royalty on Net Sales in each Royalty Year in the LICENSEE Territory, on a Product-by-Product, as follows:

Annual Net Sales in the LICENSEE Territory	**Royalty Rate**
[*]	[*]
[*]	[*]
[*]	[*]
[*]	[*]

("M" means "million".)

As an example, for Net Sales of [*] in the LICENSEE Territory, the royalties payable by LICENSEE to MPC will represent [*].

5.3.2 Royalties set forth in this Section 5.3 shall accrue from the date of Launch of Product in each country and shall continue and accrue on Net Sales until the end of the Royalty Period in such country.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

5.3.3 One Royalty. No more than one royalty payment shall be due with respect to a sale of a particular Product. No multiple royalties shall be payable because any Product, or its manufacture, sale or use is covered by more than one Valid Claim. No royalty shall be payable under this Section 5.3 with respect to sales of the Products among LICENSEE and its Affiliates or sublicensees for resale, nor shall a royalty be payable under this Section 5.3 with respect to the Products distributed for use in research and/or development, in clinical trials, as donations to non-profit institutions or government agencies or as promotional free samples.

5.3.4 Generic Competition. At any time after Generic Competition exists in a country of the LICENSEE Territory, in each Calendar Quarter during the Royalty Period, Net Sales from such country shall be reduced by [*] before including same into Net Sales in all countries in the LICENSEE Territory for the purpose of calculating the applicable royalty rates set forth in Section 5.3.1.

5.4 Third Party's New Formulation Technology. LICENSEE may, at its discretion, introduce any third party formulation technology for the development and commercialization of the Product. LICENSEE shall bear the costs and expenses for the development of such third party new formulation technology. If MPC becomes interested in the Product using such third party's new formulation technology, LICENSEE, to the extent it has the right and ability to do so, shall provide MPC with any and all data and information with regard to such third party's new formulation technology (hereinafter referred to as "Third Party Technology") as a part of the LICENSEE Intellectual Property. Further, if MPC decides to develop and commercialize the Product in MPC Territory using such Third Party Technology, LICENSEE, to the extent it has the right and ability to do so, shall grant or have such third party granted MPC to make, have made, use, sell, offer for sale, have sold and import the Product in MPC Territory using such

Third Party Technology as a part of the LICENSEE Intellectual Property. In such case, in consideration of the license granted to MPC herein, MPC shall pay to such third party royalties for commercialization of the Product using such Third Party Technology in the MPC Territory which rate is equivalent to the royalties for such license granted to LICENSEE.

ARTICLE 6
ROYALTY REPORTS AND ACCOUNTING

6.1 Reports. During the Royalty Period, LICENSEE shall furnish to MPC a written report for the Calendar Quarter showing, on a country by country and Product by Product basis, (a) the gross sales of all Products sold by LICENSEE and its Affiliates and sublicensees during such Calendar Quarter, (b) the Net Sales, (c) the royalties, payable in United States Dollars, which shall have accrued hereunder based upon Net Sales of Products, (d) the withholding taxes, if any, required by law to be deducted in respect of such royalties, (e) the date of the Launch of each Product in each country in the LICENSEE Territory and (f) the exchange rates used in determining the amount of United States Dollars, as more specifically provided in Section 7.2. Reports shall be due sixty (60) days following the close of each Calendar Quarter. LICENSEE shall keep complete and accurate records in sufficient detail to properly reflect all gross sales and Net Sales and to enable the royalties payable hereunder to be determined in accordance with Section 6.2.

6.2 Audit.

6.2.1 Audit Rights. Upon the reasonable written request of MPC and not more than once in each Calendar Year, LICENSEE shall permit MPC and/or an independent certified public accounting firm of nationally recognized standing, selected by MPC and reasonably acceptable to LICENSEE, at MPC's expense, to have access during normal business hours on at least ten (10) days' prior written notice, to such of the records of LICENSEE and its Affiliates as

may be reasonably necessary to verify the accuracy of the royalty reports hereunder for any Calendar Year ending not more than thirty-six (36) months prior to the date of such request; provided that MPC shall not be entitled to audit the same period of time more than once.

6.2.2 Audit Results. If such accounting firm concludes that additional royalties were owed during such period, LICENSEE shall remit to MPC within thirty (30) days of the date MPC delivers to LICENSEE such accounting firm's written report so concluding: (a) the amount of such additional royalties; and (b) interest on the amounts overdue of such underpayment which shall be calculated pursuant to Section 7.4. In the event such accounting firm concludes that amounts were overpaid by LICENSEE during such period, LICENSEE shall have a credit against future royalties payable to MPC in the amount of such overpayment; provided, however, that LICENSEE may have an independent certified public accounting firm of nationally recognized standing, selected by LICENSEE and reasonably acceptable to MPC, at LICENSEE's expense, confirm the results of the audit conducted by MPC's accounting firm. The fees charged by MPC's accounting firm shall be paid by MPC; provided, however, if an error in favor of MPC of more than five percent (5%) of the royalties due hereunder for the period being reviewed is discovered, then LICENSEE shall pay the reasonable fees and expenses charged by such accounting firm.

6.2.3 Confidential Financial Information. MPC shall treat all financial information subject to review under this Article 6 as confidential, and shall cause its accounting firm to retain all such financial information in confidence.

ARTICLE 7
PAYMENTS

7.1 Payments Terms. Royalties shown to have accrued by each royalty report provided for under Section 6.1 shall be due and payable on the date such royalty report is due.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

7.2 Payment Method. All payments by LICENSEE to MPC under this Agreement shall be paid in United States Dollars. If any currency conversion shall be required in connection with the payment of any royalties hereunder, such conversion shall be made by using the average of the exchange rates for the purchase and sale of United States Dollars reported by the Bank of Tokyo Mitsubishi UFJ on the last business day of the Calendar Quarter to which such royalty payments relate.

7.3 Exchange Control. If at any time legal restrictions prevent the prompt remittance of part or all of the royalties with respect to any country in the LICENSEE Territory where the Product is sold, LICENSEE shall have the right, at its option, to make such payments by depositing the amount thereof in local currency to MPC's account in a bank or other depository designated by MPC in such country.

7.4 Overdue Payments. In the event the initial payment, any milestone payment or any royalty payment is not made when due, such outstanding payment shall accrue interest (from the date such payments is due through and including the date upon which full payment is made) at the annual rate of [*].

7.5 Withholding Taxes. LICENSEE shall be entitled to deduct from any payment due MPC under this Agreement the amount of any withholding taxes payable by LICENSEE or its Affiliates, or any taxes required to be withheld by LICENSEE or its Affiliates, to the extent LICENSEE or its Affiliates pay to the appropriate governmental authority on behalf of MPC such taxes, levies or charges. LICENSEE shall use reasonable efforts to minimize any such taxes, levies or charges required to be withheld on behalf of MPC by LICENSEE or its Affiliates. LICENSEE promptly shall deliver to MPC proof of payment of all such taxes, levies and other charges, together with copies of all communications from or with such governmental

authority with respect thereto. Upon reasonable request from MPC, LICENSEE shall cooperate with MPC to supply forms or documentation required by any applicable taxation laws, treaties or agreements to such withholding or as necessary to claim a benefit.

ARTICLE 8
CONFIDENTIALITY

8.1 Nondisclosure Obligations. Except as otherwise provided in this Article 8, during the term of this Agreement and for a period of five (5) years thereafter, both Parties shall maintain in confidence and use only for purposes of this Agreement the Proprietary Information supplied by the other Party.

8.2 Permitted Disclosures. To the extent it is reasonably necessary or appropriate to fulfill its obligations or exercise its rights under this Agreement, a Party (including its Affiliates and sublicensees) may disclose Proprietary Information of the other Party which it is otherwise obligated under this Article 8 not to disclose (a) to its Affiliates, its sublicensees, its consultants, outside contractors and clinical investigators, on a need-to-know basis on condition that such Persons agree to keep the Proprietary Information confidential for the same time periods and to the same extent as such Party is required to keep the Proprietary Information confidential; and (b) to government or other regulatory authorities to the extent that such disclosure is required by applicable law (including without limitation all applicable securities laws), regulation, agency or court order, or is reasonably necessary to obtain patents or authorizations to conduct clinical trials with, and to commercially market the Product, provided that, with respect to clause (b) the disclosing Party shall provide written notice to the other Party and sufficient opportunity to object to such disclosure or to request confidential treatment thereof. The obligation not to disclose or use Proprietary Information received from the other Party shall not apply to any part of such Proprietary Information that (i) is or becomes patented, published or otherwise part of the

public domain other than by acts of the Party obligated not to disclose such Proprietary Information in contravention of this Agreement; (ii) is disclosed to the receiving Party by a Third Party, provided such Proprietary Information was not obtained by such Third Party directly or indirectly from the other Party on a confidential basis; (iii) prior to disclosure under this Agreement, was already in the possession of the receiving Party, provided such Proprietary Information was not obtained directly or indirectly from the other Party; (iv) is subsequently and independently developed by the receiving Party without the knowledge of the Proprietary Information or (v) is disclosed in a press release agreed to by both Parties, which agreement shall not be unreasonably withheld.

8.3 SEC Filings. The Parties will consult with each other on the provisions of this Agreement to be redacted in filings, if any, made by the Parties with the Securities and Exchange Commission or as otherwise required by law. The Parties agree that either Party may make such disclosures pursuant to Form 8-K or otherwise as it determines, based on advice of counsel, are reasonably necessary to comply with laws or regulations or for appropriate market disclosure, with the prior written consent by the other Party. The Parties shall consult with one another before any such filing, and shall seek protection for any Proprietary Information (including any terms and conditions of this Agreement).

8.4 Press Release and Publication.

8.4.1 Press Release. In the event that either Party desires to issue a press release relating to this Agreement, the Parties shall discuss in good faith and agree upon the contents and timing of such press release.

8.4.2 Scientific Publication. In the event that LICENSEE, its Affiliate or its sublicensee(s) is willing, required or obliged to make any publication in a scientific journal or at

the conference in any academic society on the information obtained from its Development Work on the Compound and/or the Product, LICENSEE, to the extent LICENSEE has a right to review any such publication or presentation, shall endeavor in good faith to submit to MPC the full text of such publication, at least thirty (30) days before the date of such publication and to consult with MPC and to solicit comments with respect to such publication or presentation; provided, however, that MPC shall not prevent LICENSEE from complying with regulatory requirements.

ARTICLE 9
INTELLECTUAL PROPERTY

9.1 Ownership of Improvements. Each Party shall solely own, and such Party alone shall have the right to apply for, any patents within and outside its Territory for any improvements made solely by such Party's employees in the course of the performance of any work under this Agreement. Improvements made jointly by employees of MPC and LICENSEE, its Affiliates or its sublicensees shall be owned jointly by MPC and LICENSEE, its Affiliates or its sublicensees and shall be included in the licenses described in Article 2 hereof.

9.2 Patents Prosecution and Maintenance.

9.2.1 MPC Patents. MPC shall have the initial right to control the filing, prosecution and maintenance of the MPC Patents in the LICENSEE Territory, and to select all patent counsel or other professionals to advise, represent or act for it in all matters relating to the MPC Patents in the LICENSEE Territory. MPC shall be responsible for the payment of all such patent prosecution and maintenance costs of the MPC Patents in the Major Countries and LICENSEE shall be responsible for the payment of all such patent prosecution and maintenance costs of the MPC Patents in the remaining countries in the LICENSEE Territory if LICENSEE desires to prosecute and maintain the MPC Patents in such remaining countries. MPC shall solicit LICENSEE's review of the nature and text of any such patent applications in the

LICENSEE Territory and important prosecution matters related thereto in reasonably sufficient time prior to filing thereof, and MPC takes into account LICENSEE's reasonable comments related thereto. MPC, taking such LICENSEE's request into consideration but at its sole discretion, shall file patent claims related to the Compound or Product proposed by LICENSEE in any MPC Patent or a continuation or divisional of the foregoing. MPC shall inform LICENSEE of any significant developments in the prosecution of pending patent applications included in the MPC Patents in the LICENSEE Territory, including the issuance of any final office actions, allowance of claims, or upcoming grant of any domestic or foreign patent based thereon. If MPC decides not to file, prosecute or maintain a MPC Patent in any country in the LICENSEE Territory, MPC shall provide LICENSEE with written advance notice sufficient to avoid any loss or forfeiture (but in any event at least sixty (60) days notice), and LICENSEE shall have the right but not the obligation, at its sole expense, to file, prosecute or maintain such MPC Patent in such country, and MPC shall assign to LICENSEE a right, title and interest in and to such MPC Patent in such country and such MPC Patent shall no longer be deemed MPC Patent.

9.2.2 LICENSEE Patents. LICENSEE shall have the right to control the filing, prosecution, and maintenance of the LICENSEE Patents in the respective Territory, and to select all patent counsel or other professionals to advise, represent or act for it in all matters relating to the LICENSEE Patents. LICENSEE shall be responsible for the payment of all such patent prosecution and maintenance costs. LICENSEE shall solicit MPC's review of the nature and text of any such patent applications in the MPC Territory and important prosecution matters related thereto in reasonably sufficient time prior to filing thereof, and LICENSEE shall take into account MPC's reasonable comments related thereto. LICENSEE shall inform MPC of any

significant developments in the prosecution of pending patent applications included in the LICENSEE Patents in the MPC Territory, including the issuance of any final office actions, allowance of claims, or upcoming grant of any domestic or foreign patent based thereon. If LICENSEE decides not to file, prosecute or maintain a Patent Right included in the LICENSEE Patents in any country in the MPC Territory, it shall provide MPC with written advance notice sufficient to avoid any loss or forfeiture (but in any event at least sixty (60) days notice), and MPC shall have the right but not the obligation, at its sole expense, to file, prosecute or maintain such LICENSEE Patent in such country, and LICENSEE shall assign to MPC a right, title and interest in and to such LICENSEE Patent in such country and such LICENSEE Patent shall no longer be deemed LICENSEE Patent.

9.3 Cooperation. Each Party shall make available as far as possible to the other Party or to the other Party's authorized attorneys, agents, representatives, employees or consultants any documents necessary or appropriate to enable the other Party to file, prosecute and maintain patent applications and resulting patents, as set forth in Section 9.2, for a period of time sufficient for the other Party to obtain the assistance it needs from the first Party. Where appropriate, each Party shall sign or cause to have signed all documents relating to said patent applications or patents at no charge to the other Party.

9.4 Enforcement of Patents.

9.4.1 Excluding Action. Each of the Parties shall notify the other of any activity or product which it reasonably believes constitutes an infringement or misappropriation of the MPC Patents or MPC Know-How in the LICENSEE Territory or of any claim of invalidity in respect of a MPC Patent. LICENSEE shall have the right, in the first instance, to enforce the MPC Patents against such infringing technology or to defend any such claim of invalidity within

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

the LICENSEE Territory. In the event LICENSEE declines to prosecute such infringing technology or to defend such claim within ninety (90) days (or twenty-one (21) days from the receipt of paragraph IV certificate or aware of the ANDA application) of becoming aware thereof, MPC shall have the right to so enforce or defend. The Parties agree that the costs of such prosecution or defense of validity, in connection with an infringement in the LICENSEE Territory shall be borne by the Party who prosecutes or defends the action.

9.4.2 Settlements, Allocation of Monetary Award. The Party controlling the action may not settle the action or otherwise consent to an adverse judgment in such action that diminishes the rights or interests of the non-controlling Party without the express written consent of the non-controlling Party, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, MPC and LICENSEE shall cooperate with each other in the planning and execution of any action to enforce the MPC Patents. Any recovery and proceeds of any awards, judgments or settlements obtained by LICENSEE or MPC shall be shared as follows, whether the recovery is by settlement or otherwise:

(a) the enforcing or defending Party shall first be entitled to recoup all of its out-of-pocket costs and expenses (including reasonable attorneys' fees) incurred in connection with the action;

(b) the other Party, if joined or cooperating in the action, shall then be entitled to recover its out-of-pocket costs and expenses (including reasonable attorneys' fees) incurred in connection with the action, not already reimbursed by the enforcing or defending Party;

(c) any recovery remaining shall be allocated between the Parties on a pro rata basis based upon the respective lost profits of the Parties as a result of the infringing activities, which allocation ratio shall be separately agreed upon in writing by the Parties.

9.4.3 Each Party agrees to furnish the other with such cooperation, including consenting to act as a Party to litigation if required, and exchange of information as the other Party may reasonably request in connection with the prosecution of any such action and the Party prosecuting an infringement or defending a claim of invalidity shall consult periodically with the other Party in connection with any such action. Neither Party shall take any action which would admit the invalidity of a MPC Patent without the consent of the other Party, which consent shall not be unreasonably withheld.

9.5 Patent Term Restoration. The Parties, their Affiliates or their sublicensees shall cooperate with each other, execute all documents and take all actions that may be necessary to pursue patent term extensions, supplemental protection certificates or their future equivalents applicable to the LICENSEE Patents or the MPC Patents, under appropriate laws and/or regulations in the LICENSEE Territory and/or MPC Territory. MPC and LICENSEE shall discuss and determine which patents shall be extended in respective Territory. All filings for such patent term extension or supplemental protection certificates shall be made by the Party who owns the patent at its sole cost and expense.

9.6 Infringement of Third Party Rights. LICENSEE or its Affiliate shall promptly notify MPC in writing of any allegation by a Third Party that the manufacture, development, importation, use, offer for sale or sale of a Compound or Product covered by the MPC Intellectual Property, infringes or may infringe the intellectual property rights of such Third Party in any country of the LICENSEE Territory. LICENSEE or its Affiliate or sublicensee shall

have the first right to control the defense of any claim alleging that the manufacture, development, importation, use, offer for sale or sale of such Compound or Product in the LICENSEE Territory infringes any such Third Party rights or may settle on terms that it deems advisable in its sole discretion, provided that any final disposition of the litigation that will restrict the claims in or admit any invalidity of any MPC Patent shall not be made without full consultation with and approval by MPC, not to be unreasonably withheld. If LICENSEE or its Affiliate or sublicensee fails to proceed in a timely manner with respect to such defense, MPC shall have the right to control the defense of such claim. The Parties shall consult and cooperate fully to determine a course of action. If, finally, LICENSEE or its Affiliate or sublicensee is required by order or judgment of any court in any jurisdiction, or LICENSEE or its Affiliate or sublicensee in its sole discretion after having obtained an outside legal opinion, believes it necessary to obtain a license, obtains a license under such intellectual property right from such Third Party, and makes payments to such Third Party to avoid alleged infringement, then [*] of the royalty or other payments required to be paid by LICENSEE or its Affiliate or sublicensee to such Third Party as the result of a judgment or settlement under this Section 9.6 ("Third Party Payment") shall be creditable against the royalty payments pursuant to Section 5.3 due MPC with respect to the sale of such Product in such country, provided, however, that in no event shall the royalties payable to MPC be reduced to less than [*] of the amount due under this Agreement, and provided further any remaining portion the [*] of the Third Party Payment not credited pursuant to this Section 9.6 may be carried over against the royalties payable to MPC for the subsequent period in which the royalties are due. Each Party shall have the right to participate in the defense of any such claim with counsel of its choice at its own expense.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

ARTICLE 10
TERM AND TERMINATION

10.1 Expiration. This Agreement shall come into effect on the Effective Date and, unless earlier terminated, shall continue in effect until the expiration of LICENSEE's obligations to pay royalties. After the expiration of this Agreement, on a country-by-country basis, in such country in the Territory, LICENSEE will have a fully paid-up, non-exclusive, perpetual, irrevocable license, with the right to grant and authorize sublicenses, with respect to the MPC Patents and MPC Know-How in such country in the LICENSEE Territory or in the case of the manufacture of Compound, anywhere in the world for the purpose of manufacturing the Product to be sold in the LICENSEE Territory.

10.2 Termination for Cause.

10.2.1 Either Party may terminate this Agreement upon or after the breach of any material provision of this Agreement by the other Party, if the breaching Party has not cured such breach within sixty (60) days after notice thereof from the non-breaching Party. This Agreement shall terminate, at the option of the non-breaching Party, at the expiration of such sixty (60) day cure period; provided, however, that if the breach is not capable of being cured within sixty (60) days of such written notice, this Agreement may not be terminated so long as the breaching Party commences and is taking commercially reasonable actions to cure such breach as promptly as practicable.

10.2.2 Either Party may terminate this Agreement upon giving notice to the other Party, which termination notice shall have immediate effect, in the case of any adjudication of bankruptcy or insolvency, appointment of a receiver by a court of competent jurisdiction, assignment for the benefit of creditors, or institution of liquidation proceedings by or against the other Party.

10.2.3 Notwithstanding anything to the contrary contained in Section 10.2.1, 10.2.2 or 13.2, in the event that MPC is entitled to terminate this Agreement pursuant to Section 10.2.1 or 10.2.2, prior to exercising such termination right, MPC shall offer LICENSEE's sublicensees the ability to assume LICENSEE's rights and obligations under this Agreement and to continue this Agreement in full force and effect between MPC and such sublicensee.

10.3 Other LICENSEE Termination. In the event that LICENSEE believes that (1) certain data and information with regard to safety or efficacy of the Compound or Product obtained through the Development Work does not justify continued development of the Product by LICENSEE, its Affiliate and/or sublicensee or (2) LICENSEE believes that commercial considerations or other factors for marketing of the Product do not justify continued development, commercialization or marketing of the Product by LICENSEE, its Affiliate and/or its sublicensees, LICENSEE may terminate this Agreement in its sole discretion at any time during the term hereof in its entirety, or on a country-by-country, Compound-by-Compound or Product-by-Product basis (a) on not less than ninety (90) days prior written notice to MPC if such termination occurs prior to Launch of such Product in such country, or (b) on not less than one hundred eighty (180) days prior written notice to MPC if such termination occurs after the Launch of such Product in such country, informing MPC of and discussing with MPC the reasonable reason for which it is terminating all or part of this Agreement; provided however that if LICENSEE desires to terminate this Agreement in the cases safety problems caused by prolongation of heart repolarisation as measured by the QTc, LICENSEE shall explain MPC the reasonable reason why such safety problems could not be avoided despite of LICENSEE's clinical development plan to decrease the risk of such safety problems. In which case LICENSEE's obligation to perform any further work under this Agreement shall cease in such

country or for such Compound or for such Product as of the date of the end of the period set forth in Section 10.3.(a) or 10.3.(b).

10.4 Effect of Expiration and Termination. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing on or prior to such expiration or termination. LICENSEE and its Affiliates and sublicensees shall have the right to sell or otherwise dispose of the stock of any Product subject to this Agreement then on hand or in process of manufacture, subject to Articles 5, 6 and 7. In addition to any other provisions of this Agreement which shall by their terms continue after the expiration of this Agreement, the provisions of Article 8 shall survive the expiration or termination of this Agreement and shall continue in effect during the term set forth in Section 8.1. In addition, any other provision required to interpret and enforce the Parties' rights and obligations under this Agreement shall also survive, but only to the extent required for the full observation and performance of this Agreement. Except as expressly set forth herein, the rights to terminate as set forth herein shall be in addition to all other rights and remedies available under this Agreement, at law, or in equity, or otherwise.

10.5 Effect of Termination Without MPC's Cause. In the event that this Agreement shall be terminated by MPC pursuant to Section 4.1.5, 10.2 or by LICENSEE pursuant to Section 10.3, LICENSEE or its Affiliate shall return to MPC all written MPC Know-How and all copies thereof and furnish MPC with all of LICENSEE, its Affiliates or its sublicensee Know-How not already provided to MPC with a royalty-free worldwide right to use all LICENSEE Patents and LICENSEE Know-How. LICENSEE or its Affiliate shall further transfer free of charge to MPC or its nominee any IND, Application or other documents filed with any government agency in

LICENSEE Territory and any Registration obtained in LICENSEE Territory. LICENSEE shall, at the request of MPC, cooperate with MPC or its nominee for the smooth transfer of them.

ARTICLE 11
REPRESENTATIONS AND WARRANTIES

11.1 Mutual Representations. The Parties hereby represent and warrant as follows:

11.1.1 Corporate Existence and Power. Such Party (a) is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction in which it is incorporated, and (b) has the corporate power and authority and the legal right to own and operate its property and assets, to lease the property and assets it operates under lease, and to carry on its business as it is now being conducted;

11.1.2 Authorization and Enforcement of Obligations. Such Party (a) has the corporate power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder and (b) has taken all necessary corporate action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, binding obligation, enforceable against such Party in accordance with its terms;

11.1.3 Consents. All necessary consents, approvals and authorizations of all governmental authorities and other Persons required to be obtained by such Party in connection with this Agreement have been obtained; and

11.1.4 No Conflict. The execution and delivery of this Agreement and the performance of such Party's obligations hereunder (a) do not conflict with or violate any requirement of applicable laws or regulations and (b) do not conflict with, or constitute a default under, any contractual obligation of such Party.

11.2 Representations and Warranties of MPC. MPC additionally represents and warrants to LICENSEE as of the Effective Date that:

11.2.1 the MPC Intellectual Property is owned or controlled by MPC free and clear of any liens, charges and encumbrances, and no other person, corporate or other private entity, or governmental or university entity or subdivision thereof, has any valid claim of ownership with respect to the MPC Intellectual Property, whatsoever;

11.2.2 MPC has not previously granted, and will not grant during the term of this Agreement, any right, license or interest in and to the MPC Intellectual Property, or any portion thereof, inconsistent with the licenses granted to LICENSEE herein;

11.2.3 MPC does not have any knowledge of the existence of any references or conduct that would bring into question the validity or enforceability of the MPC Intellectual Property in the Field;

11.2.4 there are no pending or, to the knowledge of MPC, threatened actions, suits, investigations, claims or proceedings in any way relating to the MPC Intellectual Property;

11.2.5 MPC has disclosed to FORENAP or LICENSEE all material scientific and technical information known to MPC or its Affiliates relating to the safety and efficacy of the MT-210 Compound and Product containing the MT-210 Compound;

11.2.6 MPC has disclosed to FORENAP or LICENSEE all information which MPC reasonably considers necessary for LICENSEE to file an IND with the FDA;

11.2.7 Schedule 1.36 contains a complete and accurate list of all Patents relating to the MT-210 Compound or the Product containing the MT-210 Compound owned or controlled by MPC in the LICENSEE Territory;

11.2.8 to the knowledge of MPC, the patents encompassed within the MPC Patents, are, or, upon issuance, will be, valid and enforceable patents.

11.2.9 to the knowledge of MPC, the manufacture, use, sale, offer for sale, supply or importation by LICENSEE (or its Affiliates or sublicensees) of the MT-210 Compound or Product containing the MT-210 Compound does not and will not infringe any issued patent of any Third Party or, if and when issued, any claim within any published patent application of any Third Party;

11.2.10 MPC has heretofore disclosed to LICENSEE or FORENAP, all material filings, notices, reports and other correspondence and contact information between MPC and the FDA or any other regulatory authority regarding the MT-210 Compound or the Product containing the MT-210 Compound;

11.2.11 Schedule 11.2.11 sets forth a complete and accurate listing of all pre-clinical and clinical studies and trials, together with the dates and titles of such studies and trials, previously or currently undertaken or sponsored by MPC or its Affiliates with respect to the Compounds and Products. True, complete and accurate copies of all data and reports with respect to the studies and trials listed on Schedule 11.2.11 have been provided for review to LICENSEE or FORENAP, and MPC has otherwise provided for review to LICENSEE or FORENAP all material preclinical and clinical studies and trials of all Compounds and Products; and

11.2.12 MT-210 Compound and Product containing the MT-210 Compound are being developed, manufactured, stored, labeled, distributed and tested by MPC or its Affiliates or any Third Party acting on behalf of MPC in compliance in all applicable laws, rules and regulations at that time.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

11.3 Representations of LICENSEE. LICENSEE additionally represents and warrants to MPC that:

11.3.1 LICENSEE is a corporation duly organized and validly existing and in good standing under the laws of the State of Delaware, U.S.;

11.3.2 upon request by LICENSEE, LICENSEE will be funded in accordance with the terms and conditions of a Securities Purchase Agreement by and among Care Capital, LLC, Index Ventures (or other respective Affiliates) and the LICENSEE, a copy of which is attached as Schedule 11.3.2; and

11.3.3 LICENSEE has an ability to conduct the Development Work and to prepare the Development Plan in consultation with FORENAP.

11.4 Disclaimer of Representations. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTIES OF ANY KIND EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF ANY PATENTS ISSUED OR PENDING.

ARTICLE 12
INDEMNIFICATION

12.1 LICENSEE's Obligation. LICENSEE shall defend, indemnify, and hold harmless MPC, its Affiliates and their respective directors, officers, shareholders, employees and agents ("MPC Indemnitees"), from and against any and all liabilities, damages, losses, penalties, fines, costs, interest, and expenses, including, but not limited to reasonable attorney's fees (collectively "MPC Damages") arising from or occurring as a result of a Third Party's claim, action, suit, judgment or settlement against an MPC Indemnitee that is due to or based upon:

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

12.1.1 any breach of a representation, warranty, covenant or agreement of LICENSEE under this Agreement,

12.1.2 any negligent or more culpable act of LICENSEE, its Affiliates or its sublicensees under this Agreement, or

12.1.3 development, manufacture, use, sale or labeling of Compound, Bulk Drug Substance or Product by LICENSEE, its Affiliates or its sublicensees.

However, LICENSEE shall not indemnify or hold harmless MPC Indemnitees from MPC Damages to the extent that such MPC Damages are finally determined to have resulted from an item for which MPC is obligated to indemnify LICENSEE pursuant to Section 12.2. LICENSEE's obligations under this Section shall survive the expiration or termination of this Agreement for any reason.

12.2 MPC's Obligation. MPC shall defend, indemnify, and hold harmless LICENSEE, its Affiliates and their respective directors, officers, shareholders, employees and agents ("LICENSEE Indemnitees"), from and against any and all liabilities, damages, losses, penalties, fines, costs, interest, and expenses, including, but not limited to reasonable attorney's fees (collectively "LICENSEE Damages") arising from or occurring as a result of a Third Party's claim, action, suit, judgment or settlement against an LICENSEE Indemnitee that is due to or based upon:

12.2.1 any breach of a representation, warranty, covenant or agreement of MPC under this Agreement,

12.2.2 any negligent or more culpable act of MPC, its Affiliates or its sublicensees under this Agreement; or

12.2.3 development, manufacture, use, sale or labeling of Compound, Bulk Drug Substance or Product by MPC, its Affiliates or its sublicensees.

However, MPC shall not indemnify or hold harmless LICENSEE Indemnitees from LICENSEE Damages to the extent that such LICENSEE Damages are finally determined to have resulted from an item for which LICENSEE is obligated to indemnify MPC pursuant to Section 12.1. MPC's obligations under this Section shall survive the expiration or termination of this Agreement for any reason.

12.3 Insurance. LICENSEE, its Affiliates and/or its sublicensees shall maintain and keep in force for the term of this Agreement comprehensive general liability insurance including Products/Completed Operations, Contractual and Broad Form Property Damage covering its indemnification obligations hereunder combined single limit for Bodily Injury and Property Damage. It is understood that such insurance shall not be construed to limit LICENSEE's liability with respect to such indemnification obligations.

ARTICLE 13
MISCELLANEOUS

13.1 Force Majeure. Neither Party shall be held liable or responsible to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement to the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party including but not limited to fire, floods, embargoes, power shortage or failure, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other Party.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

13.2 Assignment. This Agreement may not be assigned or otherwise transferred, nor, except as expressly provided hereunder, may any right or obligations hereunder be assigned or transferred by either Party without the prior written consent of the other Party (which consent shall not be unreasonably withheld); provided, however, that either MPC or LICENSEE may, without the other Party's consent, assign this Agreement and its rights and obligations hereunder to an Affiliate or in connection with the transfer or sale of all or substantially all of its business to which this Agreement relates, or in the event of its merger or consolidation or change in control or similar transaction. Any permitted assignee shall assume all obligations of its assignor under this Agreement.

13.3 Severability. Each Party hereby acknowledges that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. Should one or more provisions of this Agreement be or become invalid, the Parties shall substitute, by mutual consent, valid provisions for such invalid provisions which valid provisions in their economic effect are sufficiently similar to the invalid provisions that it can be reasonably assumed that the Parties would have entered into this Agreement with such provisions. In case such provisions cannot be agreed upon, the invalidity of one or several provisions of the Agreement shall not affect the validity of this Agreement as a whole, unless the invalid provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the Parties would not have entered into this Agreement without such invalid provisions.

13.4 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the Parties to the other shall be in writing, delivered personally

or by facsimile (and promptly confirmed by personal delivery, first class mail or courier), first class mail or courier, postage prepaid (where applicable), addressed to such other Party at its address indicated in the Section 13.4, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

To MPC:	Mitsubishi Pharma Corporation 2-6, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 103-8405, Japan Attn: Head of Corporate Licensing Department Fax: +81-3-3241-4913 Phone: +81-3-3241-4524
To LICENSEE:	Cyrenaic Pharmaceuticals, Inc. 47 Hulfish Street Suite 310 Princeton NJ 08542 United States of America Attn: Jerry Karabelas Fax: 001-609-683-5787 Phone: 001-609-683-3662
With a copy to:	Cyrenaic Pharmaceuticals, Inc. 47 Hulfish Street Suite 310 Princeton NJ 08542 United States of America Attn: Lorenzo Pellegrini Fax: 001-609-683-5787 Phone: 001-609-683-3677
And with a copy to:	Index Ventures 2 rue Jargonnant 1207 Genève Switzerland Attn: Michèle Ollier Fax: 0041-22-737-0099 Phone: 0041-22-737-0026

13.5 Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of New York, the U.S. without regard to the conflicts of law principles

thereof except matters of patent law, which shall be determined in accordance with the national intellectual property laws relevant to the Patent Right in question.

13.6 Dispute Resolution.

13.6.1 The Parties agree to attempt initially to solve all claims, disputes, or controversies arising under, out of, or in connection with this Agreement (a "Dispute") by conducting good faith negotiations. Any Disputes which cannot be resolved by good faith negotiation within twenty (20) business days, shall be referred, by written notice from either Party to the other, to the Chief Executive Officer of each Party. Such Chief Executive Officers shall negotiate in good faith to achieve a resolution of the Dispute referred to them within twenty (20) business days after such notice is received by the Party to whom the notice was sent. If the Chief Executive Officers are unable to settle the Dispute between themselves within twenty (20) business days, they shall so report to the Parties in writing. The Dispute shall then be referred to mediation as set forth in the Section 13.6.2.

13.6.2 Upon the Parties receiving the Chief Executive Officers' report that the Dispute referred to them pursuant to Section 13.6.1 has not been resolved, a Party shall decide to institute arbitration proceedings, it shall give written notice to that effect to the other Party. The Parties shall refrain from instituting the arbitration proceedings for a period of sixty (60) days following such notice. During such period, the Parties shall continue to make good faith efforts to amicably resolve the dispute without arbitration. If the Parties have not reached a settlement during that period the arbitration proceedings shall go forward and be governed by the rules of Conciliation and Arbitration of the International Chamber of Commerce ("ICC") then in force. Each such arbitration shall be conducted by a panel of three arbitrators: one arbitrator shall be appointed by each of LICENSEE and MPC and the third arbitrator, who shall be the Chairman of

the tribunal, shall be appointed by the two-Party appointed arbitrators. Any such arbitration shall be held in London, England or such other place as may be mutually agreed upon in writing by the Parties. The language of the arbitration shall be English.

13.6.3 The tribunal shall issue its award within forty-five (45) days after the date on which the arbitration proceedings have closed. The arbitrators shall have the authority to grant specific performance. Judgment upon the award so rendered may be entered in any court having jurisdiction or application may be made to such court for judicial acceptance of any award and an order of enforcement, as the case may be. In no event shall a demand for arbitration be made after the date when institution of a legal or equitable proceeding based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. Each Party shall bear its own costs and expenses incurred in connection with any arbitration proceeding and the Parties shall equally share the cost of the mediation and arbitration levied by the ICC.

13.7 Competing Product. LICENSEE or its Affiliate to whom it sublicenses its rights under this Agreement, shall not market or sell any Competing Product as long as the Compound is either an active development candidate or the Product is being marketed.

13.8 LIMITATION OF LIABILITY. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES ARISING OUT OF THIS AGREEMENT, HOWEVER CAUSED, UNDER ANY THEORY OF LIABILITY EXCEPT TO THE EXTENT OF ANY SUCH DAMAGES PAID TO A THIRD PARTY IN CONNECTION WITH A CLAIM MADE BY SUCH PARTY FOR WHICH A PARTY IS RESPONSIBLE TO INDEMNIFY THE OTHER PARTY PURSUANT TO SECTION 12.1 OR 12.2.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

13.9 Further Assurances. At any time or from time to time on and after the date of this Agreement, each Party shall at the request of the other (i) deliver to the other such records, data or other documents consistent with the provisions of this Agreement, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of transfer or license, and (iii) take or cause to be taken all such actions, as such Party may reasonably deem necessary or desirable in order for the other Party to obtain the full benefits of this Agreement and the transactions contemplated herein.

13.10 Entire Agreement. This Agreement contains the entire understanding of the Parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, heretofore made are expressly superseded by this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both Parties.

13.11 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

13.12 Independent Contractors. It is expressly agreed that MPC and LICENSEE shall be independent contractors and that the relationship between the two Parties shall not constitute a partnership, joint venture or agency. Neither MPC nor LICENSEE shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other Party, without the prior written consent of the other Party to do so.

13.13 Waiver. The waiver by either Party of any right hereunder or the failure to perform or of a breach by the other Party shall not be deemed a waiver of any other right

hereunder or of any other breach or failure by said other Party whether of a similar nature or otherwise.

13.14 Counterparts. This Agreement may be executed in two or more counterparts (including by facsimile), each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[Signature Page Follows]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Cyrenaic Pharmaceuticals, Inc.

By: /s/ Argeris N. Karabelas, Ph.D.

Name: Argeris (Jerry) N. Karabelas, Ph.D.

Title: Officer and Director

Mitsubishi Pharma Corporation

By: /s/ Takeshi Komine

Name: Takeshi Komine

Title: President

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.5: Chemical Structure of compound coded as BFB-484

BFB-484: [*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.13: Chemical Structure of MT-210 Compound

MT-210: [*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.15: Development Plan

[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.18: Chemical Structure of compounds coded as BFB-687, BFB-512 and BFB-462

BFB-687: [*]

BFB-512: [*]

BFB-462: [*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.33: Chemical Structure of Metabolites

BFB-520 (M1)	[*]
BFB-999 (M2)	[*]
M3	[*]
M4	[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.36: MPC Patents

Patent List on MT-210 Up Date: 21 June, 2007

Novel Cyclic Amide Derivatives
- "Basic patent": Claims include MT-210

Filling Countries	Filling No.	Filling Date	Publication No.	Patent No.	Status	Expiration Date	Assignee
[*]	[*]	[*]	[*]	[*]	[*]	[*]	
[*]	[*]	[*]	[*]		[*]	[*]	
[*]	[*]	[*]	[*]			[*]	
[*]	[*]	[*]				[*]	
[*]	[*]	[*]				[*]	
[*]	[*]	[*]	[*]			[*]	
[*]	[*]	[*]				[*]	MPC
[*]	[*]	[*]	[*]	[*]	[*]	[*]	
[*]	[*]	[*]	[*]	[*]	[*]	[*]	
[*]	[*]	[*]	[*]	[*]	[*]	[*]	
[*]	[*]	[*]	[*]			[*]	
[*]	[*]	[*]		[*]	[*]	[*]	
[*]	[*]	[*]	[*]			[*]	
[*]	[*]	[*]	[*]			[*]	

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 4.1.1: Services Agreement

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 5.2: Milestone payments

(a) Milestone payments for the Product containing the MT-210 Compound

	First indication	Second indication	Third indication
Onset of Phase II(a) Study	[*]		
Onset of Phase II(b) Study	[*]		
Onset of Phase II Study	[*]	[*]	[*]
Onset of Phase III Study	[*]	[*]	[*]
Application in the U.S.	[*]	[*]	[*]
Application in the first European Country	[*]	[*]	[*]
Launch in the U.S.	[*]	[*]	[*]
Launch in the first European Country	[*]	[*]	[*]
When cumulative Net Sales first reach [*]		[*]	

(b) Subject to Sections 5.1 and 5.2, additional License Fee and Milestone payments for the Product containing each Alternate Compound

	First indication	Second indication	Third indication
Additional License Fee	[*]		
Onset of Phase II(a) Study	[*]		
Onset of Phase II(b) Study	[*]		
Onset of Phase II Study		[*]	[*]
Onset of Phase III Study	[*]	[*]	[*]
Application in the U.S.	[*]	[*]	[*]
Application in the first European Country	[*]	[*]	[*]
Launch in the U.S.	[*]	[*]	[*]
Launch in the first European Country	[*]	[*]	[*]
When cumulative Net Sales first reach [*]		[*]	

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 11.2.10: List of all pre-clinical and clinical studies and trials

Mitsubishi Reference	Study Report Title	Facility	Study Number	Report Number	QA	GLP	Status	IND SN#	IB (Ver. 1.0 Reference)	IB (Ver. 2.0 Reference)	IB (Ver. 3.1Reference)
[*]											

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 11.3.2: Securities Purchase Agreement

Exhibit 10.3

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

AMENDMENT TO LICENSE AGREEMENT

This Amendment dated as of 16th June, 2011 is entered into between Cyrenaic Pharmaceuticals, Inc., a Delaware corporation, having a place of business located at 47 Hulfish Street, Suite 310 Princeton NJ 08542, U.S.A. ("LICENSEE") and Mitsubishi Tanabe Pharma Corporation, a Japanese corporation, having a place of business located at 6-18, Kitahama 2 Chome, Chuo-ku, Osaka 541-8505, Japan ("MTPC").

WITNESSETH:

WHEREAS, LICENSEE and Mitsubishi Pharma Corporation (a predecessor of MTPC) entered into LICENSE AGREEMENT relating to MT-210 dated as of August 30, 2007 ("LICENSE AGREEMENT"); and

WHEREAS, LICENSEE desires and MTPC agrees to modify the development diligence milestones set forth in Section 4.1.5 of the LICENSE AGREEMENT.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Defined Words and Expressions. Unless the context otherwise requires, all words and expressions defined in the LICENSE AGREEMENT shall have the same meanings in this Amendment.

2. Amendment of the Development Diligence Milestone for Phase II (b) Study. Section 4.1.5(b) of the LICENSE AGREEMENT shall be amended to read as follows:

   "(b) Onset of the first Phase II (b) Study by [*]."

3. Increase of the Extension Payment. In consideration of the extension of the development diligence milestone for Phase II (b) Study set forth Section 2 above, the amount of the second Extension Payment shall be increased to [*]. Therefore, the third sentence of the last paragraph of Section 4.1.5 of the LICENSE AGREEMENT shall be amended to read as follows:

   "LICENSEE will have the right to make an unlimited number of Extension Payments in conjunction with the development of Product containing the MT-210 or of a Product containing a Back-Up Compound pursuant to Section 4.1.3(b), provided that the payment amount will increase to [*] beginning with the second Extension Payment."

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

4. Contents of Additional Evaluation. Immediately after the execution of this Amendment, LICENSEE shall provide MTPC with the plan and schedule of which LICENSEE intends to conduct its activities relating to the Compound and Product during the period from the execution date of this Amendment to [*].

5. Effective Date of This Amendment. Notwithstanding the actual date of the execution of this Amendment, this Amendment shall become effective as of March 20, 2011.

6. Other Provisions. Save as amended by this Amendment, the terms of the LICENSE AGREEMENT shall remain in full forth and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first set forth above.

Cyrenaic Pharmaceuticals, Inc.

By: /s/ A.N. Karabelas
Name: A.N. Karabelas
Title: Chairman

Mitsubishi Tanabe Pharma Corporation

By: /s/ Seiichi Kiso
Name: Seiichi Kiso
Title: Executive Officer
General Manager
Business Development & Licensing Department

Exhibit 10.4

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

SECOND AMENDMENT TO LICENSE AGREEMENT

This Second Amendment ("SECOND AMENDMENT") dated as of 20 January, 2014 ("AMENDMENT DATE") is entered into between Minerva Neurosciences, Inc. (F/K/A Cyrenaic Pharmaceuticals, Inc., a Delaware corporation, having a place of business located at 245 First Street, Suite 1800, Cambridge MA 02142, U.S.A. ("LICENSEE") and Mitsubishi Tanabe Pharma Corporation, a Japanese corporation, having a place of business located at 6-18, Kitahama 2 Chome, Chuo-ku, Osaka 541-8505, Japan ("MTPC").

WITNESSETH:

WHEREAS, LICENSEE and Mitsubishi Pharma Corporation (a predecessor of MTPC) entered into LICENSE AGREEMENT relating to MT-210 dated as of August 30, 2007 ("LICENSE AGREEMENT") and AMENDMENT TO THE LICENSE AGREEMENT dated as of 16th June, 2011; and

WHEREAS, LICENSEE desires to develop the Product containing MT-210 Compound for the therapy of schizophrenia with its priority, and LICENSEE and MTPC agrees to modify the terms and conditions of the LICENSE AGREEMENT in order that LICENSEE conducts the development by itself or together with a third party by way of sub-licensing on LICENSEE's own responsibility.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Defined Words and Expressions.

Unless the context otherwise requires, all words and expressions defined in the LICENSE AGREEMENT shall have the same meanings in this SECOND AMENDMENT.

2. Termination of First Amendment.

The AMENDMENT TO THE LICENSE AGREEMENT dated as of 16th June, 2011 between LICENSEE and MTPC shall be terminated at the time of execution of this SECOND AMENDMENT and shall no longer be in force and effect.

3. Amendment of Definition of Net Sales.

The definition of "Net Sales" is hereby amended to delete the reference to "sublicensees" such that except as set forth in Section 7 of this SECOND AMENDMENT, no royalties shall

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

be paid on any Net Sales made by any Sublicensee (defined below); provided, however, that "Net Sales" of any Sublicensee shall be included for determining whether the Net Sales Milestone in Section 5.2.1(d) has been achieved.

4. Withdrawal of Right of First Negotiation.

MTPC agrees to withdraw its Right of First Negotiation set forth in Section 2.3 of the LICENSE AGREEMENT. Therefore, Section 2.3 of the LICENSE AGREEMENT shall be amended and restated in its entirety to read as follows:

> "2.3 Sublicense Rights. LICENSEE and its Affiliate shall have the right to grant sublicenses under all or part of the licenses granted under Sections 2.1 and 2.2. In such case, LICENSEE shall provide MTPC with a copy of the sublicense agreement including the payment conditions entered into between LICENSEE and its sublicensee, promptly following the execution of such agreement."

5. Amendment to Development Diligence.

(a) Section 4.1.5 of the LICENSE AGREEMENT is hereby amended by deleting subparagraphs (a) through (d) in its entirety and replacing said diligence obligations with the following:

"Commencement of the clinical pharmacology study of the Product containing MT-210 Compound by the end of April, 2015;"

(b) Section 4.1.5 of the LICENSE AGREEMENT shall be further amended to delete any reference to the term "any of the milestones" or any reference to multiple milestones and replace such references to similar language to reflect the fact that there is only a single milestone (i.e., the commencement of the clinical pharmacology study).

(c) The last paragraph of Section 4.1.5 of the LICENSE AGREEMENT beginning with the sentence "Notwithstanding the foregoing, LICENSEE may extend the time to achieve any of the milestones …" shall be deleted in its entirety and replaced with the following:

> "Notwithstanding the foregoing, LICENSEE may extend the time to achieve the milestone set forth in Section 4.1.5 above for one (1) year, at its sole discretion, by making a payment of Five Hundred Thousand United States Dollars ($500,000) to MTPC before the date on which the milestone was to have been originally achieved (the "Extension Payment"). If such Extension Payment is made, the milestone will be concomitantly extended by one (1) year.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

LICENSEE will have the right to make an unlimited number of Extension Payments in conjunction with the development of Product containing the MT-210 Compound. For the avoidance of doubt, Extension Payments will be in addition to the milestone that is otherwise payable to MTPC as set forth in Section 5 of this Agreement."

6. Amendment to Milestone Payments.

(a) Section 5.1 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety and replacing it as follows:

"5.1 Initial Licensing Fee. In consideration of the licenses granted by MTPC to LICENSEE, LICENSEE has previously paid MTPC the total amount of One Million United States Dollars (US$1,000,000) as the initial license fee."

(b) Section 5.2.1 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety and replacing it with the foregoing:

"5.2.1. Milestone Payments. In addition to the initial license fee, in consideration of the licenses granted by MTPC to LICENSEE, LICENSEE shall pay to MTPC the milestone payments as follows:

(a)	Onset of Phase II(a) Study	[*]
(b)	Launch in the first European Country	[*]
(c)	Launch in the U.S.	[*]
(d)	When cumulative Net Sales first reach US$300,000,000 (the "Net Sales Milestone")	[*]

Notwithstanding the foregoing, the milestone payments set forth in paragraphs (b) and (c) above shall be reduced or eliminated, if applicable, by the amount of Sublicense Consideration (as defined below) received by MTPC. For clarification, in the event that the Launch in the United States takes place prior to the Launch in the first European Country and the total amount of Sublicense Consideration paid to MTPC on or before the Launch in the United States is less than [*], LICENSEE shall pay to MTPC the amount of the difference between such [*] and the actual amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the United States, which payment shall be in full satisfaction for the milestone payment due in subparagraph (c) above for Launch in the United States. If the Sublicense

Consideration is in excess of [*] on or before the Launch in the United States, no milestone payment for the Launch in the United States shall be due and Sublicense Consideration upon such Launch for the portion of such excess shall not be paid.

In the event that the Launch in the first European Country takes place prior to the Launch in the United States and the total amount of Sublicense Consideration paid to MTPC on or before the Launch in the first European Country is less than [*], LICENSEE shall pay to MTPC the amount of the difference between such [*] and the actual amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the first European Country, which payment shall be in full satisfaction for the milestone payment due in subparagraph (b) above for Launch in the first European Country. If the Sublicense Consideration is in excess of [*] on or before the Launch in the first European Country, no milestone payment for the Launch in the first European Country shall be due and Sublicense Consideration upon such Launch for the portion of such excess shall not be paid.

In the event that the total amount of the Sublicense Consideration paid to MTPC on or before the Launch in the United States or the first European Country, which takes place later, is less than [*], LICENSEE shall pay to MTPC the amount of difference between (i) such [*] and (ii) the sum of the total amount paid to MTPC prior to the sublicense as the milestone payments set forth in subparagraphs (b) and (c) above on or before such Launch, if any, and the amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the first European Country or in the United States, which takes place later. Notwithstanding any other provision in this Agreement, if the Sublicense Consideration is in excess of [*] on or before the Launch in the first European Country or in the United States, which takes place later, no milestone payment for the Launch in the first European Country or in the United States, which takes place later, shall be due.

Both Parties acknowledge that LICENSEE has already paid the initial license fee and the Five Hundred Thousand United States Dollars ($500,000) milestone payment set forth in subparagraph (a) above."

(c) Schedule 5.2 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety. For the avoidance of doubt, except as set forth in Section 5.2.1 of the LICENSE AGREEMENT, no additional milestone payments shall be due under the LICENSE AGREEMENT.

(d) Section 5.2 of the LICENSE AGREEMENT is amended by renumbering the existing Section 5.2.2 as 5.2.3 and adding a new Section 5.2.2 that shall read in its entirety as follows:

"5.2.2 Sublicensing Fee in Case of Sublicense. In the event that LICENSEE sublicenses all or part of its rights under the MPC Intellectual Property to make, have made, use, have used, sell, offer for sale, have sold, import and have imported Product in the Field for purposes of commercialization in the LICENSEE Territory to a third party ("Sublicensee"), in consideration of the licenses granted by MTPC to LICENSEE herein, LICENSEE shall pay to MTPC [*] of all payments, including the upfront payments, milestone payments, and the sale of any Company equity or debt securities, but excluding the royalties, received in connection with any such sublicense from a Sublicensee that are related to the Product ("Sublicense Consideration"), in addition to the milestone payments set forth in Section 5.2.1, but subject to reduction or elimination in connection with the receipt of Sublicense Consideration as provided for in Section 5.2.1 above.

Such payments shall be made within sixty (60) days as and when such payments are received by LICENSEE from such Sublicensee. For purposes of clarification, Sublicense Consideration shall not include any royalties received by LICENSEE from the sale of Product. For the avoidance of doubt, LICENSEE and MTPC acknowledge that if the Sublicense Consideration payable to MTPC is in excess of the aggregate milestones payable to MTPC set forth in Section 5.2.1(b) and (c) above, then MTPC shall be entitled to any Sublicense Consideration payable in excess of such amount."

(e) The renumbered Section 5.2.3 is hereby amended by deleting such section in its entirety and replacing it with the foregoing:

"5.2.3 Reports and Payments. The milestone payments set forth in Section 5.2.1 shall be made no more than once with respect to the achievement of each milestone and no amounts shall be due hereunder for any subsequent or repeated achievement of such milestones (but payable on the first achievement of such milestone). For clarification, if any milestone set forth in Section 5.2.1 is paid with respect to any

Product containing the MT-210 Compound, then no further milestone payment shall be made upon the achievement of such milestone with respect to any Product containing an Alternate Compound or an MT-210 Back-Up. LICENSEE shall notify MTPC in writing within sixty (60) days after the achievement of the milestones specified in Section 5.2.1 and each such notice shall be accompanied by the appropriate milestone payment."

7. Amendment to Royalties Payments by LICENSEE. Notwithstanding Section 5.3 in the LICENSE AGREEMENT, in the event that LICENSEE sublicenses its rights under MPC Intellectual Property to a Sublicensee, in consideration of the licenses granted by MTPC to LICENSEE herein, LICENSEE shall pay to MTPC [*] of all royalties received by LICENSEE from Sublicensee related to the sale of Product, and no additional royalties will be due and owing to MTPC as a result of sales of Product by any such Sublicensee. For clarification, in the event that LICENSEE does not sublicense its rights under MPC Intellectual Property to a Sublicensee, LICENSEE shall pay to MTPC a Royalty pursuant to Section 5.3 of the LICENSE AGREEMENT.

8. Other Provisions.

   (a) Governing Law. This SECOND AMENDMENT shall be governed by, and interpreted in accordance with the laws of the State of New York, without reference to conflicts of laws principles thereof except matters of patent law, which shall be determined in accordance with the national intellectual property laws relevant to the Patent Rights in question.

   (b) Counterparts. This SECOND AMENDMENT may be executed in several duplicates, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

   (c) Assumption of the Obligations and Benefits. In the event that LICENSEE sells their shares or their assets relating to the Compound and/or Product, all of the obligations and benefits in the LICENSE AGREEMENT and in this Amendment shall be assigned to the purchaser of such shares or assets.

   (d) No Other Amendments. Save as amended by this SECOND AMENDMENT, the terms of the LICENSE AGREEMENT shall remain in full force and effect.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this SECOND AMENDMENT as of the date first set forth above.

Minerva Neurosciences, Inc.		**Mitsubishi Tanabe Pharma Corporation**	
By:	/s/ Rogerio Vivaldi Coelho	By:	/s/ Seiichi Murakami
Name:	Rogerio Vivaldi Coelho	Name:	Seiichi Murakami
Title:	President and CEO	Title:	Managing Executive Officer

Exhibit 10.5

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (hereinafter referred to as "Agreement") dated as of September 1, 2008 (hereinafter referred to as "Effective Date"), is entered into between Sonkei Pharmaceuticals, Inc., a Delaware corporation, having a place of business located at 47 Hulfish Street, Suite 310, Princeton, NJ 08542, United States of America (hereinafter referred to as "LICENSEE") and Mitsubishi Tanabe Pharma Corporation, a Japanese corporation, having a place of business located at 2-10, Dosho-machi 3 chome, Chuo-ku, Osaka 541-8505, Japan (hereinafter referred to as "MTPC").

WITNESSETH:

WHEREAS, MTPC is the owner of the patents, patent applications and other intellectual property relating to a certain pharmaceutical compound coded as Wf-516;

WHEREAS, LICENSEE desires to obtain an exclusive license, with a right to grant sublicenses, under the MTPC Intellectual Property (hereinafter defined); and

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

For purposes of this Agreement, the terms defined in this Article 1 shall have the respective meanings set forth below, it being understood that words in the singular include the plural and vice versa:

1.1 "Affiliate" shall mean any person, corporation, joint venture or business entity of such party which, directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with such party, as the case may be. As used herein, "control" means (a) to possess, the power to direct the management or policies of such company or other business entity, through ownership of voting securities or by contract relating to voting rights or corporate governance, or (b) direct or indirect beneficial ownership of more than fifty percent (50%) of the voting share capital in such company or other business entity.

1.2 "Allocable Overhead" shall mean costs incurred by a Party or for its account (and not reimbursed by a Third Party) which are attributable to its supervisory, services, occupancy costs, payroll, information systems, human relations or purchasing functions and which are allocated to company departments involved in and relevant to the subject matter of this Agreement, based on space occupied, headcount, or activity-based method, in all cases as determined by such Party in accordance with GAAP (hereinafter defined). "Allocable Overhead" shall not include any costs attributable to general corporate activities including, by way of example only, executive management, investor relations, business development, legal, finance and government affairs, and shall not include any costs or expenses which are reimbursed by the other Party or any Third Party.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.3 "Application" shall mean a New Drug Application ("NDA") submitted (and the submission of which has been accepted) with the Food and Drug Administration in the United States ("FDA") or a corresponding application for approval for commercial sales which has been submitted (and the submission of which has been accepted for review) with a regulatory agency in a country of the LICENSEE Territory other than the United States, in each case for the Product in the Field.

1.4 "Bulk Drug Substance" shall mean the Compound in bulk form, which if appropriately formulated and finished, would constitute the Product.

1.5 "Calendar Quarter" shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.6 "Calendar Year" shall mean each successive period of twelve (12) months commencing on January 1 and ending on December 31.

1.7 "Clinical Studies" shall mean Phase I Studies, Phase II(a) Studies, Phase II(b) Studies, and Phase III Studies.

1.8 "Commercially Reasonable Efforts" shall mean efforts and resources normally used by a Party for a product owned by it or to which it has exclusive rights, which is of similar market potential at a similar stage in its development or product life, taking into account issues of safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of the compound or product, the regulatory and reimbursement structure involved, the profitability of the applicable products, and other relevant factors.

1.9 "Competing Product" shall mean any prescription pharmaceutical product for the same indication as the Product and having the same mechanism of action as the Product including binding to each of the following receptors and transporters with binding affinity expressed as Ki value of less than sixty (60) nmol/L:. serotonin transporter inhibition, serotonin 1a receptor antagonism, serotonin 2a receptor antagonism, dopamine transporter inhibition, adrenergic alpha 1a receptor, adrenergic alpha 1b receptor and adrenergic alpha 1d receptor.

1.10 "Compound" shall mean (i) compound known as Wf-516 with the chemical name [*], having the molecular structure set forth in Schedule 1.10 (hereinafter referred to as the "Wf-516 Compound"), and (ii) other compounds included in the Valid Claims and in certain examples in US patent Registration No. 6720320.; and (iii) any solvate, salt form, enantiomers, racemate, w-crystal anhydride, hydrate, prodrug, polymorph or amorphous of (i) or (ii) and (iv) Main Metabolites.

1.11 "Development Work" shall mean all works to be performed by or on behalf of LICENSEE, its Affiliates and/or sublicensees, under appropriate support, if requested by LICENSEE, its Affiliates and/or sublicensees, to be provided by FORENAP, to obtain the data and information necessary or useful for the Registration and future commercial operation of the Product, including all necessary pre-clinical, clinical studies and formulation development and manufacturing of the Compound and/or Product.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.12 "Development Plan" shall mean LICENSEE's and/or Affiliate's and/or its sublicensee's development plan for the Compound and Product with timeline. The initial Development Plan is set forth on Schedule 1.12.

1.13 "Effective Date" shall have the meaning set forth in the introductory paragraph of this Agreement.

1.14 "European Country" shall mean a country which is a member of the European Union as of the Effective Date, or which join the European Union after the Effective Date.

1.15 "Facility" shall mean MTPC's GMP manufacturing facility.

1.16 "Field" shall mean all uses of the Product in humans to treat, manage or prevent diseases other than non-systemic ophthalmic uses.

1.17 "FORENAP" shall mean FORENAP PHARMA EURL, having its registered offices at 27 rue du 4ème RSM - B.P. 27, 68250 Rouffach, France.

1.18 "Fully Burdened Manufacturing Cost" shall mean the cost of production of the Compound or the Product, comprised of the sum of: (a) the manufacturing cost of goods produced as determined in accordance with GAAP as applied by the manufacturer of such Compound or Product including, without limitation, direct labor, material and product testing costs incurred in connection with the manufacture or quality control testing of such product, as well as Allocable Overhead and shipping containers, (b) the manufacturer's allocable intellectual property licensing and acquisition costs paid to Third Parties which are necessary for the manufacture of such Compound or Product and (c) any other costs borne by the manufacturer for the transport, customs clearance and storage of such Compound or Product (if necessary) at the request of LICENSEE or its Affiliates or sublicensees (i.e., freight, duty, insurance, and warehousing).

1.19 "GAAP" shall mean generally accepted accounting principles in the United States.

1.20 "Generic Competition" shall mean, with respect to a particular country in the LICENSEE Territory where LICENSEE, its Affiliate or its sublicensee is selling Product, one or more Third Parties, other than a sublicensee of LICENSEE, is/are selling a Generic Drug in such country and the Generic Drug or Generic Drugs together has/have obtained a market share in such country of greater than [*] of the total number of units sold of the Products together with such Generic Drugs in such country for two (2) consecutive Calendar Quarters, despite LICENSEE, its Affiliate and/or its sublicensee using Commercially Reasonable Efforts to market and sell the Product in such country.

1.21 "Generic Drug(s)" shall mean any product containing Compound for which Registration is obtained by an abbreviated NDA ("ANDA") or other abridged procedure in the United States or a corresponding application in any country of the LICENSEE Territory, other than a Product introduced in such country by LICENSEE, its Affiliates or its sublicensees.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.22 "GMP" shall mean current good manufacturing practice and standards as provided for (and as amended from time to time) in the Current Good Manufacturing Practice Regulations of the U.S. Code of Federal Regulations Title 21 (21 C.F.R. § 11, § 210 and § 211) and in European Community Directive 2004/27/EC and 2004/28/EC (Principle and guidelines of good manufacturing practice for medical products) and the equivalent in Japan in relation to the production of pharmaceutical products, as interpreted by the ICH Harmonized Tripartite Guideline, any U.S., Japanese, European, or other applicable laws, regulations or respective guidance documents subsequently established in Japan, the US and Europe, and any arrangements, additions or clarifications agreed from time to time between the parties.

1.23 "IND" shall mean an Investigational New Drug filed with FDA or a corresponding application filed with a regulatory agency with respect to development of a Product in the Field.

1.24 "Know-How" shall mean any proprietary, non-public information or materials, relating to the research, development, registration, manufacture, marketing, use or sale of the Compound and/or Product which prior to or during the term of this Agreement are developed by or is in a Party's possession or control through license or otherwise (provided that such Party is permitted to make disclosure thereof to the other Party without violating the terms of any Third Party agreement). Know-How may include, without limitation: (i) all biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, clinical, safety and quality control data and information related to the Compound and/or Product; (ii) compositions of matter, assays and biological materials, necessary or useful for development, manufacture, use or sale of the Compound and/or Product; (iii) data and information necessary for manufacturing the Compound and/or Product; and (iv) all applications, registrations licenses, authorizations, approvals and correspondences submitted to or received from any regulatory authorities with jurisdiction over an investigational drug containing the Compound and/or Product.

1.25 "Launch" shall mean, with respect to any Product after Registration, the first sale to a Third Party by LICENSEE, its Affiliate or its sublicensees of that Product in such country. Sales for test marketing, clinical study purposes or compassionate, named patient or similar use shall not constitute a sale.

1.26 "LICENSEE Intellectual Property" shall mean all intellectual property and proprietary rights in (i) all LICENSEE Patents and (ii) all LICENSEE Know-How.

1.27 "LICENSEE Know-How" shall mean any Know-How owned or controlled by LICENSEE and/or its Affiliates that is developed by LICENSEE or its Affiliates after the Effective Date in connection with its performance of its activities under this Agreement.

1.28 "LICENSEE Patents" shall mean any Patent Right owned or controlled by LICENSEE or its Affiliate, to the extent such Patent Right both (a) covers a Compound or Product and (b) the underlying invention of which was conceived and reduced to practice after the Effective Date by LICENSEE in connection with its performance of its activities under this Agreement.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.29 "LICENSEE Territory" shall mean all countries in the world, excluding the MTPC Territory.

1.30 "Main Metabolites" shall mean the main metabolites of Wf-516 Compound described in the pharmacokinetic reports listed in Schedule 11.2.11.

1.31 "Major Countries" shall mean the United States, Canada, the United Kingdom, Germany, France, Italy and Spain.

1.32 "MTPC Intellectual Property" shall mean all intellectual property and proprietary rights in (i) all MTPC Patents and (ii) all MTPC Know-How.

1.33 "MTPC Know-How" shall mean Know-How owned or controlled by MTPC.

1.34 "MTPC Patents" shall mean any Patent Right owned or controlled by MTPC during the term of this Agreement which relates to Compound or Product, and, absent rights hereunder, would be infringed by the research, development, manufacture, use, importation, sale or offer for sale of the Compound and/or Product, including the Patent Rights listed on Schedule 1.34, and any patents that may issue from, or claim priority to or through, the applications listed on Schedule 1.34.

1.35 "MTPC Territory" shall mean Bangladesh, Brunei, India, Indonesia, Japan, Malaysia, Pakistan, People's Republic of China (including Hong Kong), Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam.

1.36 "Net Sales" shall mean, with respect to any Product, the aggregate gross amount invoiced by LICENSEE or its Affiliates or sublicensees on all sales of such Product in the LICENSEE Territory to an unaffiliated Third Party, less reasonable and customary deductions from such gross amounts, including:

1.36.1 bad debts actually written off which are attributable to sales of the Product;

1.36.2 credits or allowances for damaged goods, returns or rejections or recalls of Product and shelf stock and other retroactive price adjustments;

1.36.3 normal and customary trade, cash, quantity and volume based discounts, allowances and credits;

1.36.4 sales or similar taxes (other than income taxes);

1.36.5 freight, postage, shipping, insurance charges;

1.36.6 chargebacks and rebates to managed healthcare organizations or to federal, state and local governments, their agencies, or to trade customers, including without limitation, wholesalers and chain pharmacy buying groups;

1.36.7 inventory management, distribution, warehousing, and related services fees, and

1.36.8 any other reduction or specifically identifiable amounts included in the invoice price that should be credited for any reasons substantially equivalent to those listed above.

Each of the deductions set forth above shall be determined on an accrual basis in accordance with GAAP. To the extent that any discounts or other similar deductions that are based on sales to the customer of multiple products are included in determining Net Sales of the Product, such discounts or deductions shall be allocated to the Product and the other relevant products on a pro rata basis.

1.37 "Onset" shall mean the first dosing of the first patient in a Clinical Study.

1.38 "Party" shall mean one of MTPC and LICENSEE, as appropriate. Where used in the plural, "Parties" shall mean MTPC and LICENSEE.

1.39 "Patent Rights" shall mean (a) all national, regional and international patents and patent applications, including provisional patent applications, (b) all patent applications filed either from such patents, patent applications or provisional applications or from an application claiming priority from either of these, including divisionals, continuations, continuations-in-part, provisionals, converted provisionals, and continued prosecution applications, (c) any and all patents that have issued or in the future issue from the foregoing patent applications ((a) and (b)), including utility models, petty patents and design patents and certificates of invention, (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, re-examinations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications ((a), (b) and (c)), and (e) any similar rights, including so-called pipeline protection, or any importation, revalidation, confirmation or introduction patent or registration patent or patent of additions to any such foregoing patent applications and patents.

1.40 "Person" shall mean an individual, corporation, partnership, trust, business trust, association, joint stock company, joint venture, pool, syndicate, sole proprietorship, unincorporated organization, governmental authority or any other form of entity not specifically listed herein.

1.41 "Phase I Studies" shall mean that portion of the clinical development program which provides for the first introduction into humans of a Product including small scale clinical studies conducted in normal volunteers or patients to get information on Product safety.

1.42 "Phase II(a) Studies" shall mean that portion of the clinical development program which provides for the initial trials of a Product on a limited number of patients for the purpose of determining whether the Product affects a surrogate marker or indicator of pharmacological or clinical activity in the proposed disease state/therapeutic indication.

1.43 "Phase II(b) Studies" shall mean that portion of the clinical development program carried out either post-Phase II(a) Studies or concurrently with Phase II(a) Studies and which

provides information for the definitive, well controlled clinical trials of a Product in patients, including clinical studies conducted in patients and designed to indicate clinical efficacy for the Product for one or more indications and its safety, as well as to obtain an indication of the dosage regimen required.

1.44 "Phase II Studies" shall mean Phase II(a) Studies and Phase II(b) Studies.

1.45 "Phase III Studies" shall mean large scale clinical studies conducted in a sufficient number of patients to establish the Product clinical efficacy in the Field and its safety.

1.46 "Proprietary Information" shall mean any and all scientific, clinical, regulatory, marketing, financial and commercial information or data, whether communicated in writing, orally or by any other means, which is owned and/or under the protection of one Party and is being provided by that Party to the other Party in connection with this Agreement.

1.47 "Product" shall mean a pharmaceutical preparation containing Compound which has been manufactured into an oral dosage form (including sustained release formulation), injectable formulation or any other formulation, packaged and labeled for administration in the Field. Combination product may be included in this defined term of "Product", provided, however, that calculation method of Net Sales of the combination product shall be separately agreed upon between the Parties.

1.48 "Royalty Period" shall mean the period, on a country-by-country and Product-by-Product basis, until the later of: (a) the expiration of the last-to-expire Valid Claim covering such Product in such country; or (b) ten (10) years from the Launch of such Product in such country of the LICENSEE Territory.

1.49 "Royalty Year" shall mean (i) for the year in which the Launch occurs (the "First Royalty Year"), the period commencing with the first day of the Calendar Quarter in which the Launch occurs and expiring on the last day of the Calendar Year in which the Launch occurs and (ii) for each subsequent year, each successive Calendar Year.

1.50 "Registration(s)" shall mean, in relation to any Product, such authorizations of the regulatory authorities in a given country (including marketing, marking and pricing approvals) as may be legally required before such Product may be commercialized or sold in such country.

1.51 "Regulatory Requirements" shall mean (i) compliance with all applicable laws, rules, guidelines, regulations and standards of governmental authorities, including GMP, and (ii) obtaining and maintaining all licenses and other authorizations required by regulatory authorities, that in each case are applicable to the manufacturing, processing, and supply activities hereunder, the Facility, or any other facilities at which any of the manufacturing or process activities hereunder may be performed or are applicable in Europe, the US and Japan.

1.52 "Specifications" shall mean the specifications of the Wf-516 Bulk (defined in Section 1.56 below), which are set out in Schedule 1.52.

1.53 "Steering Committee" shall mean a committee established by the Parties subject to Section 4.3.1 to coordinate, review and assess the development of Product, to harmonize

worldwide objectives for Product and, after MTPC decides to initiate clinical development in the MTPC Territory, to facilitate the transfer of data and regulatory communications, including the handling and reporting of adverse events, between the Parties.

1.54 "Territory" shall mean the LICENSEE Territory or the MTPC Territory, as applicable.

1.55 "Third Party" shall mean any person or entity other than MTPC, LICENSEE, or an Affiliate of either Party.

1.56 "Valid Claim" shall mean a claim within the MTPC Patents (a) in an unexpired and issued patent that has not been revoked, held invalid, declared unpatentable or unenforceable by a body of competent jurisdiction and (b) that has not been rendered unenforceable through disclaimer or otherwise.

1.57 "Wf-516 Bulk" shall mean the Bulk Drug Substance of the Wf-516 Compound.

ARTICLE 2
GRANT OF LICENSE

2.1 License Grant to LICENSEE. MTPC hereby grants to LICENSEE and its Affiliate an exclusive license (even as to MTPC) under the MTPC Intellectual Property to research, develop, have developed, register, have registered, make, have made, use, have used, sell, offer for sale, have sold, import and have imported Product in the Field for purposes of commercialization in the LICENSEE Territory.

2.2 Compound Manufacturing Right. Subject to the provisions of Section 4.5, MTPC hereby grants to LICENSEE and its Affiliate under the MTPC Intellectual Property (a) a semi-exclusive license, with the right to sublicense, to make and have made Compound in the LICENSEE Territory solely for purposes of manufacturing the Product in the LICENSEE Territory; it being understood that such semi-exclusive license will allow MTPC the right to make and have made Compound in the LICENSEE Territory solely for purposes of researching, developing and/or commercializing Product in the MTPC Territory; and (b) a non-exclusive license, with the right to sublicense, to make and have made the Compound in the MTPC Territory solely for the purposes of researching, developing and/or commercializing Product in the LICENSEE Territory.

2.3 Sublicense Rights. LICENSEE and its Affiliate shall have the right to grant sublicenses under all or part of the licenses granted under Sections 2.1 and 2.2; provided, however, prior to sublicensing such rights, LICENSEE shall provide MTPC with the opportunity to negotiate terms under which MTPC would collaborate in or obtain a license for research, development and/or commercialization of the Compound and/or Product in the LICENSEE Territory (a "Right of First Negotiation"). A Right of First Negotiation shall operate as follows:

2.3.1 LICENSEE shall promptly notify MTPC in writing (the "Right of First Negotiation Notification") of its intention to enter into a sublicensing arrangement for the research, development and/or commercialization of the relevant Compound and/or Product and shall provide to MTPC a reasonably detailed written description of such proposed sublicense,

together with any data, results materials or information related to such Compound and/or Product which LICENSEE reasonably believes is necessary and useful for evaluation of an interest in participating in such proposed sublicense by MTPC and has not previously been provided to MTPC.

2.3.2 Within ten (10) business days of its receipt of the Right of First Negotiation Notification (the "Response Period"), MTPC shall notify LICENSEE of its interest, if any, in initiating discussions regarding such proposed sublicense.

2.3.3 In the event that MTPC notifies LICENSEE prior to the expiration of the Response Period that it has an interest in participating in such proposed sublicense (an "Expression of Interest"), then the Parties shall negotiate in good faith in an effort to reach a definitive agreement regarding such sublicense for a period of up to sixty (60) days from the date of LICENSEE's receipt of the Expression of Interest; provided that, at MTPC's option, the negotiation period may be extended one time for an additional sixty (60) days.

2.3.4 In the event that (a) MTPC fails to notify LICENSEE prior to the termination of the Response Period that it has an interest in participating in such proposed sublicense, or (b) MTPC notifies the LICENSEE prior to the termination of the Response Period that it has no interest in such sublicense, or (c) MTPC timely provides LICENSEE with an Expression of Interest but MTPC decides and notifies LICENSEE not to continue negotiation regarding such sublicense within the period specified in Section 2.3.3 or (d) the Parties are unable to reach agreement despite good faith negotiations in accordance with Section 2.3.3 above, then LICENSEE shall be free to enter into a sublicense with a Third Party with respect to such Compound and/or Product and the terms of any such sublicense agreement shall not be inconsistent with terms and conditions set forth in this Agreement; provided, however, that LICENSEE shall use its Commercially Reasonable Efforts to impose on such Third Party sub-licensee the same obligations as LICENSEE undertakes under this Agreement.

2.3.5 For the duration of the Response Period, and if MTPC timely delivers the Expression of Interest, the sixty (60) day period specified in Section 2.3.3, and additional sixty (60) days period specified in Section 2.3.3 if the Parties continue the negotiation regarding such sublicense, LICENSEE shall not negotiate such sublicense arrangement with a Third Party, nor enter into any agreements with such Third Party or propose terms to such Third Party.

2.4 License Grant to MTPC. LICENSEE or its Affiliate shall grant to MTPC and its Affiliate a non-exclusive and royalty-free license, with the right to grant sublicenses, under LICENSEE Intellectual Property for the purpose of developing and commercializing the Compound and/or the Product in the MTPC Territory. Subject to the provisions of Section 3.3 below, LICENSEE or its Affiliate shall use its Commercially Reasonable Efforts to cause its sublicensees to grant to MTPC and its Affiliate a non-exclusive and royalty-free license, with the right to grant sublicenses, under such sublicensee's intellectual property for the purpose of developing or commercializing the Compound and/or the Product in the MTPC Territory.

2.5 First Offer to LICENSEE. Before entering into any licensing or similar discussions with any Third Party in the MTPC Territory with regard to the Compound and/or the Product , MTPC will first offer to and discuss with LICENSEE the licensing terms and

conditions of the Compound and/or Product for an exclusive discussion period of sixty (60) days from the date of the receipt by LICENSEE of MTPC's offer. MTPC shall provide to LICENSEE a reasonably detailed written description of such proposed license.

During such sixty (60) days period the Parties will negotiate in good faith in order to reach a definitive agreement regarding such license. After the expiration of such 60-day discussion period if the Parties have failed to reach agreement or LICENSEE has notified MTPC that it does not wish to enter into a license, MTPC shall be free to enter into any discussion or license with a Third Party with respect to the Compound and/or Product for the MTPC Territory provided that MTPC will use its Commercially Reasonable Efforts to ensure that any such Third Party complies with the terms of this Agreement.

ARTICLE 3
DISCLOSURE

3.1 Disclosure by MTPC. Within thirty (30) days after the Effective Date, and throughout the term of this Agreement as new MTPC Intellectual Property is developed, MTPC shall disclose to LICENSEE any and all then-available MTPC Intellectual Property, including without limitation, any regulatory filings or information related thereto, which has not already been disclosed and made available to LICENSEE or its Affiliate, on an "as-is" basis.

3.2 Technical Assistance by MTPC. Upon specific request from LICENSEE, MTPC shall cooperate with LICENSEE and provide LICENSEE with technical assistance, to the extent such technical assistance is reasonably available to MTPC, with respect to the MTPC Know-How in order to enable LICENSEE to use such MTPC Know-How to manufacture and produce the Compound or Product. If LICENSEE requests and MTPC accepts in its sole discretion that MTPC's technical personnel shall be dispatched to the facilities of LICENSEE or its Affiliate or Third Party contractor for the purposes of providing such technical assistance, LICENSEE shall pay to MTPC a reasonable per diem or hourly rate fee for such assistance in an amount to be negotiated in good faith by the Parties and shall reimburse MTPC for the actual out-of-pocket costs incurred in providing such technical assistance.

3.3 Disclosure by LICENSEE. During the term of this Agreement, LICENSEE shall disclose to MTPC any and all then available LICENSEE Intellectual Property, including without limitation relevant information contained in any IND and NDA. LICENSEE or its Affiliate shall use its Commercially Reasonable Efforts to cause its sublicensees to disclose to MTPC all sublicensee intellectual property and relevant information for the purposes of developing or commercializing the Compound and/or the Product in the MTPC Territory, provided, however, that those sublicensee's data and information which are (i) reasonably necessary for the regulatory application in the MTPC Territory and/or (ii) required to submit by the regulatory agencies in the MTPC Territory, shall be disclosed to and made available to MTPC free of charge. If MTPC requests and LICENSEE accepts in its sole discretion to conduct certain study or experiment to obtain certain additional data and information relating to LICENSEE Intellectual Property solely for the purpose of development and/or Application of the Product in MTPC Territory specifically but such additional data and information will not be useful for the purpose of development and/or Application of the Product in LICENSEE Territory, MTPC shall pay to LICENSEE a reasonable per diem or hourly rate fee for obtaining such additional data and

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

information in an amount to be negotiated in good faith by the Parties and shall reimburse LICENSEE for the actual out-of-pocket costs incurred in providing such additional data and information.

3.4 Technical Assistance by LICENSEE. Upon specific request from MTPC, LICENSEE shall reasonably cooperate with MTPC and provide MTPC with technical assistance with respect to the LICENSEE Know-How in order to enable MTPC to use such LICENSEE Know-How to manufacture and produce the Compound or Product. If MTPC requests and LICENSEE accepts in its sole discretion that LICENSEE's technical personnel shall be dispatched to the facilities of MTPC, its Affiliate, its licensee or Third Party contractor for the purposes of providing such technical assistance, MTPC shall pay to LICENSEE a reasonable per diem or hourly rate fee for such assistance in an amount to be negotiated in good faith by the Parties and shall reimburse LICENSEE for the actual out-of-pocket costs incurred in providing such technical assistance.

3.5 Transfer of Data and Information. Within sixty (60) days of the Effective Date, MTPC shall provide to LICENSEE copies in English of all substantive or material information (in electronic format where available), relating to the following: (1) pre-clinical and clinical data and other Know-How compiled as of the Effective Date with respect to the Compounds, including any and all data which MTPC reasonably considers necessary for LICENSEE to file an IND with the FDA, and (2) all prior correspondence with the FDA or other regulatory equivalent for countries in the LICENSEE Territory other than the United States and in the MTPC Territory related to the Compound. Notwithstanding anything to the contrary contained herein, if FDA or equivalent regulatory agency outside the US makes a specific request for information, MTPC, as soon as practical but in no event later than fifteen (15) days after such request, must provide to LICENSEE such information, to the extent that it is or was in MTPC's possession or control at any time, and to the extent such information has not already been transferred to LICENSEE.

ARTICLE 4
DEVELOPMENT; REGULATORY MATTERS; POST REGISTRATION ACTIVITIES

4.1 Development.

4.1.1 Development Work. In accordance with the Development Plan, LICENSEE, its Affiliates and its sublicensees shall, at their own expense, use Commercially Reasonable Efforts to conduct the Development Work and shall pursue Registrations for the Product in the Field in the LICENSEE Territory, including the preparation and filing of regulatory submissions. In conducting the Development Work, LICENSEE and/or its Affiliates or sublicensees may utilize FORENAP for support in conducting the Development Work which shall include the services set forth in the Services Agreement dated September 1, 2008 between LICENSEE and FORENAP, a copy of which is attached as Schedule 4.1.1 (hereinafter referred to as "Services Agreement"). Further, LICENSEE may subcontract portions of the Development Work to any other Third Party having enough knowledge, experience and capability for

pre-clinical and/or Clinical Studies; provided, however, that such subcontracted Third Party shall be subject to an agreement with LICENSEE consistent with the confidentiality obligations in

accordance with Article 8 below. LICENSEE shall be responsible for the Development Work to be performed by FORENAP and any other subcontracted Third Party.

4.1.2 Development Plan. For each Compound and Product, LICENSEE shall prepare a Development Plan that describes the significant development activities to be undertaken by LICENSEE, its Affiliates and/or its sublicensees with respect to the Compound and Product in the Field in the LICENSEE Territory. As part of the Services Agreement, LICENSEE, and/or its Affiliates shall prepare the initial Development Plan for the Compound in consultation with FORENAP. The initial Development Plan for the Compound shall take into consideration the following strategies for development in order to avoid the occurrence of expected adverse effects including phospholipidosis;

(a) To use reasonable, appropriate and available biomarkers for monitoring of phospholipidosis in the liver, kidney, lung, spleen and lymph nodes; and

(b) To avoid exposure to patients with excessive plasma level of the Compound and its metabolites for a long time.

The Development Plan may be modified from time to time as LICENSEE, its Affiliates and/or sublicensees deem necessary, and with respect to the Compound, within the scope of the development strategy set forth in this Section 4.1.2; provided, however, LICENSEE shall to extent it is aware of such revisions promptly inform MTPC of any material revision of such Development Plan and will use good faith efforts to inform MTPC of any other revision of such Development Plan, If the Development Plan for the Compound is modified by LICENSEE, and/or its Affiliates beyond the development strategy considerations set forth in Section 4.1.2(a) — (b), LICENSEE shall promptly inform MTPC of such revision of such Development Plan and MTPC may provide any comments it may have on such modifications within eight (8) business days and LICENSEE shall consider in good faith any such comments. LICENSEE shall be responsible for preparing and implementing any modifications or amendments to the Development Plan.

4.1.3 Clinical Studies Protocol. Before commencement of any Clinical Studies conducted by Party in relation to this Compound and/or a Product the Party so conducting the Clinical Trial shall provide to the other the final draft of the protocol for such Clinical Study. The other Party may comment within fifteen (15) business days on such protocol and the Party conducting the Clinical Trial shall consider in good faith any such comments; provided, however, the final decision with respect to any such protocol shall be taken by the Party conducting the Clinical Trial at its sole discretion.

4.1.4 Development Diligence. Without prejudice to any other remedies available at law or otherwise provided for in this Agreement, MTPC shall have the right to terminate this Agreement in the event that LICENSEE, its Affiliate or its sublicensee fails to meet any of the following milestones for the Product:

(a) Filing of the first IND in one of the Major Countries within [*] months after the Effective Date;

(b) Onset of the first Phase II(b) Study within [*] months after the first IND filing;

(c) Onset of the first Phase III Study within [*] months after completion of the last Phase II(b) Study; and

(d) Filing of the first NDA within [*] years after the first IND filing;

Provided, however, that MTPC shall not have the right to terminate this Agreement if the failure of LICENSEE, its Affiliate or its sublicensee to meet any of the milestones set forth above is due to or caused by any of the following:

(1) Reason(s) beyond the reasonable control of LICENSEE, its Affiliate or its sublicensee. For the avoidance of doubt and without prejudice to other reasons, the following reasons will be deemed beyond the reasonable control of LICENSEE, its Affiliate or its sublicensee: a requirement by the FDA or other applicable regulatory agency that LICENSEE, its Affiliate or its sublicensee (i) perform additional studies or trials, (ii) reformulate or alter the manufacturing process of any Product, (iii) cease any clinical trial or redesign any clinical trial, or (iv) perform any other action or cease to perform any action that otherwise delays the clinical development of any Product. LICENSEE, its Affiliate or its sublicensee will present to MTPC evidence of such FDA or other applicable regulatory agency action.

(2) Activities performed in the best interest of the Product as reasonably determined by LICENSEE, its Affiliate or its sublicensee, subject to MTPC's approval , not to be unreasonably withheld. For the avoidance of doubt and without prejudice to other activities, the following activities will be deemed in the best interest of the Product: (i) an expanded clinical program scope; (ii) additional safety studies, including drug-drug interaction studies and special population studies; (iii) reformulation efforts; or (iv) business development efforts following initiation of a Phase II(b) Study. A plan of such activities will be communicated to MTPC by LICENSEE, its Affiliate or its sublicensee.

(3) LICENSEE's decision to discontinue development of the Product containing the Compound, pursuant to Section 10.3.

The Steering Committee will review the overall progress of the Development Plan and will agree on reasonable time extensions or milestone adjustments to accommodate delays due to clause (1) or (2) set forth above based on information presented by LICENSEE, its Affiliate or its sublicensee.

Notwithstanding the foregoing, LICENSEE may extend the time to achieve any of the milestones set forth in Section 4.1.4(a) through (d) set forth above for one (1) year, at its sole discretion, by making a payment of Five Hundred Thousand United States Dollars ($500,000) to MTPC before the date on which such milestone was to have been originally achieved (the "Extension Payment"). If such Extension Payment is made, ail following milestones will be concomitantly extended by one (1) year. LICENSEE will have the right to make an unlimited number of Extension Payments in conjunction with the development of Product, provided that the payment amount will increase to [*] beginning with the third Extension Payment. For the avoidance of doubt, Extension Payments will be in

addition to any milestone that is otherwise payable to MTPC as set forth in Section 5 of this Agreement.

4.1.5 Progress Reports. Every six (6) months until the Registration is obtained in any country in the LICENSEE Territory, LICENSEE shall prepare and deliver to MTPC a written report summarizing LICENSEE's, its Affiliates' and/or sublicensees' significant activities of the Development Work, including all pre-clinical tests and Clinical Studies, with respect to the Compound and Product in the Field in the LICENSEE Territory performed by LICENSEE, its Affiliates and/or sublicensees. MTPC may comment on the progress of the Development Work when reviewing such process reports and LICENSEE or its Affiliates, shall, in its or their sole discretion, consider in good faith any such comments; provided, however, the final decision as to the Development Work shall be taken by the LICENSEE or its Affiliates or sublicensees at its or their sole discretion.

4.1.6 Regulatory Matters. LICENSEE and/or its Affiliates or sublicensees shall own, control and retain primary legal responsibility for, and shall be responsible for funding and the preparation, filing and prosecution of all filings and regulatory applications required to obtain Registration of Product in the LICENSEE Territory in the Field.

4.1.7 Reporting of Adverse Events and Adverse Drug Reactions. LICENSEE and its Affiliates and sublicensees and MTPC and its Affiliates and licensees shall cooperate with respect to the exchange of adverse event and safety information associated with the Product. Details of the cooperation in the handling of adverse event and safety information related to the Product shall be included in a separate agreement to be negotiated in good faith between the Parties at the time MTPC, its Affiliates, its licensee or its sublicensee initiates development of the Product in the MTPC Territory. Such agreement shall set forth a standard operating procedure governing the collection, investigation, reporting, and exchange of information concerning adverse drug reactions/experiences sufficient to permit each Party to comply with its legal obligations in its respective Territory. Each Party will designate a regulatory affairs or pharmacovigilance liaison to be responsible for communicating with the other Party regarding the reporting of adverse event and safety information associated with the Compound and Product.

4.2 Launch and Marketing Efforts. LICENSEE, its Affiliates or its sublicensees shall use Commercially Reasonable Efforts to launch and market the Product in the LICENSEE Territory.

4.3 Coordination of Development Efforts.

4.3.1 Steering Committee. MTPC, LICENSEE and their respective Affiliates, agree to establish a Steering Committee on the Effective Date to facilitate the disclosure described in Article 3. The specific composition, role and responsibility of the Steering Committee, and details relating to meetings and decision-making, shall be negotiated in good faith in a separate agreement to be entered into between the Parties within thirty (30) days after the Effective Date.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

4.3.2 Development in the MTPC Territory. MTPC shall own, control and retain primary legal responsibility for, and shall be responsible for funding, the preparation, filing and prosecution of all filings and regulatory applications required to obtain Registration of Product in the MTPC Territory; provided that MTPC agrees that it will not do or omit to do anything in relation to the Compound and/or the Product which would have a detrimental effect on the LICENSEE's rights under this Agreement and in particular its development and commercialization of the Product in the LICENSEE Territory. LICENSEE will be allowed to comment on the development program for development of the Product in MTPC Territory in the Steering Committee.

4.3.3 Supply of the Bulk Drug Substance and Product for Development in the MTPC Territory. Upon the reasonable request from MTPC, LICENSEE shall discuss in good faith with MTPC terms and conditions under which LICENSEE would be willing to supply the Bulk Drug Substance and/or the Product to MTPC, its Affiliates or its licensee for development in the MTPC Territory. The price of such Bulk Drug Substance and/or the Product shall be equal to the amount of the Fully Burdened Manufacturing Cost plus two percent (2%). The detailed terms and conditions of such supply shall be discussed in good faith and agreed upon between the Parties.

4.4 Supply of the Bulk Drug Substance and Product for Commercialization in the MTPC Territory. Upon the reasonable request from MTPC, LICENSEE shall discuss in good faith with MTPC terms and conditions under which LICENSEE would be willing to supply the Bulk Drug Substance and/or the Product to MTPC, its Affiliate or its licensee for commercialization in the MTPC Territory. The detailed terms and conditions of such supply (including supply price) shall be discussed in good faith and agreed upon between the Parties.

4.5 Supply of the Bulk Drug Substance for Development to LICENSEE.

4.5.1 Supply to LICENSEE. MTPC shall supply LICENSEE with not more than seventy kilograms (70 kg) of the WF-516 Bulk solely for the purpose of the Development Work in response to LICENSEE's firm order of sixty (60) days prior to the shipment. Such orders shall be made within two (2) years from the Effective Date and no more than once a year. The exact supply amount will be determined by MTPC and LICENSEE in good faith.

4.5.2 Supply Terms. MTPC shall deliver the Wf-516 Bulk, EXW (Incoterms 2000) at MTPC's facility for collection by a carrier designated by LICENSEE. Risk of loss of the Wf-516 Bulk will be transferred to LICENSEE upon delivery to the carrier.

4.5.3 Shipping. The Wf-516 Bulk shall be shipped packaged in containers in order to protect it during transportation in accordance with the applicable Specifications or as otherwise agreed by the Parties in writing. Each such container will be individually labeled in accordance with any Regulatory Requirements which may include a description of its contents, including the manufacturer lot number, quantity of the Wf-516 Compound, and expiration date and/or retest date and marked for shipment to LICENSEE's specified receiving point.

4.5.4 Price and Costs. The price for the Wf-516 Bulk shall be discussed in good faith and agreed upon between the Parties separately; provided that in part consideration of

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

the initial license fee payable pursuant to Section 5.1 below, MTPC will provide six kilograms (6kg) of Wf-516 Bulk to LICENSEE within thirty (30) days of the Effective Date. In addition, LICENSEE shall pay MTPC [*] per analysis for analytical cost relating to the Wf-516 Bulk. MTPC shall submit an invoice to LICENSEE upon shipment of the Wf-516 Bulk. All invoices will be sent to LICENSEE's address set out in Section 13.4 and each invoice will state the aggregate and unit price for the Wf-516 Bulk in a given shipment, plus any taxes, or other costs incident to the purchase or shipment to be borne by LICENSEE under this Agreement. All payments under this Section 4.5.4 shall be made by wire transfer in [US dollar] within thirty (30) days of LICENSEE's receipt of the Wf-516 Bulk.

4.5.5 Quality. All Wf-516 Bulk supplied by MTPC shall meet the current Specifications and shall be manufactured, packaged, tested and stored in accordance with the Specifications, all applicable regulatory approvals and Regulatory Requirements, including GMP manufacturing and record keeping procedures.

4.5.6 Quality Control. Prior to each shipment of the Wf-516 Bulk, MTPC and/or a LICENSEE approved third party shall perform quality control testing procedures and inspections to verify that the Wf-516 Bulk to be shipped conforms fully to the Specifications, as set forth in the Specifications. Each shipment of the Wf-516 Bulk shall be accompanied by a Certificate of Analysis issued by MTPC in a form agreed upon with LICENSEE, describing all current requirements of the Specifications, results of test performed certifying that the Wf-516 Bulk supplied has been manufactured, controlled and released in accordance with the Specifications, all regulatory approvals and applicable Regulatory Requirements. In the event of a dispute between the Parties over a GMP issue(s), LICENSEE and MTPC agree to submit the issue to a mutually agreed upon independent consultant, and the consultant's opinion shall be binding upon the both Parties in regards to that GMP issue(s). The expenses of obtaining the independent consultant's binding opinion shall be borne by the losing party.

4.5.7 Acceptance by LICENSEE. Acceptance by LICENSEE of the Wf-516 Bulk delivered by MTPC shall be subject to inspection and applicable testing, as set forth in the Specifications, by LICENSEE or its designee as set forth in the Specifications. If (a) on such inspection of testing, LICENSEE or its designee discovers that any Wf-516 Bulk fails to conform with the Specifications, any GMP requirements, any Regulatory Requirements, or otherwise fails to conform to the warranties in Sections 11.2.12 to 11.2.16 below, or (b) if LICENSEE becomes aware of any defect in any Wf-516 Bulk that is not discoverable upon a reasonable inspection or quality control testing as set forth in the Specifications within seventy (70) days after the delivery, LICENSEE or such designee may reject such Wf-516 Bulk, which rejection will be accomplished by giving written notice to MTPC that specifies the manner in which the Wf-516 Bulk fails to meet the foregoing requirements. Upon request from MTPC, LICENSEE shall return the rejected Wf-516 Bulk in accordance with MTPC's reasonable instructions at MTPC's expense, provided that such instructions comply with all applicable laws, regulations and Regulatory Requirements.

4.5.8 Disputes. In the event of a dispute between the Parties over the validity of a rejection, LICENSEE and MTPC agree to submit a sample of the rejected Wf-516 Bulk to an independent test facility to be agreed by both Parties, and to accept the results of the testing

performed by that facility as binding with regard to that lot of the Wf-516 Bulk. The expense of such testing shall be borne by the losing party.

4.5.9 Consequence of rejection. MTPC shall use Commercially Reasonable Efforts to replace rejected Wf-516 Bulk within the shortest possible time after MTPC's receipt of notice thereof provided materials are available, and in any event within sixty (60) days if, subsequent to investigation, Wf-516 Bulk deemed by LICENSEE to be rejected is found to meet the Specifications, then LICENSEE will not only pay for the originally shipped Wf-516 Bulk but also any replacement Wf-516 Bulk made, or in process, while the investigation was being conducted. The warranties given by MTPC in Section 11.2.12 to 11.2.16 below shall survive any failure to reject by LICENSEE under this Section 4.5.9.

ARTICLE 5
PAYMENTS AND ROYALTIES

5.1 Initial License Fee. In consideration of the licenses granted by MTPC to LICENSEE, LICENSEE shall pay to MTPC the total amount of half a million United States Dollars (US$500,000) as the initial license fee within thirty (30) days after the Effective Date. For the avoidance of doubt, the initial license fee set forth in this Section 5.1 shall not be creditable against future milestone payments or royalties.

5.2 Milestone Payments.

5.2.1 Milestone Payments. In addition to the initial license fee, in consideration of the licenses granted by MTPC to LICENSEE, LICENSEE shall pay to MTPC the milestone payments set forth in Schedule 5.2 for the Product.

5.2.2 Reports and Payments. The milestone payments shall be made no more than once with respect to the achievement of each milestone and no amounts shall be due hereunder for any subsequent or repeated achievement of such milestones (but payable on the first achievement of such milestone). LICENSEE shall notify MTPC in writing within thirty (30) days after the achievement of the milestones specified on Schedule 5.2 and each such notice shall be accompanied by the appropriate milestone payment. For the avoidance of doubt, the milestone payments pursuant to this Section 5.2 shall not be creditable against future milestone payments or royalties.

5.3 Royalties Payable by LICENSEE.

5.3.1 In addition, in consideration of the licenses granted by MTPC to LICENSEE herein, LICENSEE shall pay to MTPC a royalty on Net Sales in each Royalty Year in the LICENSEE Territory, on a Product-by-Product, as follows:

Annual Net Sales in the LICENSEE Territory	Royalty Rate
[*]	[*]
[*]	[*]
[*]	[*]

("M" means "million".)

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

As an example, for Net Sales of [*] in the LICENSEE Territory, the royalties payable by LICENSEE to MTPC will represent [*].

5.3.2 Royalties set forth in this Section 5.3 shall accrue from the date of Launch of Product in each country and shall continue and accrue on Net Sales until the end of the Royalty Period in such country.

5.3.3 One Royalty. No more than one royalty payment shall be due with respect to a sale of a particular Product. No multiple royalties shall be payable because any Product, or its manufacture, sale or use is covered by more than one Valid Claim. No royalty shall be payable under this Section 5.3 with respect to sales of the Products among LICENSEE and its Affiliates or sublicensees for resale, nor shall a royalty be payable under this Section 5.3 with respect to the Products distributed for use in research and/or development, in clinical trials, as donations to nonprofit institutions or government agencies or as promotional free samples.

5.3.4 Generic Competition. At any time after Generic Competition exists in a country of the LICENSEE Territory, in each Calendar Quarter during the Royalty Period, Net Sales from such country shall be reduced by [*] before including same into Net Sales in all countries in the LICENSEE Territory for the purpose of calculating the applicable royalty rates set forth in Section 5.3.1.

5.4 Third Party's New Formulation Technology. LICENSEE may, at its discretion, introduce any third party formulation technology for the development and commercialization of the Product. LICENSEE shall bear the costs and expenses for the development of such third party new formulation technology. If MTPC becomes interested in the Product using such third party's new formulation technology, LICENSEE, to the extent it has the right and ability to do so, shall provide MTPC with any and data and information with regard to such third party's new formulation technology (hereinafter referred to as "Third Party Technology") as a part of the LICENSEE Intellectual Property. Further, if MTPC decides to develop and commercialize the Product in MTPC Territory using such Third Party Technology, LICENSEE, to the extent it has the right and ability to do so, shall grant or have such third party grant to MTPC the right to make, have made, use, sell, offer for sale, have sold and import the Product in MTPC Territory using .such Third Party Technology as a part of the LICENSEE Intellectual Property. In such case, in consideration of the license granted to MTPC herein, MTPC shall pay to such third party royalties for commercialization of the Product using such Third Party Technology in the MTPC Territory which rate is equivalent to the royalties for such license granted to LICENSEE.

ARTICLE 6
ROYALTY REPORTS AND ACCOUNTING

6.1 Reports. During the Royalty Period, LICENSEE shall furnish to MTPC a written report for the Calendar Quarter showing, on a country by country and Product by Product basis, (a) the gross sales of all Products sold by LICENSEE and its Affiliates and sublicensees during such Calendar Quarter, (b) the Net Sales, (c) the royalties, payable in United States Dollars, which shall have accrued hereunder based upon Net Sales of Products, (d) the withholding taxes, if any, required by law to be deducted in respect of such royalties, (e) the date of the Launch of each Product in each country in the LICENSEE Territory and (f) the exchange rates used in

determining the amount of United States Dollars, as more specifically provided in Section 7.2. Reports shall be due sixty (60) days following the close of each Calendar Quarter. LICENSEE shall keep complete and accurate records in sufficient detail to properly reflect all gross sales and Net Sales and to enable the royalties payable hereunder to be determined in accordance with Section 6.2.

6.2 Audit.

6.2.1 Audit Rights. Upon the reasonable written request of MTPC and not more than once in each Calendar Year, LICENSEE shall permit MTPC and/or an independent certified public accounting firm of nationally recognized standing, selected by MTPC and reasonably acceptable to LICENSEE, at MTPC's expense, to have access during normal business hours on at least ten (10) days' prior written notice, to such of the records of LICENSEE and its Affiliates as may be reasonably necessary to verify the accuracy of the royalty reports hereunder for any Calendar Year ending not more than thirty-six (36) months prior to the date of such request; provided that MTPC shall not be entitled to audit the same period of time more than once.

6.2.2 Audit Results. If such accounting firm concludes that additional royalties were owed during such period, LICENSEE shall remit to MTPC within thirty (30) days of the date MTPC delivers to LICENSEE such accounting firm's written report so concluding: (a) the amount of such additional royalties; and (b) interest on the amounts overdue of such underpayment which shall be calculated pursuant to Section 7.4. In the event such accounting firm concludes that amounts were overpaid by LICENSEE during such period, LICENSEE shall have a credit against future royalties payable to MTPC in the amount of such overpayment; provided, however, that LICENSEE may have an independent certified public accounting firm of nationally recognized standing, selected by LICENSEE and reasonably acceptable to MTPC, at LICENSEE's expense, confirm the results of the audit conducted by MTPC's accounting firm. The fees charged by MTPC's accounting firm shall be paid by MTPC; provided, however, if an error in favor of MTPC of more than five percent (5%) of the royalties due hereunder for the period being reviewed is discovered, then LICENSEE shall pay the reasonable fees and expenses charged by such accounting firm.

6.2.3 Confidential Financial Information. MTPC shall treat all financial information subject to review under this Article 6 as confidential, and shall cause its accounting firm to retain all such financial information in confidence.

ARTICLE 7
PAYMENTS

7.1 Payments Terms. Royalties shown to have accrued by each royalty report provided for under Section 6.1 shall be due and payable on the date such royalty report is due.

7.2 Payment Method. All payments by LICENSEE to MTPC under this Agreement shall be paid in United States Dollars. If any currency conversion shall be required in connection with the payment of any royalties hereunder, such conversion shall be made by using the average of the exchange rates for the purchase and sale of United States Dollars reported by the Bank of

Tokyo Mitsubishi UFJ on the last business day of the Calendar Quarter to which such royalty payments relate.

7.3 Exchange Control. If at any time legal restrictions prevent the prompt remittance of part or all of the royalties with respect to any country in the LICENSEE Territory where the Product is sold, LICENSEE shall have the right, at its option, to make such payments by depositing the amount thereof in local currency to MTPC's account in a bank or other depository designated by MTPC in such country.

7.4 Overdue Payments. In the event the initial payment, any milestone payment or any royalty payment is not made when due, such outstanding payment shall accrue interest (from the date such payments is due through and including the date upon which full payment is made) at the annual rate of [*].

7.5 Withholding Taxes. LICENSEE shall be entitled to deduct from any payment due MTPC under this Agreement the amount of any withholding taxes payable by LICENSEE or its Affiliates, or any taxes required to be withheld by LICENSEE or its Affiliates, to the extent LICENSEE or its Affiliates pay to the appropriate governmental authority on behalf of MTPC such taxes, levies or charges. LICENSEE shall use reasonable efforts to minimize any such taxes, levies or charges required to be withheld on behalf of MTPC by LICENSEE or its Affiliates. LICENSEE promptly shall deliver to MTPC proof of payment of all such taxes, levies and other charges, together with copies of all communications from or with such governmental authority with respect thereto. Upon reasonable request from MTPC, LICENSEE shall cooperate with MTPC to supply forms or documentation required by any applicable taxation laws, treaties or agreements to such withholding or as necessary to claim a benefit.

ARTICLE 8
CONFIDENTIALITY

8.1 Nondisclosure Obligations. Except as otherwise provided in this Article 8, during the term of this Agreement and for a period of five (5) years thereafter, both Parties shall maintain in confidence and use only for purposes of this Agreement the Proprietary Information supplied by the other Party.

8.2 Permitted Disclosures. To the extent it is reasonably necessary or appropriate to fulfill its obligations or exercise its rights under this Agreement, a Party (including its Affiliates and sublicensees) may disclose Proprietary Information of the other Party which it is otherwise obligated under this Article 8 not to disclose (a) to its Affiliates, its sublicensees and potential sublicensees, its consultants, investors and potential investors, outside contractors and clinical investigators, on a need-to-know basis on condition that such Persons agree to keep the Proprietary Information confidential for the same time periods and to the same extent as such Party is required to keep the Proprietary Information confidential; and (b) to government or other regulatory authorities to the extent that such disclosure is required by applicable law (including without limitation all applicable securities laws), regulation, agency or court order, or is reasonably necessary to obtain patents or authorizations to conduct Clinical Trials with, and to commercially market the Product, provided that, with respect to clause (b) the disclosing Party shall provide written notice to the other Party and sufficient opportunity to object to such

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

disclosure or to request confidential treatment thereof. The obligation not to disclose or use Proprietary Information received from the other Party shall not apply to any part of such Proprietary Information that (i) is or becomes patented, published or otherwise part of the public domain other than by acts of the Party obligated not to disclose such Proprietary Information in contravention of this Agreement; (ii) is disclosed to the receiving Party by a Third Party, provided such Proprietary Information was not obtained by such Third Party directly or indirectly from the other Party on a confidential basis; (iii) prior to disclosure under this Agreement, was already in the possession of the receiving Party, provided such Proprietary Information was not obtained directly or indirectly from the other Party; (iv) is subsequently and independently developed by the receiving Party without the knowledge of the Proprietary Information or (v) is disclosed in a press release agreed to by both Parties, which agreement shall not be unreasonably withheld.

8.3 SEC Filings. The Parties will consult with each other on the provisions of this Agreement to be redacted in filings, if any, made by the Parties with the Securities and Exchange Commission or as otherwise required by law. The Parties agree that either Party may make such disclosures pursuant to Form 8-K or otherwise as it determines, based on advice of counsel, are reasonably necessary to comply with laws or regulations or for appropriate market disclosure, with the prior written consent by the other Party. The Parties shall consult with one another before any such filing, and shall seek protection for any Proprietary Information (including any terms and conditions of this Agreement).

8.4 Press Release and Publication.

8.4.1 Press Release. In the event that either Party desires to issue a press release relating to this Agreement, the Parties shall discuss in good faith and agree upon the contents and timing of such press release.

8.4.2 Scientific Publication. In the event that either Party, its Affiliate or its sublicensee(s) or licensee(s) is willing, required or obliged to make any publication in a scientific journal or at a conference in any academic society on the information obtained from its Development Work on the Compound and/or the Product, such Party, to the extent it has a right to review any such publication or presentation, shall endeavor in good faith to submit to the other Party the full text of such publication, at least thirty (30) days before the date of such publication and to consult with the other Party and to solicit comments with respect to such publication or presentation; provided, however, that such other Party shall not prevent the first Party from complying with regulatory requirements.

ARTICLE 9
INTELLECTUAL PROPERTY

9.1 Ownership of Improvements. Each Party shall solely own, and such Party alone shall have the right to apply for, any patents within and

outside its Territory for any improvements regarding the Compound and/or the Products made solely by such Party's employees in the course of the performance of any work under this Agreement. Improvements made jointly by employees of MTPC and LICENSEE, its Affiliates or its sublicensees shall be

owned jointly by MTPC and LICENSEE, its Affiliates or its sublicensees and shall be included in the licenses described in Article 2 hereof.

9.2 Patents Prosecution and Maintenance.

9.2.1 MTPC Patents. MTPC shall have the initial right to control the filing, prosecution and maintenance of the MTPC Patents in the LICENSEE Territory, and to select all patent counsel or other professionals to advise, represent or act for it in all matters relating to the MTPC Patents in the LICENSEE Territory. MTPC shall be responsible for the payment of all such patent prosecution and maintenance costs of the MTPC Patents in the Major Countries and LICENSEE shall be responsible for the payment of all such patent prosecution and maintenance costs of the MTPC Patents in the remaining countries in the LICENSEE Territory if LICENSEE desires to prosecute and maintain the MTPC Patents in such remaining countries. MTPC shall solicit LICENSEE's review of the nature and text of any such patent applications in the LICENSEE Territory and important prosecution matters related thereto in reasonably sufficient time prior to filing thereof, and MTPC takes into account LICENSEE's reasonable comments related thereto. MTPC, taking such LICENSEE's request into consideration but at its sole discretion, shall file patent claims related to the Compound or Product proposed by LICENSEE in any MTPC Patent or a continuation or divisional of the foregoing. MTPC shall inform LICENSEE of any significant developments in the prosecution of pending patent applications included in the MTPC Patents in the LICENSEE Territory, including the issuance of any final office actions, allowance of claims, or upcoming grant of any domestic or foreign patent based thereon. If MTPC decides not to file, prosecute or maintain a MTPC Patent in any country in the LICENSEE Territory, MTPC shall provide LICENSEE with written advance notice sufficient to avoid any loss or forfeiture (but in any event at least sixty (60) days notice), and LICENSEE shall have the right but not the obligation, at its sole expense, to file, prosecute or maintain such MTPC Patent in such country, and MTPC shall assign to LICENSEE a right, title and interest in and to such MTPC Patent in such country and such MTPC Patent shall no longer be deemed MTPC Patent.

9.2.2 LICENSEE Patents. LICENSEE shall have the right to control the filing, prosecution, and maintenance of the LICENSEE Patents in the respective Territory, and to select all patent counsel or other professionals to advise, represent or act for it in all matters relating to the LICENSEE Patents. LICENSEE shall be responsible for the payment of all such patent prosecution and maintenance costs. LICENSEE shall solicit MTPC's review of the nature and text of any such patent applications in the MTPC Territory and important prosecution matters related thereto in reasonably sufficient time prior to filing thereof, and LICENSEE shall take into account MTPC's reasonable comments related thereto. LICENSEE shall inform MTPC of any significant developments in the prosecution of pending patent applications included in the LICENSEE Patents in the MTPC Territory, including the issuance of any final office actions, allowance of claims, or upcoming grant of any domestic or foreign patent based thereon. If LICENSEE decides not to file, prosecute or maintain a Patent Right included in the LICENSEE Patents in any country in the MTPC Territory, it shall provide MTPC with written advance notice sufficient to avoid any loss or forfeiture (but in any event at least sixty (60) days notice), and MTPC shall have the right but not the obligation, at its sole expense, to file, prosecute or maintain such LICENSEE Patent in such country, and LICENSEE shall assign to MTPC a right,

title and interest in and to such LICENSEE Patent in such country and such LICENSEE Patent shall no longer be deemed LICENSEE Patent.

9.3 Cooperation. Each Party shall make available as far as possible to the other Party or to the other Party's authorized attorneys, agents, representatives, employees or consultants any documents necessary or appropriate to enable the other Party to file, prosecute and maintain patent applications and resulting patents, as set forth in Section 9.2, for a period of time sufficient for the other Party to obtain the assistance it needs from the first Party. Where appropriate, each Party shall sign or cause to have signed all documents relating to said patent applications or patents at no charge to the other Party.

9.4 Enforcement of Patents.

9.4.1 Excluding Action. Each of the Parties shall notify the other of any activity or product which it reasonably believes constitutes an infringement or misappropriation of the MTPC Patents or MTPC Know-How in the LICENSEE Territory or of any claim of invalidity or other challenge or opposition in respect of a MTPC Patent. LICENSEE shall have the right, in the first instance, to enforce the MTPC Patents against such infringing technology or to defend any such claim of invalidity or other challenge or opposition within the LICENSEE Territory. In the event LICENSEE declines to prosecute such infringing technology or to defend such claim within ninety (90) days (or twenty-one (21) days from the receipt of paragraph IV certificate or aware of the ANDA application) of becoming aware thereof, MTPC shall have the right to so enforce or defend. The Parties agree that the costs of such prosecution or defense of validity, in connection with an infringement in the LICENSEE Territory shall be borne by the Party who prosecutes or defends the action.

9.4.2 Settlements, Allocation of Monetary Award. The Party controlling the action may not settle the action or otherwise consent to an adverse judgment in such action that diminishes the rights or interests of the non-controlling Party without the express written consent of the non-controlling Party, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, MTPC and LICENSEE shall cooperate with each other in the planning and execution of any action to enforce the MTPC Patents. Any recovery and proceeds of any awards, judgments or settlements obtained by LICENSEE or MTPC shall be shared as follows, whether the recovery is by settlement or otherwise:

(a) the enforcing or defending Party shall first be entitled to recoup all of its out-of-pocket costs and expenses (including reasonable attorneys' fees) incurred in connection with the action;

(b) the other Party, if joined or cooperating in the action, shall then be entitled to recover its out-of-pocket costs and expenses (including reasonable attorneys' fees) incurred in connection with the action, not already reimbursed by the enforcing or defending Party;

(c) any recovery remaining shall be allocated between the Parties on a pro rata basis based upon the respective lost profits of the Parties as a result of the infringing activities, which allocation ratio shall be separately agreed upon in writing by the Parties.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

9.4.3 Each Party agrees to furnish the other with such cooperation, including consenting to act as a Party to litigation if required, and exchange of information as the other Party may reasonably request in connection with the prosecution of any such action and the Party prosecuting an infringement or defending a claim of invalidity shall consult periodically with the other Party in connection with any such action. Neither Party shall take any action which would admit the invalidity of a MTPC Patent without the consent of the other Party, which consent shall not be unreasonably withheld.

9.5 Patent Term Restoration. The Parties, their Affiliates or their sublicensees shall cooperate with each other, execute all documents and take all actions that may be necessary to pursue patent term extensions, supplemental protection certificates or their future equivalents applicable to the LICENSEE Patents or the MTPC Patents, under appropriate laws and/or regulations in the LICENSEE Territory and/or MTPC Territory. MTPC and LICENSEE shall discuss and determine which patents shall be extended in the respective Territory. All filings for such patent term extension or supplemental protection certificates shall be made by the Party who owns the patent at its sole cost and expense.

9.6 Infringement of Third Party Rights. Each Party or its Affiliate shall promptly notify the other Party in writing of any allegation by a Third Party that the manufacture, development, importation, use, offer for sale or sale of a Compound or Product covered by the MTPC Intellectual Property, infringes or may infringe the intellectual property rights of such Third Party in any country of the LICENSEE Territory or the MTPC Territory. LICENSEE or its Affiliate or sublicensee shall have the first right to control the defense of any claim alleging that the manufacture, development, importation, use, offer for sale or sale of such Compound or Product in the LICENSEE Territory infringes any such Third Party rights or may settle on terms that it deems advisable in its sole discretion, provided that any final disposition of the litigation that will restrict the claims in or admit any invalidity of any MTPC Patent shall not be made without full consultation with and approval by MTPC, not to be unreasonably withheld. If LICENSEE or its Affiliate or sublicensee fails to proceed in a timely manner with respect to such defense, MTPC shall have the right to control the defense of such claim. The Parties shall consult and cooperate fully to determine a course of action. If, finally, LICENSEE or its Affiliate or sublicensee is required by order or judgment of any court in any jurisdiction, or LICENSEE or its Affiliate or sublicensee in its sole discretion after having obtained an outside legal opinion, believes it necessary to obtain a license, obtains a license under such intellectual property right from such Third Party, and makes payments to such Third Party to avoid alleged infringement, then [*] of the royalty or other payments required to be paid by LICENSEE or its Affiliate or sublicensee to such Third Party as the result of a judgment or settlement under this Section 9.6 ("Third Party Payment") shall be creditable against the royalty payments pursuant to Section 5.3 due MTPC with respect to the sale of such Product in such country, provided, however, that in no event shall the royalties payable to MTPC be reduced to less than [*] of the amount due under this Agreement, and provided further any remaining portion the [*] of the Third Party Payment not credited pursuant to this Section 9.6 may be carried over against the royalties payable to MTPC for the subsequent period in which the royalties are due. Each Party shall have the right to participate in the defense of any such claim with counsel of its choice at its own expense. MTPC or its Affiliate or licensee shall have the first right to control the defense of any claim alleging that the manufacture, development, importation, use, offer for sale or sale of the Compound or Product in the MTPC Territory infringes any such Third Party rights or may

settle on terms that it deems advisable in its sole discretion, provided that MTPC and any MTPC Affiliate or licensee will not take any step in relation to such proceedings which might have a detrimental effect on LICENSEE's rights under this Agreement and in particular the prosecution, maintenance and defence of the MTPC Patents in the LICENSEE Territory.

ARTICLE 10
TERM AND TERMINATION

10.1 Expiration. This Agreement shall come into effect on the Effective Date and, unless earlier terminated, shall continue in effect until the expiration of LICENSEE's obligations to pay royalties. After the expiration of this Agreement, on a country-by-country basis, in such country in the Territory, LICENSEE will have a fully paid-up, non-exclusive, perpetual, irrevocable license, with the right to grant and authorize sublicenses, with respect to the MTPC Patents and MTPC Know-How in such country in the LICENSEE Territory or in the case of the manufacture of Compound, anywhere in the world for the purpose of manufacturing the Product to be sold in the LICENSEE Territory.

10.2 Termination for Cause.

10.2.1 Either Party may terminate this Agreement upon or after the breach of any material provision of this Agreement by the other Party, if the breaching Party has not cured such breach within sixty (60) days after notice thereof from the non-breaching Party. This Agreement shall terminate, at the option of the non-breaching Party, at the expiration of such sixty (60) day cure period; provided, however, that if the breach is not capable of being cured within sixty (60) days of such written notice, this Agreement may not be terminated so long as the breaching Party commences and is taking commercially reasonable actions to cure such breach as promptly as practicable.

10.2.2 Either Party may terminate this Agreement upon giving notice to the other Party, which termination notice shall have immediate effect, in the case of any adjudication of bankruptcy or insolvency, appointment of a receiver by a court of competent jurisdiction, assignment for the benefit of creditors, or institution of liquidation proceedings by or against the other Party.

10.2.3 Notwithstanding anything to the contrary contained in Section 10.2.1, 10.2.2 or 13.2, in the event that MTPC is entitled to terminate this Agreement pursuant to Section 10.2.1 or 10.2.2, prior to exercising such termination right, MTPC shall offer LICENSEE's sublicensees the ability to assume LICENSEE's rights and obligations under this Agreement and to continue this Agreement in full force and effect between MTPC and such sublicensee.

10.3 Other LICENSEE Termination. In the event that LICENSEE believes that (1) certain data and information with regard to any safety or efficacy or scientific or regulatory issue in relation to the Compound or Product obtained through the Development Work does not justify continued development of the Product by LICENSEE, its Affiliate and/or sublicensee or (2) LICENSEE believes that commercial considerations or other factors for marketing of the Product do not justify continued development, commercialization or marketing of the Product by

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

LICENSEE, its Affiliate and/or its sublicensees, LICENSEE may terminate this Agreement in its sole discretion at any time during the term hereof in its entirety, or on a country-by-country, Compound-by-Compound or Product-by-Product basis (a) on not less than ninety (90) days prior written notice to MTPC if such termination occurs prior to Launch of such Product in such country, or (b) on not less than one hundred eighty (180) days prior written notice to MTPC if such termination occurs after the Launch of such Product in such country, informing MTPC of and discussing with MTPC the reasonable reason for which it is terminating all or part of this Agreement; provided however that if LICENSEE desires to terminate this Agreement in the cases safety problems caused by the Compound or Product, LICENSEE shall explain MTPC the reasonable reasons why such safety problems could not be avoided despite LICENSEE's clinical development plan to decrease the risk of such safety problems. In which case LICENSEE's obligation to perform any further work under this Agreement shall cease in such country or for such Compound or for such Product as of the date of the end of the period set forth in Section 10.3. (a) or 10.3.(b).

10.4 Effect of Expiration and Termination. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing on or prior to such expiration or termination. LICENSEE and its Affiliates and sublicensees shall have the right to sell or otherwise dispose of the stock of any Product subject to this Agreement then on hand or in process of manufacture, subject to Articles 5, 6 and 7. In addition to any other provisions of this Agreement which shall by their terms continue after the expiration of this Agreement, the provisions of Article 8 shall survive the expiration or termination of this Agreement and shall continue in effect during the term set forth in Section 8.1. In addition, any other provision required to interpret and enforce the Parties' rights and obligations under this Agreement shall also survive, but only to the extent required for the full observation and performance of this Agreement. Except as expressly set forth herein, the rights to terminate as set forth herein shall be in addition to all other rights and remedies available under this Agreement, at law, or in equity, or otherwise.

10.5 Effect of Termination Without MTPC's Cause. In the event that this Agreement shall be terminated by MTPC pursuant to Section 4.1.4, 10.2 or by LICENSEE pursuant to Section 10.3, LICENSEE or its Affiliate shall return to MTPC all written MTPC Know-How and all copies thereof and furnish MTPC with all of LICENSEE, its Affiliates or its sublicensee Know-How not already provided to MTPC with a royalty-free worldwide right to use all LICENSEE Patents and LICENSEE Know-How. LICENSEE or its Affiliate shall further transfer free of charge to MTPC or its nominee any IND, Application or other documents filed with any government agency in LICENSEE Territory and any Registration obtained in LICENSEE Territory LICENSEE shall, at the request of MTPC, cooperate with MTPC or its nominee for the smooth transfer of them.

ARTICLE 11
REPRESENTATIONS AND WARRANTIES

11.1 Mutual Representations. The Parties hereby represent and warrant as follows:

11.1.1 Corporate Existence and Power. Such Party (a) is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction in which it is

incorporated, and (b) has the corporate power and authority and the legal right to own and operate its property and assets, to lease the property and assets it operates under lease, and to carry on its business as it is now being conducted;

11.1.2 Authorization and Enforcement of Obligations. Such Party (a) has the corporate power and authority and the legal right to enter into this Agreement and to perform its obligations hereunder and (b) has taken all necessary corporate action on its part to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder. This Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, binding obligation, enforceable against such Party in accordance with its terms;

11.1.3 Consents. All necessary consents, approvals and authorizations of all governmental authorities and other Persons required to be obtained by such Party in connection with this Agreement have been obtained; and

11.1.4 No Conflict. The execution and delivery of this Agreement and the performance of such Party's obligations hereunder (a) do not conflict with or violate any requirement of applicable laws or regulations and (b) do not conflict with, or constitute a default under, any contractual obligation of such Party.

11.2 Representations and Warranties of MTPC. MTPC additionally represents and warrants to LICENSEE as of the Effective Date that:

11.2.1 the MTPC Intellectual Property is owned or controlled by MTPC free and clear of any liens, charges and encumbrances, and no other person, corporate or other private entity, or governmental or university entity or subdivision thereof, has any valid claim of ownership with respect to the MTPC Intellectual Property, whatsoever;

11.2.2 MTPC has not previously granted, and will not grant during the term of this Agreement, any right, license or interest in and to the MTPC Intellectual Property, or any portion thereof, inconsistent with the licenses granted to LICENSEE herein;

11.2.3 MTPC does not have any knowledge of the existence of any references or conduct that would bring into question the validity or enforceability of the MTPC Intellectual Property in the Field;

11.2.4 there are no pending or, to the knowledge of MTPC, threatened actions, suits, investigations, claims or proceedings in any way relating to the MTPC Intellectual Property;

11.2.5 MTPC has disclosed to FORENAP or LICENSEE all material scientific and technical information known to MTPC or its Affiliates relating to the safety and efficacy of the Wf-516 Compound and Product containing the Wf-516 Compound;

11.2.6 MTPC has disclosed to FORENAP or LICENSEE all information which MTPC reasonably considers necessary for LICENSEE to file an IND with the FDA;

11.2.7 Schedule 1.34 contains a complete and accurate list of all Patents Rights relating to the Compound or the Product containing the Compound owned or controlled by MTPC in the LICENSEE Territory and such Patents Rights have been diligently prosecuted and all fees payable in relation to such Patent Rights have been paid on or before their due date.

11.2.8 to the knowledge of MTPC, the patents encompassed within the MTPC Patents, are, or, upon issuance, will be, valid and enforceable patents.

11.2.9 to the knowledge of MTPC, the manufacture, use, sale, offer for sale, supply or importation by LICENSEE (or its Affiliates or sublicensees) of the Wf-516 Compound or Product containing the Wf-516 Compound does not and will not infringe any issued patent of any Third Party or, if and when issued, any claim within any published patent application of any Third Party;

11.2.10 MTPC has heretofore disclosed to LICENSEE or FORENAP, all material filings, notices, reports and other correspondence and contact information between MTPC and the FDA or any other regulatory authority regarding the Wf-516 Compound or the Product containing the Wf-516 Compound;

11.2.11 Schedule 11.2.11 sets forth a complete and accurate listing of all pre-clinical and clinical studies and trials, together with the dates and titles of such studies and trials, previously or currently undertaken or sponsored by MTPC or its Affiliates with respect to the Compounds and Products. True, complete and accurate copies of all data and reports with respect to the studies and trials listed on Schedule 11.2.11 have been provided for review to LICENSEE or FORENAP, and MTPC has otherwise provided for review to LICENSEE or FORENAP all material preclinical and clinical studies and trials of all Compounds and Products;

11.2.12 Wf-516 Compound and Product containing the Wf-516 Compound are being developed, manufactured, stored, labeled, distributed and tested by MTPC or its Affiliates or any Third Party acting on behalf of MTPC in compliance in all applicable laws, rules and regulations at that time;

11.2.13 All Wf-516 Bulk supplied hereunder shall comply with the Specifications and shall conform with the information shown on the Certificate of Analysis provided for the particular shipment pursuant to Section 4.5.6 above;

11.2.14 The Facility, the manufacturing and supply activities contemplated herein and all Wf-516 Bulk supplied hereunder shall comply with the Regulatory Requirements and the Specifications, and all raw materials used in the manufacture of Wf-516 Bulk hereunder shall comply with the applicable specifications, and the Regulatory Requirements;

11.2.15 None of the Wf-516 Bulk supplied to LICENSEE under this Agreement shall be adulterated or misbranded; and

11.2.16 Title to all Wf-516 Bulk supplied under this Agreement shall pass as provided in this Agreement, free and clear of any security interest, lien, or other encumbrance.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

11.3 Representations of LICENSEE. LICENSEE additionally represents and warrants to MTPC that:

11.3.1 LICENSEE is a corporation duly organized and validly existing and in good standing under the laws of the State of Delaware, U.S.A.;

11.3.2 upon request by LICENSEE, LICENSEE will be funded in accordance with the terms and conditions of a Securities Purchase Agreement by and among Care Capital, LLC Index Ventures (or other respective Affiliates) and the LICENSEE, a copy of which is attached as Schedule 11.3.2; and

11.3.3 LICENSEE has an ability to conduct the Development Work and to prepare the Development Plan in consultation with FORENAP.

11.4 Disclaimer of Representations. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTIES OF ANY KIND EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR VALIDITY OF ANY PATENTS ISSUED OR PENDING.

ARTICLE 12
INDEMNIFICATION

12.1 LICENSEE's Obligation. LICENSEE shall defend, indemnify, and hold harmless MTPC, its Affiliates and their respective directors, officers, shareholders, employees and agents ("MTPC Indemnitees"), from and against any and all liabilities, damages, losses, penalties, fines, costs, interest, and expenses, including, but not limited to reasonable attorney's fees (collectively "MTPC Damages") arising from or occurring as a result of a Third Party's claim, action, suit, judgment or settlement against an MTPC Indemnitee that is due to or based upon:

12.1.1 any breach of a representation, warranty, covenant or agreement of LICENSEE under this Agreement,

12.1.2 any negligent act of LICENSEE, its Affiliates or its sublicensees under this Agreement, or

12.1.3 development, manufacture, use, sale or labeling of Compound, Bulk Drug Substance or Product by LICENSEE, its Affiliates or its sublicensees.

However, LICENSEE shall not indemnify or hold harmless MTPC Indemnitees from MTPC Damages to the extent that such MTPC Damages are finally determined to have resulted from an item for which MTPC is obligated to indemnify LICENSEE pursuant to Section 12.2. LICENSEE's obligations under this Section shall survive the expiration or termination of this Agreement for any reason.

12.2 MTPC's Obligation. MTPC shall defend, indemnify, and hold harmless LICENSEE, its Affiliates and their respective directors, officers, shareholders, employees and

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

agents ("LICENSEE Indemnitees"), from and against any and all liabilities, damages, losses, penalties, fines, costs, interest, and expenses, including, but not limited to reasonable attorney's fees (collectively "LICENSEE Damages") arising from or occurring as a result of a Third Party's claim, action, suit, judgment or settlement against an LICENSEE Indemnitee that is due to or based upon:

12.2.1 any breach of a representation, warranty, covenant or agreement of MTPC under this Agreement,

12.2.2 any negligent act of MTPC, its Affiliates or its sublicensees under this Agreement; or

12.2.3 development, manufacture, use, sale or labeling of Compound, Bulk Drug Substance or Product by MTPC, its Affiliates or its sublicensees.

However, MTPC shall not indemnify or hold harmless LICENSEE Indemnitees from LICENSEE Damages to the extent that such LICENSEE Damages are finally determined to have resulted from an item for which LICENSEE is obligated to indemnify MTPC pursuant to Section 12.1. MTPC's obligations under this Section shall survive the expiration or termination of this Agreement for any reason.

12.3 Insurance. LICENSEE, its Affiliates and/or its sublicensees shall maintain and keep in force for the term of this Agreement comprehensive general liability insurance including Products/Completed Operations, Contractual and Broad Form Property Damage covering its indemnification obligations hereunder combined single limit for Bodily Injury and Property Damage. It is understood that such insurance shall not be construed to limit LICENSEE's liability with respect to such indemnification obligations.

ARTICLE 13
MISCELLANEOUS

13.1 Force Majeure. Neither Party shall be held liable or responsible to the other Party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement to the extent, and for so long as, such failure or delay is caused by or

results from causes beyond the reasonable control of the affected Party including but not limited to fire, floods, embargoes, power shortage or failure, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other Party.

13.2 Assignment. This Agreement may not be assigned or otherwise transferred, nor, except as expressly provided hereunder, may any right or obligations hereunder be assigned or transferred by either Party without the prior written consent of the other Party (which consent shall not be unreasonably withheld); provided, however, that either MTPC or LICENSEE may, without the other Party's consent, assign this Agreement and its rights and obligations hereunder to an Affiliate or in connection with the transfer or sale of all or substantially all of its business to which this Agreement relates, or in the event of its merger or consolidation or change in control

or similar transaction. Any permitted assignee shall assume all obligations of its assignor under this Agreement.

13.3 Severability. Each Party hereby acknowledges that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. Should one or more provisions of this Agreement be or become invalid, the Parties shall substitute, by mutual consent, valid provisions for such invalid provisions which valid provisions in their economic effect are sufficiently similar to the invalid provisions that it can be reasonably assumed that the Parties would have entered into this Agreement with such provisions. In case such provisions cannot be agreed upon, the invalidity of one or several provisions of the Agreement shall not affect the validity of this Agreement as a whole, unless the invalid provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the Parties would not have entered into this Agreement without such invalid provisions.

13.4 Notices. Any consent, notice or report required or permitted to be given or made under this Agreement by one of the Parties to the other shall be in writing, delivered personally or by facsimile (and promptly confirmed by personal delivery, first class mail or courier), first class mail or courier, postage prepaid (where applicable), addressed to such other Party at its address indicated in the Section 13.4, or to such other address as the addressee shall have last furnished in writing to the addressor and (except as otherwise provided in this Agreement) shall be effective upon receipt by the addressee.

To MTPC:	Mitsubishi Tanabe Pharma Corporation 3-2-10, Dosho-machi, Chuo-ku, Osaka 541-8505, Japan Attn: Head of Business Development & Licensing Department Fax: +81-6-6205-5289 Phone: +81-6-6205-5508
To LICENSEE:	Sonkei Pharmaceuticals, Inc. 47 Hulfish Street, Suite 310, Princeton, NJ 08542, U.S.A. Attn: Jerry Karabelas Fax: +1-609-683-5787 Phone: +1-609-683-3662
With a copy to:	Sonkei Pharmaceuticals, Inc. 47 Huffish Street, Suite 310, Princeton, NJ 08542, U.S.A. Attn: Lorenzo Pellegrini Fax: +1-609-683-5787 Phone: +1-609-683-3677
And with a copy to:	Index Ventures 2 rue Jargonnant 1207 Genève Switzerland Attn: Michèle Ollier

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Fax: +41-22-737-0099
Phone: +41-22-737-0026

13.5 Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, the U.S. without regard to the conflicts of law principles thereof except matters of patent law, which shall be determined in accordance with the national intellectual property laws relevant to the Patent Right in question.

13.6 Dispute Resolution.

13.6.1 The Parties agree to attempt initially to solve all claims, disputes, or controversies arising under, out of, or in connection with this Agreement (a "Dispute") by conducting good faith negotiations. Any Disputes which cannot be resolved by good faith negotiation within twenty (20) business days, shall be referred, by written notice from either Party to the other, to the Chief Executive Officer of each Party. Such Chief Executive Officers shall negotiate in good faith to achieve a resolution of the Dispute referred to them within twenty (20) business days after such notice is received by the Party to whom the notice was sent. If the Chief Executive Officers are unable to settle the Dispute between themselves within twenty (20) business days, they shall so report to the Parties in writing. The Dispute shall then be referred to mediation as set forth in the Section 13.6.2.

13.6.2 Upon the Parties receiving the Chief Executive Officers' report that the Dispute referred to them pursuant to Section 13.6.1 has not been resolved, a Party may decide to institute arbitration proceedings, in which case it shall give written notice to that effect to the other Party. The Parties shall refrain from instituting the arbitration proceedings for a period of sixty (60) days following such notice. During such period, the Parties shall continue to make good faith efforts to amicably resolve the dispute without arbitration. If the Parties have not reached a settlement during that period the arbitration proceedings shall go forward and be governed by the rules of Conciliation and Arbitration of the International Chamber of Commerce ("ICC") then in force. Each such arbitration shall be conducted by a panel of three arbitrators: one arbitrator shall be appointed by each of LICENSEE and MTPC and the third arbitrator, who shall be the Chairman of the tribunal, shall be appointed by the two-Party appointed arbitrators. Any such arbitration shall be held in London, England or such other place as may be mutually agreed upon in writing by the Parties. The language of the arbitration shall be English.

13.6.3 The tribunal shall issue its award within forty-five (45) days after the date on which the arbitration proceedings have closed. The arbitrators shall have the authority to grant specific performance. Judgment upon the award so rendered may be entered in any court having jurisdiction or application may be made to such court for judicial acceptance of any award and an order of enforcement, as the case may be. In no event shall a demand for arbitration be made after the date when institution of a legal or equitable proceeding based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. Each Party shall bear its own costs and expenses incurred in connection with any arbitration proceeding and the Parties shall equally share the cost of the mediation and arbitration levied by the ICC.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

13.7 Competing Product. LICENSEE or its Affiliate to whom it sublicenses its rights under this Agreement, shall not market or sell any Competing Product as long as the Compound is either an active development candidate or the Product is being marketed.

13.8 LIMITATION OF LIABILITY. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES ARISING OUT OF THIS AGREEMENT, HOWEVER CAUSED, UNDER ANY THEORY OF LIABILITY EXCEPT TO THE EXTENT OF ANY SUCH DAMAGES PAID TO A THIRD PARTY IN CONNECTION WITH A CLAIM MADE BY SUCH PARTY FOR WHICH A PARTY IS RESPONSIBLE TO INDEMNIFY THE OTHER PARTY PURSUANT TO SECTION 12.1 OR 12.2.

13.9 Further Assurances. At any time or from time to time on and after the date of this Agreement, each Party shall at the request of the other (i) deliver to the other such records, data or other documents consistent with the provisions of this Agreement, (ii) execute, and deliver or cause to be delivered, all such consents, documents or further instruments of transfer or license, and (iii) take or cause to be taken all such actions, as such Party may reasonably deem necessary or desirable in order for the other Party to obtain the full benefits of this Agreement and the transactions contemplated herein.

13.10 Entire Agreement. This Agreement contains the entire understanding of the Parties with respect to the subject matter hereof. All express or implied agreements and understandings, either oral or written, heretofore made are expressly superseded by this Agreement. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both Parties.

13.11 Headings. The captions to the several Articles and Sections hereof are not a part of this Agreement, but are merely guides or labels to assist in locating and reading the several Articles and Sections hereof.

13.12 Independent Contractors. It is expressly agreed that MTPC and LICENSEE shall be independent contractors and that the relationship between the two Parties shall not constitute a partnership, joint venture or agency. Neither MTPC nor LICENSEE shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other Party, without the prior written consent of the other Party to do so.

13.13 Waiver. The waiver by either Party of any right hereunder or the failure to perform or of a breach by the other Party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other Party whether of a similar nature or otherwise.

13.14 Counterparts. This Agreement may be executed in two or more counterparts (including by facsimile), each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Sonkei Pharmaceuticals, Inc.

By: /s/ Michele Ollier

Name: Michele Ollier

Title: Partner, Director and Chairman

Mitsubishi Tanabe Pharma Corporation

By: /s/ Natsuki Hayama

Name: Natsuki Hayama

Title: President & Representative Director

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.10. Chemical Structure of the Wf-516 Compound

[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.12. Development Plan

[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.34. The List of MTPC Patents

Patent List of Wf-516 Revised on August 26, 2008

No.	Summary of patent	State	Application number	Date of filling	Publication number	Patent number	Grant date	Others
1	[*]	[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	—			[*]
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	[*]			[*]
		[*]	[*]	[*]	[*]	[*]	[*]	
		[*]	[*]	[*]	—	[*]	[*]	
		[*]	[*]	[*]	—	[*]	[*]	[*]
2	[*]	[*]	[*]	[*]	[*]			

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 1.52. Specifications

Specifications for WE-516 Drug Substance

Test Item	Specification	Analytical Method
Description	[*]	[*]
Identification		
(1) [*]	[*]	[*]
(2) [*]	[*]	[*]
Purity		
(1) [*]	[*]	[*]
(2) [*]	[*]	[*]
(3) [*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]s	[*]
[*]	[*]	
[*]	[*]	
[*]	[*]	
[*]	[*]	
[*]		
[*]		
(4) [*]		[*]
[*]	[*]	
[*]	[*]	
(5) [*]	[*]	[*]
(6) [*]		[*]
[*]		
[*]	[*]	
[*]	[*]	
[*]	[*]	
[*]	[*]	
[*]	[*]	
	[*]	
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]
[*]	[*]	[*]

*(1) [*]

*(2) [*]

*(3) [*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 4.1.1. Services Agreement

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 5.2. Milestone Payments

Event	MDD*	All other indications other than MDD**
Onset of Phase II(a) Study	[*]	
Onset of Phase II(b) Study	[*]	
Onset of Phase III Study	[*]	[*]
Application in the US	[*]	[*]
Application in the first European Country	[*]	[*]
Launch in the US	[*]	[*]
Launch in the first European Country	[*]	[*]
When the Net Sales in the US exceed [*] in a Calendar Year		[*]

"**MDD**" shall mean major depression disorder defined in ICD 10.

** All other mood disorders (other than MDD) shall be treated as a single "indication".

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 11.2.11. List of all pre-clinical and clinical studies and trials

Mitsubishi Reference	Reference Number in IB, version 1		Study Number	Report Number	Title of Study Report	Investigator	Version or Amendment Number	Date of report/amendment	Language of original report	Status (Note)	Target completion date	Target final report date	PDF files	Status of Database
[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]	[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Schedule 11.3.2. Securities Purchase Agreement

Exhibit 10.6

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

AMENDMENT TO LICENSE AGREEMENT

This Amendment ("AMENDMENT") dated as of 20 January, 2014 ("AMENDMENT DATE") is entered into between Minerva Neurosciences, Inc. (Formerly known as Sonkei Pharmaceuticals, Inc.), a Delaware corporation, having a place of business located at 245 First Street, Suite 1800, Cambridge MA 02142, U.S.A. ("LICENSEE") and Mitsubishi Tanabe Pharma Corporation, a Japanese corporation, having a place of business located at 6-18, Kitahama 2 Chome, Chuo-ku, Osaka 541-8505, Japan ("MTPC").

WITNESSETH:

WHEREAS, LICENSEE and Mitsubishi Pharma Corporation (a predecessor of MTPC) entered into LICENSE AGREEMENT relating to Wf-516 dated as of September 1, 2008 ("LICENSE AGREEMENT"); and

WHEREAS, LICENSEE desires to develop the Product containing Wf-516 Compound for the therapy of major depressive disorder with its priority, and LICENSEE and MTPC agrees to modify the terms and conditions of the LICENSE AGREEMENT in order that LICENSEE conducts the development by itself or together with a third party by way of sub-licensing on LICENSEE's own responsibility.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Defined Words and Expressions.

Unless the context otherwise requires, all words and expressions defined in the LICENSE AGREEMENT shall have the same meanings in this AMENDMENT.

2. Amendment of Definition of Net Sales.

The definition of "Net Sales" is hereby amended to delete the reference to "sublicensees" such that except as set forth in Section 6 of this AMENDMENT, no royalties shall be paid on any Net Sales made by any Sublicensee (defined below); provided, however, that "Net Sales" of any Sublicensee shall be included for determining whether the Net Sales Milestone in Section 5.2.1(c) has been achieved.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

3. Withdrawal of Right of First Negotiation.

MTPC agrees to withdraw its Right of First Negotiation set forth in Section 2.3 of the LICENSE AGREEMENT. Therefore, Section 2.3 of the LICENSE AGREEMENT shall be amended and restated in its entirety to read as follows:

> "2.3 Sublicense Rights. LICENSEE and its Affiliate shall have the right to grant sublicenses under all or part of the licenses granted under Sections 2.1 and 2.2. In such case, LICENSEE shall provide MTPC with a copy of the sublicense agreement including the payment conditions entered into between LICENSEE and its sublicensee, promptly following the execution of such agreement."

4. Amendment to Development Diligence.

(a) Section 4.1.4 of the LICENSE AGREEMENT is hereby amended by deleting subparagraphs (a) through (d) in its entirety and replacing said diligence obligations with the following:

"First patient enrolled in either a Phase II(a) Study or Phase II(b) Study in major depressive disorder with the Product containing Wf-516 Compound by the end of April 2015;"

(b) Section 4.1.4 of the LICENSE AGREEMENT shall be further amended to delete any reference to the term "any of the milestones" or any reference to multiple milestones and replace such references to similar language to reflect the fact that there is only a single milestone (i.e., the first patient enrollment in either a Phase II(a) Study or Phase II(b) Study in major depressive disorder).

(c) The last paragraph of Section 4.1.4 of the LICENSE AGREEMENT beginning with the sentence "Notwithstanding the foregoing, LICENSEE may extend the time to achieve any of the milestones …" shall be deleted in its entirety and replaced with the following:

> "Notwithstanding the foregoing, LICENSEE may extend the time to achieve the milestone set forth in Section 4.1.4 above for one (1) year, at its sole discretion, by making a payment of Five Hundred Thousand United States Dollars ($500,000) to MTPC before the date on which the milestone was to have been originally achieved (the "Extension Payment"). If such Extension Payment is made, the milestone will be concomitantly extended by one (1) year. LICENSEE will have the right to make an unlimited number of Extension Payments in conjunction with the development of Product containing the Wf-516 Compound. For the avoidance of doubt, Extension Payments will be in addition

to the milestone that is otherwise payable to MTPC as set forth in Section 5 of this Agreement."

5. Amendment to Milestone Payments.

(a) Section 5.1 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety and replacing it as follows:

"5.1 Initial Licensing Fee. In consideration of the licenses granted by MTPC to LICENSEE, LICENSEE has previously paid MTPC the total amount of Five Hundred Thousand United States Dollars (US$500,000) as the initial license fee."

(b) Section 5.2.1 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety and replacing it with the foregoing:

"5.2.1. Milestone Payments. In addition to the initial license fee, in consideration of the licenses granted by MTPC to LICENSEE, LICENSEE shall pay to MTPC the milestone payments as follows:

(a)	Launch in the first European Country	[*]
(b)	Launch in the U.S.	[*]
(c)	When cumulative Net Sales first reach US$500,000,000 (the "Net Sales Milestone")	[*]

Notwithstanding the foregoing, the milestone payments set forth in paragraphs (a) and (b) above shall be reduced or eliminated, if applicable, by the amount of Sublicense Consideration (as defined below) received by MTPC. For clarification, in the event that the Launch in the United States takes place prior to the Launch in the first European Country and the total amount of Sublicense Consideration paid to MTPC on or before the Launch in the United States is less than [*], LICENSEE shall pay to MTPC the amount of the difference between such [*] and the actual amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the United States, which payment shall be in full satisfaction for the milestone payment due in subparagraph (b) above for Launch in the United States. If the Sublicense Consideration is in excess of [*] on or before the Launch in the United States, no milestone payment for the Launch in the United States shall be due and Sublicense Consideration upon such Launch for the portion of such excess shall not be paid.

In the event that the Launch in the first European Country takes place prior to the Launch in the United States and the total amount of Sublicense Consideration paid to MTPC on or before the Launch in the first European Country is less than [*], LICENSEE shall pay to MTPC the amount of the difference between such [*] and the actual amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the first European Country, which payment shall be in full satisfaction for the milestone payment due in subparagraph (a) above for Launch in the first European Country. If the Sublicense Consideration is in excess of [*] on or before the Launch in the first European Country, no milestone payment for the Launch in the first European Country shall be due and Sublicense Consideration upon such Launch for the portion of such excess shall not be paid.

In the event that the total amount of the Sublicense Consideration paid to MTPC on or before the Launch in the United States or the first European Country, which takes place later, is less than [*], LICENSEE shall pay to MTPC the amount of difference between (i) such [*] and (ii) the sum of the total amount paid to MTPC prior to the sublicense as the milestone payments set forth in subparagraphs (a) and (b) above on or before such Launch, if any, and the amount of the Sublicense Consideration paid to MTPC, within sixty (60) days after the Launch in the first European Country or in the United States, which takes place later. Notwithstanding any other provision in this Agreement, if the Sublicense Consideration is in excess of [*] on or before the Launch in the first European Country or in the United States, which takes place later, no milestone payment for the Launch in the first European Country or in the United States, which takes place later, shall be due.

Both Parties acknowledge that LICENSEE has already paid the initial license fee."

(c) Schedule 5.2 of the LICENSE AGREEMENT is hereby amended by deleting such section in its entirety. For the avoidance of doubt, except as set forth in Section 5.2.1 of the LICENSE AGREEMENT, no additional milestone payments shall be due under the LICENSE AGREEMENT.

(d) Section 5.2 of the LICENSE AGREEMENT is amended by renumbering the existing Section 5.2.2 as 5.2.3 and adding a new Section 5.2.2 that shall read in its entirety as follows:

"5.2.2 Sublicensing Fee in Case of Sublicense. In the event that LICENSEE sublicenses all or part of its rights under the MPC Intellectual Property to make, have made, use, have used, sell, offer for sale, have sold, import and have imported Product

in the Field for purposes of commercialization in the LICENSEE Territory to a third party ("Sublicensee"), in consideration of the licenses granted by MTPC to LICENSEE herein, LICENSEE shall pay to MTPC [*] of all payments, including the upfront payments, milestone payments, and the sale of any Company equity or debt securities, but excluding the royalties, received in connection with any such sublicense from a Sublicensee that are related to the Product ("Sublicense Consideration"), in addition to the milestone payments set forth in Section 5.2.1, but subject to reduction or elimination in connection with the receipt of Sublicense Consideration as provided for in Section 5.2.1 above.

Such payments shall be made within sixty (60) days as and when such payments are received by LICENSEE from such Sublicensee. For purposes of clarification, Sublicense Consideration shall not include any royalties received by LICENSEE from the sale of Product. For the avoidance of doubt, LICENSEE and MTPC acknowledge that if the Sublicense Consideration payable to MTPC is in excess of the aggregate milestones payable to MTPC set forth in Section 5.2.1(a) and (b) above, then MTPC shall be entitled to any Sublicense Consideration payable in excess of such amount."

(e) The renumbered Section 5.2.3 is hereby amended by deleting such section in its entirety and replacing it with the foregoing:

"5.2.3 Reports and Payments. The milestone payments set forth in Section 5.2.1 shall be made no more than once with respect to the achievement of each milestone and no amounts shall be due hereunder for any subsequent or repeated achievement of such milestones (but payable on the first achievement of such milestone). For clarification, if any milestone set forth in Section 5.2.1 is paid with respect to any Product containing the Wf-516 Compound, then no further milestone payment shall be made upon the achievement of such milestone with respect to any other Product containing a Compound or Main Metabolite. LICENSEE shall notify MTPC in writing within sixty (60) days after the achievement of the milestones specified in Section 5.2.1 and each such notice shall be accompanied by the appropriate milestone payment."

6. Amendment to Royalties Payments by LICENSEE. Notwithstanding Section 5.3 in the LICENSE AGREEMENT, in the event that LICENSEE sublicenses its rights under MPC Intellectual Property to a Sublicensee, in consideration of the licenses granted by MTPC to LICENSEE herein, LICENSEE shall pay to MTPC [*] of all royalties received by LICENSEE from Sublicensee related to the sale of Product, and no additional royalties will be due and owing to MTPC as a result of sales of Product by any such Sublicensee. For clarification, in the event that LICENSEE does not sublicense its rights under MPC

Intellectual Property to a Sublicensee, LICENSEE shall pay to MTPC a Royalty pursuant to Section 5.3 of the LICENSE AGREEMENT.

7. Other Provisions.

(a) Governing Law. This AMENDMENT shall be governed by, and interpreted in accordance with the laws of the State of New York, without reference to conflicts of laws principles thereof except matters of patent law, which shall be determined in accordance with the national intellectual property laws relevant to the Patent Rights in question.

(b) Counterparts. This AMENDMENT may be executed in several duplicates, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

(c) Assumption of the Obligations and Benefits. In the event that LICENSEE sells their shares or their assets relating to the Compound and/or Product, all of the obligations and benefits in the LICENSE AGREEMENT and in this Amendment shall be assigned to the purchaser of such shares or assets.

(d) No Other Amendments. Save as amended by this AMENDMENT, the terms of the LICENSE AGREEMENT shall remain in full force and effect.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this AMENDMENT as of the date first set forth above.

Minerva Neurosciences, Inc.	**Mitsubishi Tanabe Pharma Corporation**
By: /s/ Rogerio Vivaldi Coelho	By: /s/ Seiichi Murakami
Name: Rogerio Vivaldi Coelho	Name: Seiichi Murakami
Title: President and CEO	Title: Managing Executive Officer

Exhibit 10.7

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

CO-DEVELOPMENT AND LICENSE AGREEMENT

BY AND BETWEEN

JANSSEN PHARMACEUTICA, N.V.

AND

MINERVA NEUROSCIENCES, INC.

DATED

FEBRUARY 13, 2014

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

TABLE OF CONTENTS

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

EXHIBITS

EXHIBIT A — Johnson & Johnson Universal Calendar
EXHIBIT B — Provisional Plan and Budget
EXHIBIT C — Janssen Patents
EXHIBIT D — Compliance
EXHIBIT E — Minerva Patents

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

CO-DEVELOPMENT AND LICENSE AGREEMENT

THIS CO-DEVELOPMENT AND LICENSE AGREEMENT (the "**Agreement**"), executed as of February 13, 2014 (the "**Execution Date**"), is made by and between Janssen Pharmaceutica, N.V., a corporation organized and existing under the laws of Belgium, having its principal place of business is at Turnhoutseweg 30, 2340 Beerse, Belgium (hereinafter "**Janssen**"), and Minerva Neurosciences, Inc., a corporation organized under the laws of the State of Delaware, having its principal place of business at 245 First Street, Cambridge, Massachusetts (hereinafter "**Minerva**"). Janssen and Minerva are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**."

RECITALS

WHEREAS, Janssen is a pharmaceutical company that is in the business of discovering, developing and marketing pharmaceutical products. Janssen has substantial experience and expertise in discovering and developing useful drugs in many fields;

WHEREAS, as part of its drug discovery effort, Janssen has discovered certain antagonist compounds with specificity for the Orexin-2 variant of the Orexin Receptor;

WHEREAS, Minerva desires to license from Janssen rights with respect to certain Orexin-2 Receptor antagonist compounds; and

WHEREAS, the Parties are interested in co-developing and commercializing in their respective territories such Orexin-2 Receptor antagonist compounds in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the above premises, and the various promises and mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows.

ARTICLE 1

DEFINITIONS

As used in this Agreement, the following words and phrases shall have the following meanings or, if not listed below, the meaning designated where first used in this Agreement:

1.1. "**AB Rated Product**" means a pharmaceutical product that (a) is "therapeutically equivalent" to a Licensed Product, applying the definition of "therapeutically equivalent" set forth in the Preface to the current edition of the FDA publication "Approved Drug Products with Therapeutic Equivalence Evaluations" (the "**Orange Book**"), as such requirements may be amended in the future, and (b) has been approved by a Regulatory Authority based upon an application that contains scientific evidence establishing, through *in vitro* and/or *in vivo* studies, the bioequivalence of such product to a Licensed Product developed under this Agreement and which product contains the same active pharmaceutical ingredient as such Licensed Product,

such that such pharmaceutical product would be substitutable by a pharmacist for such Licensed Product when filling a prescription written for such Licensed Product without having to seek authorization to do so from the physician writing such prescription.

1.2. "**Adaptive Phase IIa/IIb Trial**" means a Phase II Trial comprising a Phase IIa Trial and a Phase IIb Trial under which the performance of such Phase IIb Trial is contingent upon the results of such Phase IIa Trial.

1.3. "**Adverse Event**" means any unwanted or harmful medical occurrence in a patient or subject who is administered a Licensed Product, whether or not considered related to such Licensed Product, including any undesirable sign (including abnormal laboratory findings of clinical concern), symptom or disease temporally associated with the use of such Licensed Product.

1.4. "**Affiliate**" means, with respect to Janssen or Minerva, a particular corporation, partnership, or other entity that controls, is controlled by or is under common control with such Party. For the purposes of this definition, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct or cause the direction of the management and policies of such entity, whether by the ownership of at least fifty percent (50%) of the voting stock of such entity, or by contract or otherwise.

1.5. "**API**" means active pharmaceutical ingredient.

1.6. "**Applicable Laws**" means any national, international, federal, state or local laws, treaties, statutes, ordinances, rules and regulations, including any rules, regulations, guidance, guidelines or requirements of (a) any government authority (including any Regulatory Authority) having the force or effect of law or (b) any national securities exchange or securities listing organization, in each case as in effect from time to time during the Term.

1.7. "**Asian Country**" means each of Japan, China, Taiwan, Korea, Australia and India.

1.8. "**Business Day**" means a day other than Saturday or Sunday on which banking institutions in New York, New York and Beerse, Belgium are open for business.

1.9. "**Calendar Quarter**" means a calendar quarter based on the Calendar Year.

1.10. "**Calendar Year**" means a calendar year based on the Johnson & Johnson Universal Calendar for that year. A copy of the Johnson & Johnson Universal Calendar for 2014 is attached as EXHIBIT A, which exhibit shall be updated by Janssen for each Calendar Year of the Term consistent with the Johnson & Johnson Universal Calendar used for Janssen's internal business purposes.

1.11. "**Change of Control**" means the occurrence of any of the following: (a) any consolidation or merger of a Party with or into any Third Party, or any other corporate reorganization involving a Third Party, in which those persons or entities that are stockholders of such Party immediately prior to such consolidation, merger or reorganization own less than fifty

percent (50%) of the surviving entity's voting power immediately after such consolidation, merger or reorganization; (b) a change in the legal or beneficial ownership of fifty percent (50%) or more of the voting securities of any Party (whether in a single transaction or series of related transactions) where, immediately after giving effect to such change, the legal or beneficial owner of more than fifty percent (50%) of the voting securities of such Party is a Third Party; or (c) the sale, transfer, lease, license or other disposition of all or substantially all of a Party's assets related to this Agreement in one or a series of related transactions to a Third Party.

1.12. "**Clinical Trial Material**" means a Licensed Product or placebo, as applicable, that is in a finished pharmaceutical dosage form that is (a) suitable for administration and dosing to humans in clinical trials, but (b) not intended for commercial sale (for example, in a form that does not include external packaging and package inserts).

1.13. "**Combination Product**" means a Licensed Product containing both (a) a Compound as an API and (b) one or more other APIs, which Licensed Product is sold as a unit at a single price either as a fixed dosage form or as separate dosage forms.

1.14. "**Commercial Territory**" means, in the case of Minerva, the Minerva Territory and, in the case of Janssen, the Janssen Territory.

1.15. "**Commercialization**" means all activities that relate to the marketing and sale of a Licensed Product for human use, including advertising, education, planning, marketing, promotion, distribution, market and product support studies, product-related public relations, governmental affairs activities for reimbursement and formulary acceptance, sales force training, and trademark selection, filing, prosecution and enforcement. The terms "**Commercialize**" and "**Commercializing**" shall have a corresponding meaning.

1.16. "**Commercially Reasonable Efforts**" means, with respect to any efforts relating to the Development or Commercialization of a Licensed Product by a Party, generally or with respect to a territory, those efforts normally used by such Party, in the relevant territory, with respect to a product Controlled by such Party or to which such Party has similar rights, in each case which product is of similar market potential in the relevant territory, and is at a similar stage in its Development or product life cycle, as such Licensed Product, and in each case taking into account all Relevant Factors in effect at the time such efforts are to be expended. "**Relevant Factors**" means all relevant factors that may affect the Development, Manufacture or Commercialization of such Licensed Product, including, as applicable: actual or potential issues of safety, efficacy or stability relative to competitive products in the marketplace or in development by others; product profile (including product modality, category and mechanism of action); stage of Development or life cycle status; actual or projected Development, Regulatory Approval and Commercialization costs; any issues regarding the ability to Manufacture or have Manufactured such Licensed Product; the likelihood of obtaining Regulatory Approvals; the timing of such Regulatory Approvals; the current guidance and requirements for Regulatory Approval for such Licensed Product and similar products and the current and projected regulatory status; labeling or anticipated labeling; the then-current competitive environment and the likely competitive environment at the time of projected entry into the market; the nature and extent of market exclusivity (i.e., proprietary position, including strength and duration of patent coverage and regulatory exclusivity); past performance of such Licensed Product or similar

products; present and future market potential; existing or projected pricing, sales, reimbursement and profitability; pricing or reimbursement changes in relevant countries; and other relevant scientific, technical, operational and commercial factors. Commercially Reasonable Efforts shall be determined on a market-by-market and indication-by-indication basis for a Licensed Product and it is anticipated that the level of efforts will be different for different markets, and will change over time, reflecting changes in the status of such Licensed Product and the market(s) involved.

1.17. "**Committee**" means, individually, the JSC, JMC, JMktgC and any other Subcommittee established pursuant to Section 3.2.

1.18. "**Competing Product**" means any orally bioavailable compound or Product, other than a Compound or Licensed Product, that binds with and is an antagonist of the Orexin-2 Receptor such that the compound is more potent than [*].

1.19. "**Compound**" means a compound that binds with and is a selective antagonist of the Orexin-2 Receptor, of which the composition is Covered by a Janssen Patent at any time during its pendency or as issued, including the compound designated [*], or any isomer, tautomer, enantiomer, diastereomer, prodrug, ester, salt, hydrate, solvate, racemate, metabolite, polymorph, or isotopic substitution thereof.

1.20. "**Contract Manufacturer**" means any Third Party contract manufacturer or analytical laboratory with which a Party or its Affiliate(s) or Sublicensee(s) contracts for the Manufacture of any Compound (including any intermediate compounds) or Licensed Product.

1.21. "**Control**" means, with respect to any intellectual property or right therein, that a Party or an Affiliate thereof owns or has a license to such intellectual property and has the ability to grant a license or sublicense in or to such intellectual property or right as set forth herein without violating Applicable Laws or the terms of any agreement or other arrangement with any Third Party.

1.22. "**Cover**" means, with respect to any Patent, in reference to specified subject matter (such as a composition of matter or method of use), that a Valid Claim of such Patent reads on or literally encompasses such subject matter, whether generically or specifically.

1.23. "**Currency Hedge Rate**" means a weighted average hedge rate of the outstanding external foreign currency forward hedge contract(s) of Johnson & Johnson's Global Treasury Services Center ("**GTSC**") with Third Party banks. Such hedge contracts are entered into to protect the transactional foreign exchange risk exposures of Janssen by reducing the impact of foreign currency volatility through a systematic buildup of yearly Currency Hedge Rates.

1.24. "**Data**" means any and all research data, results, pharmacology data, medicinal chemistry data, preclinical data, clinical data (including investigator reports (both preliminary and final), statistical analyses, expert opinions and reports, and safety and other electronic databases), in any and all forms, including files, reports, raw data, source data (including patient medical records and original patient report forms, but excluding patient-specific data to the extent required by Applicable Laws) and the like, in each case directed to, or used in the

Development, Manufacture or Commercialization of, any Compound or Licensed Product hereunder.

1.25. "**Development**" means all activities relating to conducting preclinical studies, Phase I Trials, Phase II Trials and Phase III Trials upon a Licensed Product, obtaining the Regulatory Approval of a Licensed Product, and developing the ability to Manufacture Clinical Trial Material or Finished Product. This includes, but is not limited to, activities relating to chemical synthesis, toxicology, pharmacology, test method development and stability testing, formulation, delivery system development, quality assurance and quality control development, statistical analysis, pharmacovigilance, clinical studies, regulatory affairs, Manufacturing process development for bulk and final forms of a Compound, Clinical Trial Material or Finished Product, validation documentation, and documentation generated in connection with the Manufacturing, processing and quality assurance with respect to Clinical Trial Material or Finished Product, to the extent each of the foregoing occur prior to the First Commercial Sale of the relevant Licensed Product for human use and are not undertaken or intended for sale, promotional purposes, or other post-Regulatory Approval purposes. The term "**Develop**" shall have a corresponding meaning.

1.26. "**Development Budget**" means the two (2) year rolling budget for conducting Development pursuant to the Development Plan during a given Calendar Year and the succeeding Calendar Year, as developed and approved by the JSC in accordance with Section 3.10(d), which budget shall be updated and amended concurrently with the Development Plan in accordance with Section 3.10(c).

1.27. "**Development Costs**" means the following costs incurred by the Parties following the Effective Date in Developing Licensed Products in the Field, in each case to the extent incurred in accordance with this Agreement and the Development Plan: (a) all Third Party invoiced costs and expenses incurred for activities specified in the Development Plan; (b) the costs and expenses of scientific, medical, technical or managerial personnel directly engaged in such efforts, which costs shall be determined based on the applicable Development FTE Rate based on time actually spent performing the applicable activities, unless another basis is otherwise agreed by the Parties in writing; (c) the costs and expenses of Clinical Trial Material and the cost of clinical trial insurance, each as set forth in the Development Plan; (d) the costs and expenses incurred in connection with seeking and attempting to obtain Regulatory Approvals, including related Regulatory Filings (allocated, in the case of costs and expenses of preparing and filing an MAA, as provided for in Section 3.11, and excluding any costs and expenses for validating any manufacturing facility or equipment); (e) the costs and expenses incurred in connection with: (i) Manufacturing process, formulation and delivery system development and validation (provided that such costs, to the extent associated with or used for products in addition to the Licensed Product(s) shall be fairly and equitably allocated to the Licensed Product(s) and other product(s) such that the Licensed Product(s) do not bear a disproportionate portion of such costs); (ii) Manufacturing scale-up (excluding, however, any capital costs, costs associated with physical plant improvements or similar costs); (iii) stability testing; (iv) quality assurance/quality control development; and (v) internal and Third Party costs and expenses incurred in connection with qualification and validation of Contract Manufacturers; and (f) any other related or incidental costs and expenses incurred that are explicitly included in the Development Plan. Notwithstanding the foregoing, Development Costs shall not include the

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

costs and expenses associated with pre- and post-approval commitments mandated by Regulatory Authorities (which costs and expenses shall be borne solely by the Party in whose Commercial Territory the commitment is required).

1.28. "**Development FTE Rate**" means [*] per FTE, which amount shall be adjusted in proportion to the United States Consumer Price Index — All Urban Consumer, as published by the U.S. Department of Labor, Bureau of Labor Statistics, upon each anniversary of the Effective Date during the Term, for scientific, medical, technical, research, clinical, regulatory, Manufacturing and managerial personnel engaged in activities under the Development Plan.

1.29. "**Development Plan**" means a comprehensive written plan and budget, as it may be amended from time to time pursuant to Section 3.10(c), for the Development of the Licensed Products in the Field in the Territory, designed to (a) generate the preclinical, clinical and regulatory information required to obtain Regulatory Approvals within the Territory and (b) describe the Manufacturing development activities to be performed to enable the Development and Commercialization of the Licensed Products hereunder. The initial Development Plan in provisional form is attached hereto as EXHIBIT B.

1.30. "**DMF**" means a Drug Master File maintained with the FDA or an equivalent Regulatory Filing, such as an active substance master file, maintained with a Regulatory Authority in any other country.

1.31. "**EMA**" means the European Medicines Agency or any successor agency thereof.

1.32. "**European Union**" or "**EU**" means the supra national community which consists of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

1.33. "**FDA**" means the United States Food and Drug Administration, or a successor federal agency thereto in the United States.

1.34. "**Field**" means all therapeutic, prophylactic and diagnostic uses for humans.

1.35. "**Finished Product**" means a Licensed Product in a finished pharmaceutical dosage form that is suitable for commercial sale following Regulatory Approval thereof, including external packaging and package inserts.

1.36. "**First Commercial Sale**" means, with respect to any country, the first commercial sale for monetary value of a Licensed Product by a Party or its Affiliate or Sublicensee for use, consumption or resale of such Licensed Product in such country where Regulatory Approval of such Licensed Product has been obtained by such Party, its Affiliate, or a Sublicensee. Sale of a Licensed Product by and between a Party and its Affiliate or Sublicensee, or between the Parties (or their respective Affiliates or Sublicensees), shall not constitute a First Commercial Sale, unless such Party, Affiliate or Sublicensee is the end

user of the Licensed Product.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.37. "**FTE**" means a full-time equivalent person year consisting of a total of [*] hours of work per Calendar Year directed to scientific, medical, technical, research, clinical, regulatory, Manufacturing and managerial activities under the Development Plan.

1.38. "**GAAP**" means United States generally accepted accounting principles applied on a consistent basis.

1.39. "**Good Clinical Practice**" or "**GCP**" means the then current standards for clinical trials for pharmaceuticals, as set forth in the ICH guidelines and applicable regulations promulgated thereunder, as amended from time to time, and such standards of good clinical practice as are promulgated by the FDA, EMA and other Regulatory Authorities in countries in which a Licensed Product is intended to be sold to the extent such standards are not less stringent than the ICH guidelines.

1.40. "**Good Manufacturing Practice**" or "**GMP**" means (a) the regulatory requirements for current good manufacturing practices promulgated by the FDA under the U.S. Food, Drug and Cosmetic Act (as set forth at 21 C.F.R. §§ 210-211) and under the Public Health Service Act, Biological Products (as set forth at 21 C.F.R. §§ 600-610), as the same may be amended from time to time; and (b) such standards of good manufacturing practice as are promulgated by the EMA and other Regulatory Authorities in countries in which a Licensed Product is intended to be Manufactured or sold, to the extent such standards are not less stringent than the FDA regulatory requirements stated above.

1.41. "**ICH**" means the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use.

1.42. "**IND**" means an Investigational New Drug Application filed with the FDA as more fully defined in 21 C.F.R. §312.3 necessary to commence human clinical trials of a drug in conformance with Applicable Laws or any foreign equivalent thereof.

1.43. "**Information**" means information, results and data of any type whatsoever, in any tangible, written, documentary, electronic, or digital form, including instructions, processes, compositions, materials, expert opinions, databases, inventions, practices, methods, techniques, specifications, formulations, formulae, knowledge, know-how, skill, experience, test data, including pharmacological, biological, chemical, biochemical, toxicological and clinical test data, analytical and quality control data, stability data, studies and procedures, and patent and other legal information or descriptions.

1.44. "**Initial Formulations**" means any oral dosage form of a Product.

1.45. "**Initial Indications**" means any disease, disorder or condition of the central nervous system for which a Product is indicated.

1.46. "**Janssen Know-How**" means any Know-How Controlled by Janssen on the Effective Date that is necessary or useful to the Development or Commercialization of a Compound or Licensed Product, and any Know-How which comes under the Control of Janssen following the Effective Date that is necessary or useful to the Development or Commercialization of a Compound or Licensed Product.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.47. "**Janssen Manufacturing IP**" means the Patents and Know-How Controlled by Janssen during the Term that are necessary or reasonably useful for the Manufacture of the applicable Licensed Product in the Field, in its then current formulation as of the time (if any) that control and responsibility with respect to the Manufacture of such Licensed Product is transferred to Minerva pursuant to Section 4.3.

1.48. "**Janssen Patent**" means those Patents Controlled by Janssen and set forth on EXHIBIT C and any Patents Controlled by Janssen claiming priority thereto.

1.49. "**Janssen Territory**" means any country or territory in the world excluding the Minerva Territory, and is subject to modification in accordance with Section 3.10(g)(iii)(A).

1.50. "**Know-How**" means any non-public, proprietary Information. For clarification, Know-How does not include any Information in published Patents.

1.51. "**Latin American Country**" means each of Brazil, Argentina, Peru, Ecuador and Venezuela.

1.52. "**Licensed Product**" means any Product containing or comprised of a Compound, alone or in combination with one or more other APIs.

1.53. "**MAA**" means a marketing authorization application for a country or region, requesting approval from the applicable Regulatory Authority for commercial sale of a Licensed Product in such country or region (excluding pricing and reimbursement approvals), such as an NDA filed with the FDA, together with all subsequent submissions, supplements, and amendments thereto.

1.54. "**Major EU Country**" means each of France, Germany, Italy, Spain and the United Kingdom.

1.55. "**Manufacture**" or "**Manufacturing**" means all activities directed to the manufacture, receipt, incoming inspections, storage and handling of raw materials and intermediates and the manufacture, processing, formulation, packaging, labeling, warehousing, quality control testing (including in-process release and stability testing), supplying, shipping and release of any Compound, intermediates or Licensed Product, including manufacturing process development, scale-up and validation.

1.56. "**Manufacturing Cost**" means, with respect to a Compound or Licensed Product (including both Clinical Trial Material and Finished Product), the supplying Party's reasonable and necessary internal and Third Party costs incurred in Manufacturing or acquisition of such Compound or Licensed Product, determined in accordance with the supplying Party's standard cost accounting policies that are in accordance with GAAP and consistently applied across the supplying Party's manufacturing network to other products that the supplying Party manufactures, including any depreciation costs with respect to capital investments in plant and property and capital improvements (provided such costs are fairly and equitably allocated to the Licensed Product(s) and other products such that the Licensed Product(s) do not bear a disproportionate portion of such costs).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.57. "**Minerva Know-How**" means any Know-How Controlled by Minerva on the Effective Date that is necessary or useful to the Development, Manufacture or Commercialization of a Compound or Licensed Product, and any Know-How which comes under the Control of Minerva following the Effective Date in connection with it or its Affiliates Developing, Manufacturing or Commercializing a Compound or Licensed Product and that is necessary or useful to the Development, Manufacture or Commercialization of a Compound or Licensed Product.

1.58. "**Minerva Patent**" means those Patents Controlled by Minerva on the Effective Date Covering any Compound as a composition of matter, such as [*] or any isomer, tautomer, enantiomer, diastereomer, prodrug, ester, salt, hydrate, solvate, racemate, metabolite, polymorph, or isotopic substitution thereof, which Patents are set forth in EXHIBIT E and any Patents Controlled by Minerva claiming priority thereto.

1.59. "**Minerva Territory**" means, collectively, the European Union, Switzerland, Liechtenstein, Iceland and Norway, and is subject to modification in accordance with Section 3.10(g)(iii)(A).

1.60. "**NDA**" means a New Drug Application submitted and filed with the FDA as more fully defined in 21 C.F.R. § 314.5 *et seq.* or any equivalent application filed with any equivalent Regulatory Authority in a country other than the United States.

1.61. "**New Formulation**" means any formulation (including dosage form or dosage amount) of a Product other than an Initial Formulation.

1.62. "**New Indication**" means any disease, disorder or condition for which a Product is indicated other than an Initial Indication.

1.63. "**Net Sales**" means, with respect to a given period, the gross amounts invoiced on sales of a Licensed Product by a Party or its Affiliates or Sublicensees hereunder to a Third Party purchaser in an arms-length transaction, less the following customary deductions, determined in accordance with GAAP and standard internal policies and procedures and accounting standards consistently applied throughout such Party's organization, to the extent specifically and solely allocated to such Licensed Product and actually taken, paid, accrued, allowed, included or allocated: [*]. Sales between a Party and its Affiliates or Sublicensees shall be excluded from the computation of Net Sales and no payments will be payable on such sales except where such Affiliates or Sublicensees are end users, but Net Sales shall include the subsequent final sales to Third Parties by such Affiliates or Sublicensees.

All aforementioned deductions shall only be allowable to the extent they are commercially reasonable and shall be determined, on a country-by-country basis, as incurred in the ordinary course of business in type and amount consistent with the Party's, the Affiliate's, or Sublicensee's (as the case may be) business practices consistently applied across its product lines and accounting standards and verifiable based on its sales reporting system. All such discounts, allowances, credits, rebates, and other deductions shall be fairly and equitably allocated to such Licensed Product and other products of the Party and its Affiliates and Sublicensees such that such Licensed Product does not bear a disproportionate portion of such deductions.

Notwithstanding the foregoing, Net Sales of a Combination Product, for the purposes of determining royalty payments, shall be determined by multiplying the Net Sales of the Combination Product by the fraction A/A+B, where A is the average sale price of the Licensed Product containing solely a Compound (and not any other API which itself could form the basis of a separate product) when sold separately in finished form (without the other separately-saleable API(s) included within the Combination Product) in a particular country during the applicable period and B is the average sale price of products incorporating the other API(s) sold separately in finished form in such country during such period. In the event that such average sale price cannot be determined for both the Licensed Product containing solely such Compound (and not any other API which itself could form the basis of a separate product) and such other product(s) in combination in the relevant country during the applicable period, Net Sales for the purposes of determining royalty payments with respect to such Combination Product shall be commercially reasonable and determined by good faith negotiation between Payor and Payee consistent with the ratio referenced above.

In the case of discounts on "bundles" of separate products or services which include Licensed Products, Payor may with notice to Payee discount the bona fide list price of a Licensed Product in a particular country by a commercially reasonable amount, provided that the price of such Licensed Product for purposes of calculating Net Sales in such country shall be deemed to be the undiscounted list price of such Licensed Product in such country or, if such Licensed Product is not sold other than in such a "bundle" in such country, such imputed undiscounted list price as the Parties may negotiate in good faith for such Licensed Product with respect to such country based on the unbundled, undiscounted list price of such Licensed Product in similar markets.

Notwithstanding anything the contrary in this Agreement, the transfer of a Licensed Product to an Affiliate, Sublicensee, or other Third Party (i) in connection with the research, development or testing of a Licensed Product, (ii) for purposes of distribution as promotional samples, or (iii) for indigent or similar public support or compassionate use programs shall not, in any case, be considered a sale of a Licensed Product under this Agreement.

1.64. "**North American Country**" means each of Canada, Mexico and the United States.

1.65. "**Orexin Receptor**" means a G-protein-coupled receptor that binds the neuropeptide hormone orexin, there being two variants, the "**Orexin-1 Receptor**" and the "**Orexin-2 Receptor**," each encoded by a different gene, HCRTR1 (Genbank Accession Number NM_001526) and HCRTR2 (Genbank Accession Number NP_001517), respectively.

1.66. "**Patent**" means any (a) patent, including any United States and foreign patent (including utility patents and certificates of invention), together with any and all substitutions, extensions and term restorations (including supplementary protection certificates or pediatric data exclusivity extensions), registrations, confirmations, re-examinations, reissues, renewals, and foreign counterparts thereof, and (b) pending application for a patent (including any United States and foreign patent application), including provisionals, divisionals, continuations, and continuations-in-part of any of the foregoing, domestic and foreign counterparts of any of the foregoing and patents issuing therefrom.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

1.67. "**Payee**" means a Party entitled to receive payment pursuant to the terms of this Agreement.

1.68. "**Payor**" means a Party responsible for paying any payment obligations required under this Agreement.

1.69. "**Phase I Trial**" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 C.F.R. § 312.21(a), or its successor regulation.

1.70. "**Phase Ib Trial**" means a Phase I Trial in a patient population with the indication under investigation.

1.71. "**Phase II Trial**" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 C.F.R. §312.21(b), or its successor regulation.

1.72. "**Phase IIa Trial**" means a Phase II Trial in a pilot form.

1.73. "**Phase IIb Trial**" means a Phase II Trial designed to confirm the optimal manner of use of the applicable Licensed Product (dose and dose regimen) prior to the initiation of a Phase III Trial.

1.74. "**Phase III Trial**" means a human clinical trial of a Licensed Product in an extended human patient population designed to obtain data determining efficacy and safety of such Licensed Product to support Regulatory Approvals in the proposed therapeutic indication, as more fully defined in 21 C.F.R. 312.21(c), or its successor regulation, or the equivalent in any other country.

1.75. "**Product**" means a pharmaceutical product in any dosage form for the Field.

1.76. "**Product-Related Materials**" means all advertising and promotional materials (including flyers, brochures, pamphlets and electronic media), labeling and packaging materials, and any materials or items similar to the foregoing, that, in each case, pertain exclusively to the Licensed Products and are in the possession or control of a Party, and all copyright and similar rights to the contents thereof, provided that the foregoing rights shall not include any rights to any trademark, logos, or the like of a Party other than Product Trademarks.

1.77. "**Product Trademarks**" means the trademarks, trade dress, or logos identified and selected by the JSC (as set forth in Section 5.7) and used specifically for, or for which registration is applied for or issued specifically with respect to, any Licensed Product at any time in connection with the use, development, promotion, marketing, distribution, offer for sale, or sale of such Licensed Product, including any and all rights to the foregoing existing solely under common law, statute, or similar bases not requiring explicit government notice or registration.

1.78. "**Program Invention**" means any invention, discovery, or improvement, whether or not patentable, relating to any Compounds or Licensed Products (such as their manufacture, formulation, administration or use) invented by or on behalf of one or both of the Parties (such as through one or more employees or agents of one Party, solely or jointly with one or more

employees or agents of the other Party) in the Parties' Development of any Compounds or Licensed Products under the Development Plan.

1.79. "**Program Patent**" means any Patent disclosing (in the specification) and claiming (by at least one claim), generally or specifically, a Program Invention.

1.80. "**Prosecuting**" means, with regard to specified Patents, preparing, filing, prosecuting, maintaining, and defending such Patents, including with respect to any reexamination, reissue, interference, derivation, inter parties review, post grant review, or opposition proceedings. For the avoidance of doubt, "Prosecuting" excludes any infringement suits or other legal proceedings to enforce the specified Patents, regardless of whether or not such proceedings involve the defense of the Patents in suit.

1.81. "**Regulatory Approval**" means any and all approvals (including supplements and amendments), licenses, registrations or authorizations of any national, supra-national (e.g., the European Commission or the Council of the European Union), regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity, that are necessary for the Manufacture, distribution, use, sale, or marketing of a Licensed Product in the Field in a regulatory jurisdiction, including, if required for the sale or marketing of a Licensed Product, approvals for pricing and reimbursement.

1.82. "**Regulatory Authority**" means any regulatory agency, ministry, department, or other governmental body having authority in any country, region, or supra-national territory to approve pharmaceutical products for marketing or sale, such as the FDA and EMA.

1.83. "**Regulatory Documentation**" means, with respect to a Licensed Product, all material regulatory filings and supporting documents created or submitted to the FDA or any Regulatory Authority outside of the United States, and all data contained therein including the contents of any IND, MAA, DMF, Regulatory Dossier, correspondence to and from the applicable Regulatory Authority, minutes from meetings (whether in person or by teleconference or videoconference) with the applicable Regulatory Authority, registrations and licenses, regulatory drug lists, advertising and promotion documents shared with the applicable Regulatory Authority, adverse event files, complaint files and Manufacturing records.

1.84. "**Regulatory Dossier**" means the dossier maintained by a Regulatory Authority for, and including submissions related to, the investigative use and/or Regulatory Approval of a Licensed Product in the Field, including any IND or MAA filed with a Regulatory Authority in any country with which a Licensed Product must be registered or approved for the Manufacture, marketing, use, distribution or sale of such Licensed Product in the Field.

1.85. "**Regulatory Exclusivity**" shall mean a right or protection, granted by a Regulatory Authority in a jurisdiction (including the United States and foreign jurisdictions), providing, with respect to a Licensed Product: (a) marketing exclusivity in such jurisdiction that prevents such Regulatory Authority from accepting an NDA (whether new or abbreviated) or other MAA, submitted by a party other than the Party Commercializing such Licensed Product hereunder (or its Affiliates or Sublicensees), for a Product that is a generic version of such Licensed Product, including exclusivity achieved through new molecular entity, orphan drug, or

pediatric drug exclusivity designation by the FDA or any other Regulatory Authority; or (b) data protection in such jurisdiction for regulatory data submitted by the Party Commercializing such Licensed Product hereunder (or its Affiliates or Sublicensees) relating to such Licensed Product, including protection against unfair commercial use or public release consistent with, or no less stringent than, TRIPS Article 39.3.

1.86. "**Regulatory Filing**" means an IND, MAA, and any other filings required by Regulatory Authorities relating to the Development, Manufacture, or Commercialization of any Licensed Product.

1.87. "**Territory**" means, collectively, the Janssen Territory and the Minerva Territory.

1.88. "**Third Party**" means any individual, corporation, partnership, limited liability company or other entity other than (a) Janssen, (b) Minerva, or (c) their respective Affiliates.

1.89. "**United States**" means the United States of America and its territories and possessions

1.90. "**Valid Claim**" means (a) a claim of any pending patent application for which no more than [*] have elapsed from the First Commercial Sale, on a country-by-country basis, of a Licensed Product covered by such claim in such pending patent application or (b) a claim of any issued, unexpired (including by virtue of any patent term extension and/or patent term restoration) United States or foreign patent that has not been dedicated to the public, disclaimed, abandoned or held invalid or unenforceable by a court or other body of competent jurisdiction from which no further appeal can be taken, and that has not been explicitly disclaimed, or admitted in writing, by (in either case) the owner or licensee thereof to be invalid or unenforceable or of a scope not covering Licensed Products through reissue, disclaimer or otherwise.

1.91. **Additional Defined Terms**. Each of the following terms shall have the respective meaning set forth in the Section of this Agreement indicated below:

Defined Term	Section
Abandoning Party	8.2(d)
Agreement	Preamble
Alleged Infringement	8.3(a)
Alliance Manager	3.7
Audited Site	3.11(e)
Bankruptcy	11.4
Claim	12.1(a)
Clinical Studies	3.10(b)
Co-Chair	3.3(a)
Commercial Supply Agreement	4.1
Committee Deadlock	3.3(c)
Confidential Information	9.1
CPR Mediation Procedure	13.3(a)
CPR Rules	13.4(a)

Data Package	2.7(b)
Decision Point 1	3.10(g)(i)(A)
Decision Point 2	3.10(g)(i)(B)
Decision Point 3	3.10(g)(i)(C)
Decision Point 4	3.10(g)(i)(D)
Development Reconciliation Procedures	3.10(f)(ii)
Development Supply Agreement	3.10(i)
Dispute	13.1
Effective Date	11.1
Enforcing Party	8.3(b)
Execution Date	Preamble
GTSC	1.23
Indemnitee(s)	12.1(a)
Indemnitor	12.1(a)
Initial Stage	3.10(f)(iv)(A))
Initial Stage Cap	3.10(f)(iv)(A))
Involved Party	14.2
IPO Closing	11.1
Janssen	Preamble
Janssen Royalty Term	6.3(a)
JMC	3.2(a)
JMktgC	3.2(b)
JSC	3.1(a)
Losses	12.1(a)
Marketing Party	8.3(b)
Minerva	Preamble
Minerva Royalty Term	6.2(a)
Noninvolved Party	14.2
Orange Book	1.1
Outside Date	11.1
Party(ies)	Preamble
Party Name Marks	5.7(a)
Permitted Cost Overrun	3.10(f)(iii)(A)
Pharmacovigilance Agreement	5.4(a)
Policy	9.6
Prior Agreements	9.6
Protocol	13.4(h)
Publication Strategy	9.5(a)
Recovery	8.3(d)
Relevant Factors	1.16
ROFN	2.7(b)
ROFN Notice	2.7(b)
ROFN Party	2.7(a)
Second Stage	3.10(f)(iv)(B)
Second Stage Cap	3.10(f)(iv)(B)
Subcommittee	3.2
Sublicense	2.7(a)
Sublicensee	2.7(a)
Sublicensing Party	2.7(a)

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Sublicensing Territory	2.7(a)
Term	11.2
Upfront Payment	6.1

ARTICLE 2

LICENSES AND RIGHTS OF FIRST NEGOTIATION

2.1. Development License to Minerva. As of the Effective Date and subject to the terms and conditions herein, including Janssen's retained rights, Janssen hereby grants to Minerva: (a) a co-exclusive license (with Janssen and its Affiliates), together with the right to sublicense in accordance with Section 2.7, under the Janssen Patents, to use and Develop Licensed Products in the Minerva Territory in the Field, and (b) a non-exclusive license, together with the right to sublicense in accordance with Section 2.7, under the Janssen Patents, to use and Develop Licensed Products outside the Minerva Territory in the Field; provided, however, that any Development of Licensed Products by Minerva or its Affiliates outside of the Minerva Territory shall be: (i) conducted solely as set forth in the Development Plan; and (ii) solely for purposes of seeking Regulatory Approval of Licensed Products in the Minerva Territory in the Field.

2.2. Commercialization License to Minerva. As of the Effective Date and subject to the terms and conditions herein, including Janssen's retained rights, Janssen hereby grants to Minerva an exclusive (even as to Janssen and its Affiliates) license, together with the right to sublicense in accordance with Section 2.7, under the Janssen Patents, to sell, offer for sale, have sold, import and Commercialize Licensed Products in the Minerva Territory in the Field.

2.3. Know-How License to Minerva. As of the Effective Date and subject to the terms and conditions herein, including Janssen's retained rights, Janssen hereby grants to Minerva a non-exclusive license, together with the right to sublicense in accordance with Section 2.7, under the Janssen Know-How, (a) to use, Develop, sell, offer for sale, import and Commercialize Licensed Products in the Minerva Territory in the Field, and (b) to use and Develop Licensed Products outside the Minerva Territory in the Field; provided, however, that any Development of Licensed Products by Minerva or its Affiliates outside of the Minerva Territory shall be: (i) conducted solely as set forth in the Development Plan; and (ii) solely for purposes of seeking Regulatory Approval of Licensed Products in the Minerva Territory in the Field.

2.4. Manufacturing Rights. As of the Effective Date and subject to the terms and conditions herein, including Janssen's retained rights, Janssen hereby grants to Minerva a worldwide, non-exclusive license, together with the right to sublicense in accordance with Section 2.7, under the Janssen Manufacturing IP, to make and have made (including to Manufacture and have Manufactured) Licensed Products in the Field for sale in the Minerva Territory, except that Minerva shall not practice such license (or permit any Affiliate, Sublicensee or Third Party to practice such license) unless and until control and responsibility with respect to the Manufacture of Licensed Products is transferred to Minerva pursuant to Section 4.3.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

2.5. Development and Manufacturing Licenses to Janssen. As of the Effective Date and subject to the terms and conditions herein, Minerva hereby grants to Janssen a worldwide, (a) co-exclusive (with Minerva and its Affiliates) license, together with the right to sublicense in accordance with Section 2.7, under the Minerva Patents and Minerva Know-How, to use and Develop Licensed Products in the Field and (b) co-exclusive license (subject to Section 4.3), together with the right to sublicense in accordance with Section 2.7, under the Minerva Patents and Minerva Know-How, to make and have made (including to Manufacture and have Manufactured) Licensed Products in the Field.

2.6. Commercialization License to Janssen. As of the Effective Date and subject to the terms and conditions herein, Minerva hereby grants to Janssen an exclusive license (even as to Minerva and its Affiliates), together with the right to sublicense in accordance with Section 2.7, under the Minerva Patents and Minerva Know-How to use, sell, offer for sale, have sold, import and Commercialize Licensed Products in the Janssen Territory in the Field.

2.7. Right to Sublicense.

(a) The licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4 and the licenses granted to Janssen pursuant to Sections 2.5 and 2.6 shall not include the right to grant sublicenses except as provided in this Section 2.7. Minerva may grant a sublicense of the rights to Commercialize Licensed Products granted to Minerva pursuant to Sections 2.2 and 2.3 to one or more Third Parties in one or more countries of the Minerva Territory subject to the terms and conditions set forth in this Section 2.7. In addition, at any time during the Term, Janssen may grant rights to Commercialize Licensed Products in the Field (including the grant of a sublicense of the rights granted to Janssen pursuant to Section 2.6) to one or more Third Parties in one or more countries of the Janssen Territory subject to the terms and conditions set forth in this Section 2.7. For purposes of this Section 2.7, (i) the grant of any such rights to a Third Party is referred to herein as a "**Sublicense**," (ii) the Party granting a Sublicense is referred to herein as the "**Sublicensing Party**," (iii) the other Party is referred to herein as the "**ROFN Party**," (iv) such Third Party is referred to herein as a "**Sublicensee**" and (v) the Commercial Territory of the Sublicensing Party is referred to herein as the "**Sublicensing Territory**."

(b) The ROFN Party shall have a right of first negotiation with respect to any proposed Sublicense with respect to one or more countries of the Sublicensing Territory as set forth in this Section 2.7(b) (a "**ROFN**"). In the event the Sublicensing Party desires to grant such a Sublicense, the Sublicensing Party shall provide the ROFN Party with written notice (a "**ROFN Notice**") and a detailed Data package with respect to the Licensed Products in such country(ies) of the Sublicensing Territory (to the extent such Data was not previously in the possession of or accessible by the ROFN Party) (a "**Data Package**"). Upon receipt of the ROFN Notice, the ROFN Party will have the right, to be exercised within [*] days of the ROFN Party's receipt of such ROFN Notice and Data Package, to enter into exclusive negotiations with the Sublicensing Party to enter into an agreement pursuant to which the Sublicensing Party would grant the ROFN Party a right to Commercialize the Licensed Products in the Field in such country(ies) of the Sublicensing Territory. In the event that the ROFN Party elects to exercise its ROFN, the ROFN Party shall so notify the Sublicensing Party in writing within such [*] day period. If the

ROFN Party fails to notify the Sublicensing Party in writing that the ROFN Party elects to exercise its ROFN within such [*] day period, then the ROFN Party's

rights under this Section 2.7(b) shall cease. Upon receipt of the ROFN Party's notification, the Parties will negotiate in good faith with respect to an agreement pursuant to which the Sublicensing Party would grant the ROFN Party a right to Commercialize the Licensed Products in the Field in the applicable country(ies) of the Sublicensing Territory. If the ROFN Party and the Sublicensing Party do not reach an agreement on the terms of such an agreement within [*] days of the ROFN Party's receipt of the ROFN Notice and Data Package, then the Sublicensing Party will be free to enter into a definitive agreement granting a Sublicense in the applicable country(ies) of the Sublicensing Territory to a Third Party in accordance with Section 2.7(c).

(i) Notwithstanding anything to the contrary in this Agreement, (A) the ROFN provided to Minerva pursuant to this Section 2.7(b) shall only apply in the event that Janssen desires to grant a Sublicense with respect to the United States, any Asian Country(ies) or any Latin American Country(ies), and (B) once Minerva has received a ROFN Notice with respect to the United States, any Asian Country(ies) (alone or in combination) or any Latin American Country(ies) (alone or in combination), as the case may be, and the Parties have complied with the procedural aspects of Section 2.7(b) with respect to such ROFN Notice, Minerva thereafter shall not have any further ROFN with respect to the United States, any Asian Country or any Latin American Country, as the case may be.

(ii) Notwithstanding anything to the contrary in this Agreement, (A) the ROFN provided to Janssen pursuant to this Section 2.7(b) shall only apply in the event that Minerva desires to grant a Sublicense with respect to any Major EU Country(ies), and (B) once Janssen has received a ROFN Notice with respect to any Major EU Country(ies) (alone or in combination), and the Parties have complied with the procedural aspects of Section 2.7(b) with respect to such ROFN Notice, Janssen thereafter shall not have any further ROFN with respect to any Major EU Country.

(c) Without limiting the ROFN Party's rights under Section 2.7(b) above, the Sublicensing Party will provide [*] days advance written notice to the ROFN Party of any proposed Sublicense and the identity of the proposed Sublicensee. Any such Sublicensee will be required to agree in writing to meet all of the quality and ethical standards applicable to the Sublicensing Party under this Agreement and to represent in such agreement that it has not been found to have committed a material violation of any rule or regulation of the FDA or other Regulatory Authority in the portion of the Sublicensing Territory to which the Sublicense applies. All Sublicenses granted by the Sublicensing Party under this Section 2.7 shall be consistent with the terms and conditions of this Agreement, and the Sublicensing Party shall be responsible for ensuring the compliance of its Sublicensees with all obligations owed to the ROFN Party under this Agreement. In addition, following execution of any such agreement granting a Sublicense hereunder, the Sublicensing Party shall promptly provide a copy thereof to the ROFN Party, redacted with respect to information not pertinent to compliance with this Agreement. A Sublicensee of the Sublicensing Party shall have the right to have representatives on, or participate in the activities of, any Committee with the prior written consent of the ROFN Party, which consent shall not be unreasonably conditioned, delayed or withheld.

(d) The Sublicensing Party shall be entitled to grant sublicenses under the licenses granted to the Sublicensing Party in this Article 2 to any of its Affiliates without the ROFN Party's prior written approval; provided, however, that such sublicenses shall be consistent with the terms and conditions of this Agreement, and the Sublicensing Party shall be responsible for ensuring the compliance of its Affiliates with all obligations owed to the ROFN Party under this Agreement. In addition, the Sublicensing Party shall be entitled to grant non-exclusive sublicenses under the licenses granted to the Sublicensing Party in this Article 2 to any of its permitted Third Party contractors performing Development activities in accordance with Section 3.10(j), without the ROFN Party's prior written approval, solely to the extent necessary for such Third Party contractors to perform such Development activities; provided, however, that such sublicenses shall be consistent with the terms and conditions of this Agreement, and the Sublicensing Party shall be responsible for ensuring the compliance of its Third Party contractors with all obligations owed to the ROFN Party under this Agreement.

(e) The efforts of a Party's Affiliates or Sublicensees to Develop or Commercialize Licensed Products shall be deemed the efforts of such Party for purposes of satisfying such Party's obligations to Develop or Commercialize Licensed Products under this Agreement, including any obligations to exercise Commercially Reasonable Efforts with respect thereto.

2.8. No Implied Licenses. Each Party acknowledges that the licenses granted under this Article 2 are limited to the scope expressly granted, and all other rights to Patents and Know-How licensed hereunder are expressly reserved to the Party granting the license to such Patents or Know-How. Without limiting the foregoing, it is understood that where an exclusive license under Patents or Know-How is granted to a Party under this Article 2 for a particular purpose, the Party granting such license retains all of its rights to such Patents and/or Know-How for all purposes not expressly licensed.

2.9. Retained Rights. Any rights of Janssen not expressly granted to Minerva under this Agreement will be retained by Janssen, including all rights: (a) to Develop and Commercialize the Licensed Products outside of the Field; (b) subject to Section 2.7, to Commercialize the Licensed Products in the Janssen Territory in the Field; and (c) subject to Section 4.3, to Manufacture the Licensed Products. Further, no rights are granted to Minerva under any other intellectual property Controlled by Janssen other than the Janssen Patents and Janssen Know-How, including any rights to any programs relating to Orexin Receptor subtypes other than Orexin-2, such as Janssen's Orexin-1 Receptor program. Any rights of Minerva not expressly granted to Janssen under this Agreement will be retained by Minerva. In addition, notwithstanding anything to the contrary in this Agreement, the Parties agree and acknowledge that the Development and Commercialization of New Indications and New Formulations shall not be within the scope of the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4 except as provided in 3.10(h).

2.10. Non-Exclusive Unblocking Licenses.

(a) **Unblocking License to Minerva.** As of the Effective Date and subject to the terms and conditions herein, including Janssen's retained rights, Janssen hereby grants to Minerva a non-exclusive license, together with the right to sublicense in accordance with Section 2.7, under any Patents that (i) are not included in the Janssen Patents or Program

Patents, (ii) are Controlled by Janssen as of the Effective Date or come under the Control of Janssen following the Effective Date and (iii) but for the license granted under this Section 2.10(a) would be infringed by the exercise of any of the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4, but only to the extent necessary for Minerva to practice the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4. Notwithstanding the foregoing, the Patents subject to the license granted under this Section 2.10(a) shall not include (A) in the event of a Change of Control of Janssen, any Patent that was Controlled prior to such Change of Control by the entity acquiring Janssen in such Change of Control or such entity's Affiliates that were not Affiliates of Janssen prior to such Change of Control, and (B) a claim of such Patent Controlled prior to such Change of Control solely to the extent such claim is directed to a pharmaceutical formulation (and not a method of use or composition of matter that comprises the pharmaceutical formulation).

(b) **Unblocking License to Janssen.** As of the Effective Date and subject to the terms and conditions herein, including Minerva's retained rights, Minerva hereby grants to Janssen a non-exclusive license, together with the right to sublicense in accordance with Section 2.7, under any Patents that (i) are not included in the Minerva Patents or Program Patents, (ii) are Controlled by Minerva as of the Effective Date or come under the Control of Minerva following the Effective Date and (iii) but for the license granted under this Section 2.10(b) would be infringed by the exercise of any of the licenses granted to Janssen pursuant to Sections 2.5 and 2.6, but only to the extent necessary for Janssen to practice the licenses granted to Janssen pursuant to Sections 2.5 and 2.6. Notwithstanding the foregoing, the Patents subject to the license granted under this Section 2.10(b) shall not include (A) in the event of a Change of Control of Minerva, any Patent that was Controlled prior to such Change of Control by the entity acquiring Minerva in such Change of Control or such entity's Affiliates that were not Affiliates of Minerva prior to such Change of Control, and (B) a claim of such Patent Controlled prior to such Change of Control solely to the extent such claim is directed to a pharmaceutical formulation (and not a method of use or composition of matter that comprises the pharmaceutical formulation).

ARTICLE 3

GOVERNANCE; DEVELOPMENT AND REGULATORY ACTIVITIES

3.1. Joint Steering Committee.

(a) **Establishment of JSC**. Within [*] days of the Effective Date, the Parties shall establish a Joint Steering Committee (the "**JSC**") consisting of three (3) representatives (or such other number as may be agreed upon by the Parties) designated by each Party. The initial members of the JSC will be nominated by the Parties promptly following the Effective Date. Such representatives shall be individuals suitable in seniority and experience and having delegated authority to make decisions of the JSC with respect to matters within the scope of the JSC's responsibilities; provided that it is understood that such individuals may need to seek appropriate authority from the relevant Party with respect to certain matters. Unless and until the JSC subsequently establishes Subcommittees focused on Development and financial matters, respectively, pursuant to Section 3.2, the JSC members of each Party shall include individuals with appropriate expertise in Development and financial matters (including

accounting, cost allocation, budgeting and financial reporting). A Party may change one or more of its representatives serving on the JSC at any time upon written notice to the other Party. The JSC shall operate in accordance with the provisions of this Article 3, and, at its meetings, the JSC shall discuss the matters described below and such other matters as are reasonably requested by either Party's Alliance Manager.

(b) **Responsibilities of JSC**. The JSC shall, directly or through its Subcommittees, perform the following functions:

(i) develop and approve the overall strategy for, and monitor and oversee, the Development, Manufacture and Commercialization of the Licensed Products in the Field;

(ii) prepare and approve revisions and modifications to the Development Plan, including the Development Budget;

(iii) oversee the Development of the Licensed Products in the Field and monitor whether activities under the Development Plan are performed in accordance with the timelines set forth therein;

(iv) facilitate communication between the Parties and ensure that each Party keeps the JSC fully informed regarding all material activities performed by such Party regarding the Development, Manufacture and Commercialization of the Licensed Products in the Field;

(v) oversee and supervise any Subcommittees established pursuant to Section 3.2, and resolve Committee Deadlocks in accordance with Section 3.3(c);

(vi) coordinate and conduct the accounting, reporting, reconciliation and other related activities set forth in this Agreement;

(vii) perform and review calculations for the reconciliation of payments;

(viii) coordinate audits pursuant to Section 7.5 by Third Party independent accountants, and review and attempt to resolve discrepancies or issues arising from such audits; and

(ix) perform such other functions as are specifically designated for the JSC in this Agreement or as the Parties otherwise agree in writing are appropriate to further Development, Manufacture and Commercialization of the Licensed Products in the Field under this Agreement.

3.2. Subcommittees. From time to time, the JSC may establish subcommittees of the JSC to oversee particular projects or activities under this Agreement, and such subcommittees shall be constituted and have such responsibility as the JSC approves (each, a "**Subcommittee**"). The Subcommittees shall operate in accordance with the provisions of this Article 3.

(a) **Joint Manufacturing Committee.** Promptly, and in any event within thirty (30) days, following Janssen's notice that it shall transfer to Minerva control and responsibility with respect to the Manufacture of the Licensed Products pursuant to Section 4.3, the JSC shall

establish a Joint Manufacturing Committee (the "**JMC**") as a Subcommittee of the JSC to oversee, review and coordinate the Manufacture of the Licensed Products under this Agreement. The JMC shall include individuals from each Party with reasonable expertise in the areas of Manufacturing and supply chain management. The JMC will be responsible for:

(i) overseeing and reviewing the Manufacture, supply and distribution for purposes of Development and Commercialization of the Licensed Products;

(ii) overseeing and reviewing the Manufacturing strategy for Clinical Trial Material and Finished Product;

(iii) overseeing and reviewing processes, standard operating procedures and chemistry, manufacturing and controls (CMC) for the Manufacture of the Licensed Products, with the goal to establish and maintain global harmonization of such processes, standard operating procedures and chemistry, manufacturing and controls (CMC);

(iv) managing supply shortages;

(v) overseeing and reviewing Licensed Product specification changes; and

(vi) performing such other functions as are specifically designated to the JMC in this Agreement, the Development Supply Agreement or the Commercial Supply Agreement, or as the Parties otherwise agree are appropriate to further the Manufacture of the Licensed Products under this Agreement.

(b) **Joint Marketing Committee.** Promptly, and in any event within [*] days, following submission of the first MAA for a Licensed Product in the Field to the applicable Regulatory Authority in the Territory, the JSC shall establish a Joint Marketing Committee (the "**JMktgC**") as a Subcommittee of the JSC to oversee, review and coordinate the marketing of the Licensed Products in the Field under this Agreement. The JMktgC shall include individuals from each Party with reasonable expertise in the area of Commercialization. The JMktgC will be responsible for reviewing global marketing and promotion strategy and performing such other functions as are specifically designated to the JMktgC in this Agreement, or as the Parties otherwise agree are appropriate to further the marketing of the Licensed Products under this Agreement, and in compliance with Applicable Laws (excluding for the avoidance of doubt pricing).

3.3. Membership, Meetings and Decision Making.

(a) **Membership.** Except as otherwise stated herein, each Committee shall be comprised of [*] representatives (or such other equal number of representatives as the Parties may agree) from each of Janssen and Minerva. Either Party may replace its respective Committee representatives at any time with prior written notice to the other Party, provided that such replacement is of comparable authority and scope of functional responsibility within that Party's organization as the person he or she is replacing. Each Parties' representatives to each Committee shall be individuals suitable in seniority and experience and amongst such representatives shall be at least one representative from each Party with relevant decision-making authority to make decisions within the scope of the applicable Committee's

responsibilities; provided that it is understood that such individual may need to seek appropriate authority from the relevant Party with respect to certain matters. For each Committee, each Party shall designate one of its representatives on such Committee to co-chair the meetings for such Committee (each, a "**Co-Chair**"). The Co-Chairs shall, with and through the assistance of the Alliance Managers, coordinate and prepare the agenda for, and ensure the orderly conduct of, the meetings of such Committee. The Co-Chairs shall, with and through the assistance of the Alliance Managers, solicit agenda items from Committee members and provide an agenda, along with appropriate information for such agenda, reasonably in advance of any meeting. Such agenda shall include all items requested by either Co-Chair for inclusion therein. In the event the Co-Chair or another Committee member from either Party is unable to attend or participate in a meeting of such Committee, the Party whose Co-Chair or member is unable to attend may designate a substitute co-chair or other representative for the meeting. For the avoidance of doubt, while the Alliance Managers shall attend meetings of all Committees, the Alliance Managers shall not: (i) serve as a voting member of any such Committee; nor (ii) be counted towards either Party's representation on any such Committee. The Alliance Managers shall be responsible for preparing and circulating minutes of such meeting as provided in Section 3.5.

(b) **Meetings.** The JSC shall meet at least quarterly, or at a frequency determined by the JSC, for so long as a Licensed Product is in Development or is being Commercialized in the Field pursuant to this Agreement, and JSC meetings may be called at other times to resolve Committee Deadlocks in accordance with Section 3.3(c). The JMC, the JMktgC and other Subcommittees, if any, shall each meet quarterly after the Subcommittee is formed, or as more or less often as otherwise agreed by such Subcommittee. Committee meetings may be conducted by telephone, videoconference or in person. Any in-person Committee meetings shall be held on an alternating basis between Janssen's and Minerva's facilities, unless otherwise agreed by the Parties. Each Party shall be responsible for its own expenses in attending such meetings. As appropriate, the Committee may invite a reasonable number of non-voting employees, consultants and scientific advisors to attend its meetings as nonvoting observers, provided that such invitees are bound by appropriate confidentiality obligations. Each Party may also call for special meetings of a Committee to discuss particular matters requested by such Party. The Alliance Managers shall provide the members of each Committee with no less than [*] Business Days notice of each regularly scheduled meeting and, to the extent reasonably practicable under the circumstances, no less than [*] Business Days notice of any special meetings called by either Party.

(c) **Decision-Making.** Decisions of each Committee shall be made by unanimous vote, with each Party having one vote. To the extent a Party has voted in favor of a particular action, after commencement of the implementation of such action it shall not be permitted to reverse such vote absent changed facts and circumstances that were not present at the time of the initial vote. In order to make any decision, any Committee must have present (in person or via telephone or videoconference) and voting at least one representative of each Party. Unless otherwise specified by the JSC, in the event that the JMC, the JMktgC or any other Subcommittee cannot or does not reach consensus with respect to a particular matter within the authority of such Subcommittee (a "***Committee Deadlock***") after endeavoring for [*] days to do so, such matter shall be referred to the JSC for discussion and attempted resolution. In the event that the JSC, after endeavoring for [*] days to do so, does not reach a decision with

respect to a Committee Deadlock, or with respect to any other matter within the purview of the JSC as set forth in this Agreement, then such matter shall be decided as follows:

(i) If the disputed matter relates to the [*], then [*] shall have final decision making authority, subject to [*];

(ii) If the disputed matter relates to the [*], then [*] shall have final decision making authority;

(iii) If the disputed matter relates to the [*], then [*] shall have final decision making authority; and

(iv) If the disputed matter relates to [*], then [*].

For the avoidance of doubt, the vesting of final decision authority in a particular Party pursuant to this Section 3.3(c) shall not give such Party any authority to (A) alter or amend the terms and conditions of this Agreement, (B) waive either Party's compliance with the terms and conditions of this Agreement or (C) determine any issue in a manner that would conflict with the express terms and conditions of this Agreement.

3.4. Day-to-Day Decision Making Authority. Each Party shall have decision making authority with respect to the day-to-day activities of such Party (and such Party's employees, agents and contractors) in connection with the Development, Manufacture and Commercialization of the Licensed Products in the Field in accordance with this Agreement, provided that such decisions are not inconsistent with the Development Plan, the terms and conditions of this Agreement, or the decisions of the appropriate Committee, as applicable.

3.5. Meeting Minutes. Minutes will be kept of all Committee meetings by one of the Alliance Managers (or his or her designees) on a rotating basis and sent to all members of the Committee by facsimile or e-mail for review and approval within [*] days after each meeting. The Committee shall formally accept the minutes of the previous meeting at or before the next Committee meeting. Minutes will be deemed approved unless any member of the Committee objects to the accuracy of such minutes by providing written notice to the other members of the Committee prior to the next meeting of such Committee. Minutes shall list action items and shall designate any issues that need to be resolved by the JSC or applicable resolution process. In the event of any such objection to the minutes that is not resolved by mutual agreement of the Parties, such minutes will be amended to reflect such unresolved dispute.

3.6. Limitation of Powers. Each Committee will have only the powers as are specifically delegated to it under this Agreement. The JSC is not a substitute for the rights of the Parties under this Agreement and is intended to coordinate and facilitate the activities of the Parties during the Term. The JSC will not be involved with the day-to-day management of activities to be performed by a Party under this Agreement. In addition, each Committee shall have no authority to (a) alter or amend the terms and conditions of this Agreement, (b) waive either Party's compliance with the terms and conditions of this Agreement or (c) determine any issue in a manner that would conflict with the express terms and conditions of this Agreement.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

3.7. Alliance Managers. Promptly following the Effective Date, each Party shall designate an individual to serve as the main point of contact for such Party to exchange information, facilitate communication and coordinate the Parties' activities under this Agreement (each, an "**Alliance Manager**"). The Alliance Managers shall provide regular reports to the JSC as well as attend meetings (or designate an appropriate representative to attend meetings on the Alliance Manager's behalf) between the Parties, including Committee meetings; provided, however, that the Alliance Managers shall not be counted as members of any Committee (and shall not vote on matters discussed at any Committee meeting). Each Party may change its designated Alliance Manager from time to time upon written notice to the other Party. For the avoidance of doubt, a Party's Alliance Manager may also be a member of the JSC or any Subcommittee.

3.8. Minerva Scientific Advisory Board. Janssen shall have the right to appoint one member of Minerva's scientific advisory board acceptable to Minerva, who would be permitted to attend all scientific advisory board meetings and receive the same notices and information as the other members. Janssen shall consider in good faith any requests by Minerva to change its representative to its scientific advisory board.

3.9. Costs of Governance. The Parties agree that the costs incurred by each Party in connection with its participation at any Committee meetings under this Article 3 (including Minerva's scientific advisory board meetings) shall be borne by such Party.

3.10. Development.

(a) **General.** The Parties shall conduct a Development program directed toward the Development of Licensed Products, on the terms and conditions set forth in this Agreement and the Development Plan. Such Development shall be conducted under the supervision of the JSC and in accordance with the then current Development Plan approved by the JSC.

(b) **Development Plan.** The initial Development Plan and Development Budget are attached hereto as EXHIBIT B in provisional form (the "**Provisional Plan and Budget**"). The Development Plan is intended to include a comprehensive overall plan, including all clinical studies of the Licensed Products ("**Clinical Studies**") for the Initial Indications and Initial Formulations in the Field necessary to satisfy applicable regulatory requirements, for the global Development of the Licensed Products in the Field for the Initial Indications and Initial Formulations. The Development Plan shall allocate responsibility for each Development activity set forth therein to a Party, and the Parties agree to conduct all Development activities relating to the Licensed Products in accordance with the Development Plan.

(c) **Updating and Amending the Development Plan.**

(i) The JSC shall review the Development Plan not less frequently than annually and shall propose detailed and specific Development Plan updates, which shall include the Development Budget for subsequent Calendar Years, until completion of the Development activities hereunder. The JSC shall provide preliminary approval of all such proposed updates no later than September 1 of each Calendar Year. Upon the JSC's preliminary approval, such updates shall be submitted to each Party for its internal budgeting review and shall be subject to

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

final approval by the JSC no later than [*] of each Calendar Year, at which time any updates shall be appended to the Development Plan. In addition, the JSC shall meet, by telephone, videoconference or in person, within [*] days of the Effective Date to finalize and approve the initial Development Plan and Development Budget based upon the Provisional Plan and Budget. The JSC may also develop and approve from time to time other amendments to the Development Plan in its discretion and, upon such approval by the JSC, the Development Plan shall be amended accordingly. Amendments and updates to the Development Plan, including the Development Budget, shall not be effective without the approval of the JSC.

(ii) The Development Plan shall be designed to harmonize Development of Licensed Products in the Janssen Territory and the Minerva Territory to the extent practicable. However, in the event that, based upon written guidance from the applicable Regulatory Authority, it is necessary for a Party to perform a Clinical Study (or a portion of a Clinical Study) in its Commercial Territory for purposes of obtaining Regulatory Approval for a Licensed Product in the Field in any country of such Party's Commercial Territory, which Clinical Study (or portion thereof) is not necessary for purposes of obtaining Regulatory Approval for such Licensed Product in any country of the other Party's Commercial Territory (i.e., Data from such Clinical Study (or portion thereof) shall not be submitted with any application for Regulatory Approval in any country of such other Party's Commercial Territory), such Party, in consultation with the JSC, shall have the right to include and perform such Clinical Study (or portion thereof) under the Development Plan pursuant to an amendment thereof made pursuant to this Section 3.10(c), notwithstanding anything to the contrary in this Agreement (including Section 3.3(c)(i)), and the Development Costs incurred in conducting such Clinical Study (or portion thereof) shall be shared by the Parties pursuant to Section 3.10(f)(i), unless the other Party elects not to share such costs by giving written notice of such election within [*] days following the JSC's approval of such amendment of the Development Plan, in which case (A) the Development Costs incurred in conducting such Clinical Study (or portion thereof) shall be paid for solely by the Party conducting such Clinical Study and (B) the royalties otherwise payable by such Party with respect to Net Sales of any Licensed Product sold by such Party and its Affiliates and Sublicensees in any country of such Party's Commercial Territory in which Data from such Clinical Study (or portion thereof) is necessary for purposes of obtaining Regulatory Approval for such Licensed Product in such country shall be reduced to [*] of the amount otherwise payable pursuant to this Agreement.

(d) **Development Budget.** The Development Budget included in the Development Plan shall be a rolling [*] year budget setting forth the budgeted amounts for Development Costs with respect to activities allocated to the Parties under the Development Plan during the then-current Calendar Year and the succeeding Calendar Year thereafter, and shall include for each Party a budget for Development Costs for the Development activities allocated to such Party, broken down by Calendar Quarter with respect to the then-current Calendar Year. The Development Budget shall also include a breakout of costs by functional area or category as determined by the JSC. Concurrently with the annual update of the Development Plan in accordance with Section 3.10(c), the JSC shall also prepare and approve an updated [*] rolling Development Budget covering the next Calendar Year and the succeeding Calendar Year.

(e) **Development Efforts.** Each Party shall use its Commercially Reasonable Efforts to perform, or cause to be performed, the activities assigned to it in the Development Plan.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Each Party shall conduct its Development activities in good scientific manner and in compliance with Applicable Laws and all applicable requirements relating to the protection of human subjects. Notwithstanding anything to the contrary in this Agreement, a Party shall not be obligated to undertake or continue any Development activity with respect to a Compound or Licensed Product if such Party reasonably determines that performance of such Development activity would violate Applicable Laws or would pose an unacceptable safety risk for subjects participating in a Clinical Study.

(f) **Development Costs.**

(i) **Cost Sharing.** Subject to Section 3.10(f)(iv) and except as otherwise expressly provided in this Agreement, Development Costs incurred during the Term by the Parties shall be borne sixty percent (60%) by Janssen and forty percent (40%) by Minerva.

(ii) **Development Costs Reports.** Development Costs shall initially be borne by the Party incurring the cost or expense, subject to reimbursement as provided in Section 3.10(f)(iii). Each Party shall calculate and maintain records of Development Costs incurred by it and its Affiliates in accordance with procedures to be established by the Parties, and the procedures for quarterly reporting of actual results, quarterly review and discussion of potential discrepancies, quarterly reconciliation, reasonable cost forecasting, and other finance and accounting matters related to Development Costs will be determined by the Parties (the "**Development Reconciliation Procedures**"). Such procedures will provide the ability to comply with financial reporting requirements of each Party. The Development Reconciliation Procedures shall provide that within [*] days after the end of each Calendar Quarter, each Party shall submit to the JSC a report, in such reasonable detail and format as is established by the Parties, of all Development Costs incurred by such Party during such Calendar Quarter. Within [*] days following the receipt of such report, each Party shall have the right to request reasonable additional information related to the other Party's and its Affiliates' Development Costs during such Calendar Quarter in order to confirm that such other Party's spending is in conformance with the Development Budget. The Parties shall establish reasonable procedures for the Parties to share estimated Development Costs for each Calendar Quarter prior to the end of such Calendar Quarter, to enable each Party to appropriately accrue its share of Development Costs for financial reporting purposes.

(iii) **Reimbursement of Development Costs.**

(A) Each Calendar Quarter, the Party (with its Affiliates) that incurs more than its share of the total actual Development Costs during such Calendar Quarter shall be paid by the other Party an amount of cash sufficient to reconcile to the agreed percentage of actual Development Costs as set forth in Section 3.10(f)(i). Notwithstanding the foregoing, on a Calendar Year-to-date basis, the Parties shall not share any Development Costs in excess of the amounts allocated for such Calendar Year-to-date period in the Development Budget; provided, however, that Development Costs in excess of the Development Budget shall be included in the calculation of Development Costs to be shared by the Parties to the extent such excess Development Costs do not exceed by more than [*] the total Development Costs allocated to be incurred by such Party and its Affiliates in the applicable Calendar Year-to-date

period in

accordance with the applicable Development Budget for such Calendar Year (a "**Permitted Cost Overrun**").

(B) The Development Reconciliation Procedures shall provide for the JSC to develop a written report setting forth in reasonable detail the calculation of any net amount owed by Janssen to Minerva or by Minerva to Janssen, as the case may be, as necessary to accomplish the sharing of Development Costs set forth in Section 3.10(f)(i) and this Section 3.10(f)(iii), and to prepare such report promptly following delivery of the report described in Section 3.10(f)(ii) and in a reasonable time (to be defined in the Development Reconciliation Procedures) in advance of payment. The net amount payable to accomplish the sharing of Development Costs as provided under this Agreement shall be paid by Janssen or Minerva or by Minerva to Janssen, as the case may be, within [*] days after the end of the applicable Calendar Quarter.

(iv) **Cap on Minerva's Share of Development Costs; Other Adjustments to Cost Sharing.**

(A) In the event that Minerva's share of aggregate Development Costs incurred during the period from the Effective Date through the completion of Decision Point 2 (the "**Initial Stage**"), excluding any Development Costs payable solely by Minerva pursuant to Section 3.10(c)(ii) or 3.11(a) or reimbursed or paid by Minerva pursuant to Section 3.10(h), exceeds an aggregate of $5,000,000 (inclusive of any Permitted Cost Overruns) (the "**Initial Stage Cap**"), then any such amounts for the Initial Stage that are in excess of the Initial Stage Cap shall be borne by Janssen, and not Minerva, and the reimbursement calculations set forth in Section 3.10(f)(iii) shall be adjusted accordingly.

(B) In the event that Minerva's share of aggregate Development Costs incurred during the period from the Effective Date and up to completion of Decision Point 4 (the "**Second Stage**"), excluding any Development Costs payable solely by Minerva pursuant to Section 3.10(c)(ii) or 3.11(a) or reimbursed or paid by Minerva pursuant to Section 3.10(h), exceeds an aggregate of $24,000,000 (inclusive of Minerva's share of aggregate Development Costs incurred in the Initial Stage and any Permitted Cost Overruns) (the "**Second Stage Cap**"), then any such amounts for the Second Stage that are in excess of the Second Stage Cap shall be borne by Janssen, and not Minerva, and the reimbursement calculations set forth in Section 3.10(f)(iii) shall be adjusted accordingly.

(g) **Decision Points.**

(i) For purposes of this Agreement:

(A) "**Decision Point 1**" shall mean completion of a single dose Phase I Trial, using a suspension formulation, in patients with major depression disorder as described in the Provisional Plan and Budget.

(B) "**Decision Point 2**" shall mean completion of each of the following: (I) a four (4) week Phase Ib Trial in patients with primary and secondary insomnia,

(II) a three (3) month toxicology study in two (2) species and (III) a reproductive toxicology study in rodents, in each case as described in the Provisional Plan and Budget.

(C) "**Decision Point 3**" shall mean completion of the interim analysis of an Adaptive Phase IIa/IIb Trial in patients with primary insomnia and adjunctive depression as described in the Provisional Plan and Budget and the protocol for such trial, including the distribution of the data and results pertaining to such interim analysis to the members of the JSC and a meeting of the JSC to discuss such data and results. Alternatively, if the Development Plan is amended to include a stand alone Phase IIa Trial in lieu of such Adaptive Phase IIa/IIb Trial, then Decision Point 3 shall instead mean completion of such Phase IIa Trial.

(D) "**Decision Point 4**" shall mean completion of a Phase IIb Trial (including completion of an Adaptive Phase IIa/IIb Trial, as applicable) in patients with primary insomnia and adjunctive depression as described in the Provisional Plan and Budget.

For purposes of this Section 3.10(g)(i), "completion" of a trial or study (but, for clarity, excluding completion of the "interim analysis" referenced in Section 3.10(g)(i)(C)) is deemed to have occurred following the last to occur of: (I) database lock with respect to such trial, (II) the distribution of the data and results of such trial to the members of the JSC, and (III) a meeting of the JSC to discuss the data and results of such trial.

(ii) Within [*] days following the completion of each of Decision Point 2 and Decision Point 3 and at any time following Decision Point 4, Minerva shall have the right, but not the obligation, to opt out of further joint Development of the Licensed Products for the Initial Indications and Initial Formulations by giving Janssen written notice of such election, which election shall be effective [*] days after providing such notice and shall constitute a termination of this Agreement pursuant to Section 11.5(a), subject to Section 11.6(b).

(iii) Within [*] days following the completion of each of Decision Point 1, Decision Point 2 and Decision Point 3 and at any time following Decision Point 4, Janssen shall have the right, but not the obligation, to opt out of further joint Development of the Licensed Products by giving Minerva written notice of such election, which election shall be effective [*] days after providing written notice of such election. In the event that Janssen makes such election (and provided that Minerva does not make a corresponding election pursuant to Section 3.10(g)(ii)):

(A) the Janssen Territory shall be deemed automatically amended to exclude all North American Countries and the Minerva Territory shall be deemed automatically amended to include all North American Countries;

(B) the Parties shall promptly amend the Development Plan pursuant to Section 3.10(c) such that Janssen shall have no further responsibilities thereunder and, in this regard, notwithstanding Section 3.3(c)(i), Minerva shall thereafter have final decision making authority with respect to matters relating to the Development of Licensed Products in the Minerva Territory in the Field;

(C) Janssen shall thereafter have no further obligation to share Development Costs pursuant to Section 3.10(f), other than with respect to Development Costs incurred prior to such election;

(D) Janssen shall thereafter have no further diligence obligations with respect to the Development or Commercialization of Licensed Products;

(E) Except as otherwise required under Section 4.3 with respect to Manufacture of Licensed Product and Section 3.11 with respect to certain Regulatory Approvals, Janssen shall have the right, but not the obligation, to transfer control and responsibility to Minerva with respect to (1) the Manufacture of the Licensed Products for Development and Commercialization in the Field (in accordance with Section 4.3), (2) obtaining all Regulatory Approvals for the Licensed Products in the Field in the Minerva Territory and/or (3) transfer maintenance and operation of the Global Safety Database;

(F) the royalties payable by Minerva pursuant to Section 6.2(a) with respect to Net Sales of Licensed Products sold by Minerva and its Affiliates and Sublicensees in the Minerva Territory (as such territory is amended pursuant to Section 3.10(g)(iii)(A)) shall be reduced to [*] of such Net Sales, subject to potential further adjustment pursuant to Section 3.10(c)(ii), Section 6.2(b) or Section 6.2(c); and

(G) the royalties payable by Janssen pursuant to Section 6.3(a) with respect to Net Sales of Licensed Products sold by Janssen and its Affiliates and Sublicensees in the Janssen Territory (as such territory is amended pursuant to Section 3.10(g)(iii)(A)) shall be reduced to [*] of such Net Sales, subject to potential further adjustment pursuant to Section 3.10(c)(ii), Section 6.3(b) or Section 6.3(c); provided, however, that such royalty shall be increased to [*] for each country in which Janssen obtains Regulatory Approval of a Licensed Product by referencing Minerva's Regulatory Filings or Data without being required to conduct an independent Phase III Trial in order to obtain Regulatory Approval in such country.

(iv) If Janssen makes an election to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), except as otherwise expressly provided in Section 3.10(g)(iii), Janssen thereafter shall continue to have the right, but not the obligation, to Develop, Manufacture and Commercialize Licensed Products in accordance with this Agreement, provided that such Commercialization shall be limited to the Janssen Territory (as such territory is amended pursuant to Section 3.10(g)(iii)(A)). In this regard, (A) the Parties shall exchange reports and Data pursuant to Section 3.10(j); (B) the Parties shall continue to have rights of reference pursuant to Section 3.11(d); (C) the Parties shall continue to share Adverse Event information pursuant to Section 5.4(a) and the Pharmacovigilance Agreement; and (D) if Janssen has transferred control and responsibility to Minerva with respect to the Manufacture of Licensed Products, at Janssen's option, Minerva shall supply Janssen with Licensed Products pursuant to Section 4.3(b), except that Janssen shall no longer have the ROFN provided pursuant to Section 2.7(b).

(h) **New Development Activities**.

(i) If, at any time, Janssen desires to Develop a Product containing or comprised of a Compound, alone or in combination with one or more other APIs, for a New Indication or to Develop a New Formulation of such a Product, Janssen shall submit to Minerva a proposal for Janssen and Minerva to jointly Develop such New Indication or New Formulation under the terms and conditions of this Agreement. Such proposal shall contain, at a minimum, information supporting the rationale for Developing such New Indication or New Formulation from a scientific, regulatory and commercial standpoint, as well as an estimated developmental critical path and an estimate of the timeframe for and cost of such Development, including:

(A) all major Development tasks to be accomplished prior to submission of filings for Regulatory Approvals for such New Indication or New Formulation;

(B) key Development objectives, expected associated resources, risk factors, timelines, Go/No Go decision points and relevant decision criteria and, where appropriate, decision trees;

(C) how resources are expected to be provided by Janssen and Minerva to support the Development for such New Indication or New Formulation; and

(D) a reasonably detailed description and budget for the Development activities that are expected to be performed by Janssen and Minerva for such New Indication or New Formulation.

(ii) If Janssen proposes the Development of a New Indication or New Formulation to Minerva, then Minerva shall, within [*] days following receipt of such proposal, give Janssen written notice of whether it elects to:

(A) participate in the joint Development of such New Indication or New Formulation, in which case: (1) such New Indication or New Formulation, as the case may be, shall be deemed included within the scope of the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4; (2) the Parties shall promptly amend the Development Plan and the Development Budget pursuant to Section 3.10(c) in order provide for the joint Development of such New Indication or New Formulation, as the case may be; and (3) the Development Costs incurred in connection with the Development of such New Indication or New Formulation, as the case may be, pursuant to the Development Plan (as so amended) shall be shared by the Parties pursuant to Section 3.10(f)(i) and shall not be subject to the Initial Stage Cap or the Second Stage Cap; or

(B) opt out of joint Development of such New Indication or New Formulation, in which case Janssen shall have the right to Develop such New Indication or New Formulation, as the case may be, subject to the provisions of this Section 3.10(h)(ii)(B). If Minerva reasonably believes that Development of such New Indication or New Formulation, as the case may be, would be likely to (1) have a material negative impact on Minerva's business interest in a Licensed Product in the Minerva Territory or (2) raise material toxicity or drug safety concerns, Minerva may provide Janssen with a reasonably detailed written explanation of

the basis for its view. In the event that Janssen disagrees with Minerva's view, such dispute shall be referred to the JSC for resolution. In the event that the JSC agrees with Minerva's view, then Janssen shall not proceed with such Development activities. If the JSC does not agree with Minerva's view, then Janssen shall be entitled to proceed with Development of such New Indication or New Formulation, as the case may be, and such activities shall be outside of the Development Plan and Janssen shall be responsible for all costs and expenses for the Development of such New Indication or New Formulation, subject to Minerva's buy-in rights pursuant to Section 3.10(h)(iii). For the avoidance of doubt, unless Minerva exercises its buy-in rights pursuant to Section 3.10(h)(iii), such New Indication or New Formulation for which Minerva did not share in the Development Costs shall not be included in Janssen's Net Sales for purposes of calculating the royalties due from Janssen to Minerva pursuant to Section 6.3 and shall not be included within the scope of the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4.

(iii) If Minerva wishes to Commercialize a New Indication or New Formulation in the Minerva Territory with respect to which Minerva elected to opt out of joint Development pursuant to Section 3.10(h)(ii)(B), then, within thirty (30) days following database lock with respect to the first Phase IIb Trial for such New Indication or New Formulation, as the case may be, Minerva may request an itemized invoice of the Development Costs incurred by or on behalf of Janssen in connection with the Development of such New Indication or New Formulation, as the case may be (which invoice Janssen shall provide within [*] days following such request), and Minerva shall have the right to Commercialize such New Indication or New Formulation, as the case may be, in the Minerva Territory in accordance with the terms and conditions of this Agreement effective upon payment to Janssen of the amount equal to [*] of such Development Costs within ninety (90) days following [*], in which case: (A) such New Indication or New Formulation, as the case may be, shall be deemed included within the scope of the licenses granted to Minerva pursuant to Sections 2.1, 2.2, 2.3 and 2.4; (B) the Development Costs incurred in connection with the further Development of such New Indication or New Formulation, as the case may be, shall be shared by the Parties pursuant to Section 3.10(f)(i) and shall not be subject to the Initial Stage Cap or the Second Stage Cap; and (C) such New Indication or New Formulation, as the case may be, shall be included in Janssen's Net Sales for purposes of calculating the royalties due from Janssen to Minerva pursuant to Section 6.3.

(i) **Supply of Clinical Trial Material.** Janssen will be responsible for the Manufacture of all Clinical Trial Material for Development activities under this Agreement, either by Manufacturing such Clinical Trial Material itself or through Affiliates, or through one or more Contract Manufacturers selected by Janssen, subject to Section 4.3. In the case of Clinical Studies performed by Janssen pursuant to the Development Plan, the costs for such Clinical Trial Material shall be incurred by Janssen as a Development Cost and allocated pursuant to Section 3.10(f). In the case of Clinical Studies performed by Minerva pursuant to the Development Plan, such Clinical Trial Material shall be supplied by Janssen at the cost set forth in Section 4.2, and such cost shall be treated as a Development Cost and allocated pursuant to Section 3.10(f). Promptly following either Party's request, the Parties shall negotiate in good faith and enter into an appropriately detailed supply and quality agreement (the "**Development Supply Agreement**") governing such supply of Clinical Trial Material by, or on behalf of, Janssen to Minerva with terms and conditions typical for such agreements and consistent with the terms set forth in this Agreement.

(j) **Reports and Data.** If Janssen makes an election to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), each Party then engaged in Development activities shall thereafter prepare and provide to the other Party, within [*] days after the end of June and December of each Calendar Year, a written report that summarizes the Development activities performed, and any Program Inventions and Data generated, by such Party hereunder during the preceding two (2) Calendar Quarters and identifies any issues or circumstances of which it is aware that may prevent or adversely affect in a material manner the future performance of activities under the Development Plan. The Parties may agree that minutes or presentations from Committee meetings may be used to satisfy the foregoing reporting requirement. Each Party shall maintain records in sufficient detail as will properly reflect all work done, and Development Costs expended, in the performance of activities arising out of, in conducting, or otherwise in connection with the Development Plan. In addition, each Party, at the request of the other Party, or upon instruction by the JSC, shall promptly provide to the other Party in a prompt manner all Data (including all reports related to any Clinical Studies) developed by or on behalf of such Party in connection with the Development of the Licensed Products in the Field under this Agreement. The format of, and media for exchanging, such Data shall be determined by the JSC.

(k) **Use of Contractors.** Each Party shall have the right to use the services of Third Party contractors, including clinical research organizations and the like, to assist such Party in fulfilling its Development obligations under this Agreement, subject to the following terms and conditions: (i) none of the rights of the other Party hereunder are diminished or otherwise adversely affected as a result of such subcontract; (ii) such Third Party contractor is bound by a written agreement that is consistent with the terms of this Agreement, including applicable confidentiality and intellectual property ownership provisions; and (iii) such Party shall remain responsible under this Agreement for ensuring, and shall be liable to the other Party for, the compliance of such Third Party contractor with this Agreement.

(l) **Clinical Studies.** Any Clinical Studies under the Development Plan will be conducted in accordance with GCP and involve investigators of recognized competence. Each Party shall have the right, at its own expense and subject to the terms and conditions of any applicable agreements, to audit all Clinical Study sites used by the other Party to ensure that any necessary compliance standards are upheld. Any such audit shall be conducted at a reasonable time during regular business hours and upon at least [*] Business Days prior written notice to such other Party and the Clinical Study site.

(m) **Competing Products.** During the Term, Minerva shall not, directly or indirectly, and shall not assist, fund or cause any Third Party to, Develop, Manufacture or Commercialize a Competing Product.

3.11. Regulatory Activities.

(a) **Regulatory Responsibilities.** Janssen or its Affiliate shall be responsible for seeking and attempting to obtain all Regulatory Approvals for the Licensed Products in the Field in the Territory in accordance with the Development Plan, including managing related relationships and communications with applicable Regulatory Authorities, and the

Development Costs incurred in connection therewith shall be shared by the Parties pursuant to Section 3.10(f)(i), except that: (i) Janssen shall bear [*] of the Development Costs incurred in preparing and filing each MAA in the Janssen Territory; (ii) Minerva shall bear [*] of the Development Costs incurred in preparing and filing each MAA in the Minerva Territory; and (iii) the reimbursement calculations set forth in Section 3.10(f)(iii) shall be adjusted accordingly. Upon request, Minerva shall provide reasonable cooperation and support in regard to the foregoing activities. Notwithstanding the foregoing, if Janssen has elected to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), then Janssen shall transfer control and responsibility to Minerva with respect to seeking and attempting to obtain all MAAs for the Licensed Products in the Field in the Minerva Territory, at Minerva's expense, and, upon request, Janssen shall provide reasonable cooperation and support in regard to the foregoing activities.

(b) **Ownership of Regulatory Approvals.** Except as otherwise provided for in Section 3.11(a), Janssen or its Affiliate shall own all Regulatory Approvals, including related Regulatory Filings and applications, for the Licensed Products in the Field in the Territory, to the extent permitted by Applicable Laws, except that, following approval of any MAA for a Licensed Product in the Field from the applicable Regulatory Authority in a country within the Minerva Territory, Janssen or its Affiliate shall (to the extent Minerva is not already the holder of such MAA pursuant to Section 3.11(a)) promptly, subject to applicable regulatory procedures, assign to Minerva all right, title and interest in and to such MAA, and thereafter Minerva shall be responsible for maintaining such MAA, at Minerva's expense. Following any such assignment of an MAA to Minerva, if Janssen controls the Manufacture of such Licensed Product, Janssen shall thereafter provide Minerva with such information and documentation related to such Manufacture as necessary in connection with the maintenance of such MAA by Minerva.

(c) **Regulatory Cooperation.** Subject to Section 3.11(a), Applicable Laws and attendance limitations established by applicable Regulatory Authorities, each Party shall have the right to attend and observe (but not participate in unless specifically agreed to by the other Party in advance) all material meetings, conferences and discussions by the other Party or its Affiliate with Regulatory Authorities pertaining to the Development of the Licensed Products in the Field or Regulatory Approvals. Each Party shall provide the other Party with reasonable advance notice of all such meetings and other contact and advance copies of material documents and other relevant information relating to such meetings or other contact. Each Party shall provide the JSC with advance drafts of any material documents or other material correspondence pertaining to Regulatory Approvals, including any proposed labeling, that such Party plans to submit to any Regulatory Authority. The JSC may provide comments regarding such documents and other correspondence prior to their submission, which comments the submitting Party shall consider in good faith. Each Party shall provide the other Party with copies of all material submissions it makes to, and all material correspondence it receives from, a Regulatory Authority pertaining to a Regulatory Approval. Notices, copies of submissions and correspondence, and other materials to be given in advance as provided in this Section 3.11(c) shall be provided at least [*] Business Days in advance unless circumstances necessitate a shorter time period.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

(d) **Rights of Reference and Access to Data.** Each Party shall have the right to cross-reference the other Party's or its Affiliate's DMF, if any, and other Regulatory Filings anywhere in the world related to the Licensed Products, and to access such Regulatory Filings and any Data and Know-How therein and use such Data and Know-How, in each case in connection with the performance of its obligations and exercise of its rights under this Agreement, including inclusion of such Data and Know-How in its own Regulatory Filings for the Licensed Products. Each Party hereby grants to the other Party a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) in the United States, or an equivalent right of access/reference in any other jurisdiction, to any Data, including such Party's or its Affiliates' Regulatory Dossiers, Controlled by such Party or such Affiliates that relate to a Licensed Product for use by such other Party to Develop and Commercialize the Licensed Products in the Field pursuant to this Agreement. Each Party or such Affiliate shall provide a signed statement to this effect, if requested by the other Party, in accordance with 21 C.F.R. § 314.50(g)(3) or the equivalent as required in any other jurisdiction or otherwise provide appropriate notification of such right of the other Party to the applicable Regulatory Authority.

(e) **Regulatory Inspections.** The Parties shall cooperate in good faith with respect to Regulatory Authority inspections of any site or facility where Clinical Studies or Manufacturing of the Licensed Products in the Field are conducted by or on behalf a Party pursuant to this Agreement (each an "**Audited Site**"). Each Party shall be given a reasonable opportunity (taking into account the timing and notice provided by the applicable Regulatory Authority) to attend any inspection by any Regulatory Authority of the other Party's Audited Sites, and the summary, or wrap-up, meeting with a Regulatory Authority at the conclusion of such inspection if such inspection relates to the Manufacture of Licensed Products. If such attendance would result in the disclosure to the other Party of Confidential Information unrelated to the subject matter of this Agreement, the Parties shall enter into a confidentiality agreement covering such unrelated subject matter. The rights under this Section 3.11(e) shall be subject to any access restrictions imposed by any applicable permitted contractor which owns or operates any Audited Site, provided, however, that each Party shall use Commercially Reasonable Efforts to include in any contract or other written arrangement with its permitted contractors a clause permitting the other Party to exercise its rights under this Section 3.11(e).

(f) **Pricing and Reimbursement Approvals.** Notwithstanding anything to the contrary in this Agreement, (i) Janssen or its Affiliate shall be responsible for and have the exclusive right to seek and attempt to obtain pricing and reimbursement approvals for the Licensed Products in the Field in the Janssen Territory, at Janssen's expense, and (ii) Minerva shall be responsible for and have the exclusive right to seek and attempt to obtain pricing and reimbursement approvals for the Licensed Products in the Field in the Minerva Territory, at Minerva's expense.

ARTICLE 4

SUPPLIES OF LICENSED PRODUCTS

4.1. Janssen Rights. Subject to Section 4.3, Janssen shall have the right and responsibility to obtain supply of the Licensed Products in the Field, including supplies for Clinical Studies and Commercialization, either by Manufacturing the Licensed Products itself or

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

through Affiliates, or through one or more Contract Manufacturers selected by Janssen. Subject to Section 4.3, Janssen shall (a) supply such quantities of Licensed Products in final packaging, ready for distribution to end-users, as are necessary on a worldwide basis to support the Development activities under the Development Plan, including clinical supply to Minerva in accordance with the Development Supply Agreement as set forth in Section 3.10(i), and (b) supply Licensed Products on a worldwide basis for Commercialization, including commercial supply to Minerva in accordance with the Commercial Supply Agreement. Prior to filing of the first MAA for a Licensed Product in the Field with a Regulatory Authority in the Minerva Territory, the Parties shall in good faith negotiate and enter into commercial supply and quality agreements for Licensed Products for Commercialization, containing provisions for the price of Licensed Products to be determined as set forth in Section 4.2, and containing other terms and conditions typical in such agreements and consistent with the terms of this Agreement (collectively, the "**Commercial Supply Agreement**"). The Parties agree and acknowledge that the Commercial Supply Agreement shall contain a reasonable and customary provision such that, in the event that Janssen or its applicable Affiliate commits an uncured material failure to supply Licensed Product in accordance with such agreement, Janssen or its applicable Affiliate shall, upon Minerva's request, transfer to Minerva control and responsibility with respect to the Manufacture of Minerva's requirements for such Licensed Product in the Field, itself or through its designated Affiliate or through one or more Contract Manufacturers selected by Minerva, in accordance with Section 4.3.

4.2. Supply Price. If Janssen has not elected to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), the price of Clinical Trial Material Manufactured by or on behalf of Janssen hereunder shall be [*] of the Manufacturing Cost of Janssen or its Affiliate(s) and included in Development Costs shared by the Parties pursuant to Section 3.10(f)(i). If Janssen has elected to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), the price of Clinical Trial Material Manufactured by or on behalf of Janssen and supplied to Minerva shall be [*] of the Manufacturing Cost of Janssen or its Affiliate(s) and paid for by Minerva. The price of any supplies of Licensed Product for Commercialization Manufactured by or on behalf of Janssen and supplied to Minerva shall be [*] of the Manufacturing Cost of Janssen or its Affiliate(s) on a pro rata basis reflecting the proportion of the total production batch that Minerva receives, except that such transfer price shall be increased to [*] of the Manufacturing Cost of Janssen or its Affiliate(s) in the event that Janssen makes an opt out election pursuant to Section 3.10(g)(iii). All Finished Product supplied by, or on behalf of, Janssen to Minerva shall be supplied in final packaging, ready for distribution to end-users, except as otherwise agreed by the Parties in writing.

4.3. Transfer of Manufacturing Rights. Notwithstanding anything to the contrary in this Agreement, in the event that (a) Minerva receives approval of an MAA for a Licensed Product in the Field from the applicable Regulatory Authority in a country within the Minerva Territory, or (b) Janssen elects to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii) and thereafter fails to supply a Licensed Product to Minerva for Development in accordance with this Agreement and the applicable product specifications for a period of at least [*] months and fails to cure such supply failure within [*] months following the agreed upon delivery schedule or date, then upon each such case, upon written request by Minerva, Janssen shall transfer control and responsibility to Minerva with respect to the Manufacture of Minerva's requirements of such Licensed Product for Development and

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Commercialization in the Field in accordance with this Section 4.3. In addition, notwithstanding anything to the contrary in this Agreement, in the event that Janssen elects to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), Janssen shall have the right, but not the obligation, to transfer control and responsibility to Minerva with respect to the Manufacture of Licensed Products for Development and Commercialization in the Field in accordance with this Section 4.3, which right may be exercised by Janssen in whole or in part (e.g., Janssen may retain control and responsibility with respect to the Manufacture of the applicable API, while responsibility with respect to the Manufacture of the corresponding Finished Product is transferred to Minerva). In the event of a transfer of Manufacturing pursuant to this Section 4.3:

(a) (i) The Party requesting such transfer of Manufacturing shall give the other Party written notice of such request; (ii) the Parties shall promptly negotiate in good faith a reasonable technology transfer plan with respect to such transfer of Manufacturing; and (iii) Janssen shall thereafter transfer to Minerva or its designated Affiliate or Contract Manufacturer, and reasonably assist Minerva or its designated Affiliate or Contract Manufacturer in implementing, the Janssen Manufacturing IP (including applicable Manufacturing processes) in accordance with such technology transfer plan, at Minerva's expense, with the understanding that the implementation of such technology transfer plan may take approximately [*] years if the applicable Licensed Product (or the applicable component thereof) was previously Manufactured by Janssen or its Affiliate or approximately [*] months if the applicable Licensed Product (or the applicable component thereof) was previously Manufactured by a Contract Manufacturer. In addition, to the extent provided in such technology transfer plan, Janssen or its Affiliate shall: (A) provide to Minerva or its designated Affiliate or Contract Manufacturer copies of the physical embodiment of processes, protocols, procedures, methods, and tests relating to the Manufacturing of Licensed Product (or any component thereof); (B) make available to Minerva or its designated Affiliate or Contract Manufacturer a reasonable number of appropriately trained Janssen personnel to provide, on a mutually convenient timetable, technical assistance with respect to the Manufacture of Licensed Product (or any component thereof); (C) allow a reasonable number of representatives of Minerva or its designated Affiliate or Contract Manufacturer to observe the Manufacturing process at the Manufacturing facilities of Janssen (or its applicable Affiliate or Contract Manufacturer), on a mutually convenient timetable, provided that each such representative enters into a reasonable access and confidentiality agreement acceptable to Janssen; (D) promptly assist Minerva or its designated Affiliate or Contract Manufacturer in obtaining all necessary Regulatory Approvals and/or modifying existing Regulatory Approvals for the Manufacture of such Licensed Product (or any component thereof) by Minerva or its designated Affiliate or Contract Manufacturer; (E) supply analytical test methods and other testing Know-How, including method validation reasonably required to perform release testing or other testing as may be required by the applicable Regulatory Authority; and (F) upon request by Minerva, provide Minerva or its designated Affiliate or Contract Manufacturer with appropriate quantities of reference standards and samples related to Licensed Product (or any component thereof) in order to facilitate its testing. For the avoidance of doubt, Minerva or its designated Affiliate or Contract Manufacturer shall have the right to reference the DMF and other Regulatory Filings of Janssen or its applicable Affiliates as reasonably necessary or useful for the Manufacture of Licensed Product (or any component thereof), in accordance with Section 3.11(d).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

(b) Minerva may perform such Manufacturing either by Manufacturing the applicable Licensed Product(s) (or the applicable component thereof) itself or through its designated Affiliate, or through one or more Contract Manufacturers selected by Minerva, and shall supply Janssen with (i) such quantities of the applicable Licensed Product(s) (or the applicable component thereof) in final packaging, ready for distribution to end-users, as are necessary on a worldwide basis to support Janssen's Development activities and (ii) the applicable Licensed Product(s) (or the applicable component thereof) on a worldwide basis for Commercialization by Janssen and its Affiliates and Sublicensees in the Janssen Territory. The transfer price of Clinical Trial Material Manufactured by or on behalf of Minerva hereunder shall be [*] of the Manufacturing Cost of Minerva or its Affiliate(s) on a pro-rata basis reflecting the proportion of the total production batch that Janssen receives; and the transfer price of any supplies of Licensed Product for Commercialization Manufactured by or on behalf of Minerva shall be [*] of the Manufacturing Cost of Minerva or its Affiliate(s) on a pro-rata basis reflecting the proportion of the total production batch that Janssen receives. All Finished Product supplied by, or on behalf of, Minerva to Janssen shall be supplied in final packaging, ready for distribution to end-users, except as otherwise agreed by the Parties in writing.

(c) Upon either Party's request, the Parties shall in good faith negotiate and enter into supply and quality agreements for the applicable Licensed Product(s) (or the applicable component(s) thereof) for Development and Commercialization, containing provisions for the price thereof to be determined as set forth in Section 4.3(b), and containing other terms and conditions typical in such agreements and consistent with the terms of this Agreement. In addition, Minerva shall keep the JMC informed on a periodic basis of its plans and activities relating to Manufacture of the applicable Licensed Product(s) in the Field.

ARTICLE 5

COMMERCIALIZATION

5.1. General. Janssen and Minerva shall use Commercially Reasonable Efforts to Commercialize Licensed Products (for which Regulatory Approval has been received) in the Field in the Janssen Territory and Minerva Territory, respectively, on the terms and conditions set forth in this Agreement.

5.2. Janssen Commercialization Role. Janssen shall use Commercially Reasonable Efforts to Commercialize the Licensed Products (for which Regulatory Approval has been received) in the Field in the Janssen Territory. Subject to the terms and conditions of this Agreement, Janssen will have the sole authority and the exclusive right to Commercialize the Licensed Products in the Field in the Janssen Territory and will have sole authority and responsibility in all matters relating to the Commercialization of the Licensed Products in the Field in the Janssen Territory. In such role, Janssen shall be responsible for marketing, detailing, order processing, establishing all terms of sale, invoicing and collection, inventory, warehousing, distributing, and handling all returns of the Licensed Products in the Field in the Janssen Territory, and performing all related services, including the allocation and coordination of sales representatives. Janssen shall be solely responsible for all decisions regarding the prices charged for the Licensed Products in the Field, as well as discounts and rebates, in the Janssen Territory. Sales of the Licensed Products in the Field in the Janssen Territory shall be booked by Janssen

(or its Affiliates or Sublicensees). All business decisions, including the sale, price and promotion of the Licensed Products in the Field in the Janssen Territory and the decisions whether to market a Licensed Product in any country in the Janssen Territory shall be within the sole discretion of Janssen, subject to the terms and conditions of this Agreement. Subject to its obligation to use Commercially Reasonable Efforts to Commercialize the Licensed Products (for which Regulatory Approval has been received) in the Field in the Janssen Territory, any marketing of a Licensed Product in the Field in one market or country in the Janssen Territory shall not obligate Janssen to market such Licensed Product in the Field in any other market or country in the Janssen Territory. The Parties agree and acknowledge that Commercialization of at least one Licensed Product for at least one indication in at least one North American Country will be deemed to satisfy in full Janssen's obligations under this Agreement to use Commercially Reasonable Efforts to Develop and Commercialize Licensed Products in the Janssen Territory. Janssen retains all Commercialization rights outside the Field both inside and outside the Janssen Territory.

5.3. Minerva Commercialization Role. Minerva shall use Commercially Reasonable Efforts to Commercialize the Licensed Products (for which Regulatory Approval has been received) in the Field in the Minerva Territory. Subject to the terms and conditions of this Agreement, Minerva will have the sole authority and the exclusive right to Commercialize the Licensed Products in the Field in the Minerva Territory and will have sole authority and responsibility in all matters relating to the Commercialization of the Licensed Products in the Field in the Minerva Territory. In such role, Minerva shall be responsible for marketing, detailing, order processing, establishing all terms of sale, invoicing and collection, inventory, warehousing, distributing, and handling all returns of the Licensed Products in the Field in the Minerva Territory, and performing all related services, including the allocation and coordination of sales representatives. Minerva shall be solely responsible for all decisions regarding the prices charged for the Licensed Products in the Field, as well as discounts and rebates, in the Minerva Territory. Sales of the Licensed Products in the Field in the Minerva Territory shall be booked by Minerva (or its Affiliates or Sublicensees). All business decisions, including the sale, price and promotion of the Licensed Products in the Field in the Minerva Territory and the decisions whether to market the Licensed Products in any country in the Minerva Territory shall be within the sole discretion of Minerva, subject to the terms and conditions of this Agreement. Subject to its obligation to use Commercially Reasonable Efforts to Commercialize the Licensed Products (for which Regulatory Approval has been received) in the Field in the Minerva Territory, any marketing of a Licensed Product in the Field in one market or country in the Minerva Territory shall not obligate Minerva to market such Licensed Product in the Field in any other market or country in the Minerva Territory. The Parties agree and acknowledge that Commercialization of at least one Licensed Product for at least one indication in at least France, Germany and the United Kingdom will be deemed to satisfy in full Minerva's obligations under this Agreement to use Commercially Reasonable Efforts to Develop and Commercialize Licensed Products in the Minerva Territory.

5.4. Pharmacovigilance and Global Safety Database.

(a) **Pharmacovigilance Agreement.** Upon Janssen's request, the Parties shall meet to negotiate in good faith and agree on processes and procedures for sharing Adverse Event information not later than thirty (30) days prior to the commencement of the first Clinical Study

to be performed by or on behalf of Minerva to the extent set forth in the Development Plan. The agreed-upon processes and procedures shall be set forth in a pharmacovigilance agreement (the "**Pharmacovigilance Agreement**") containing mutually agreed terms and conditions that are customary for agreements of such type. Each Party shall be responsible for submitting Adverse Event reports to the applicable Regulatory Authority for any Clinical Study sponsored by such Party, including annual safety reports, periodic update safety reports and quarterly line listings.

(b) **Global Safety Database.** Janssen shall, at its sole cost and expense and not as a Development Cost, establish and maintain a global safety database for the Licensed Products, including Adverse Events tracking and pregnancy reports (the "**Global Safety Database**") for the Licensed Products. Minerva shall transfer all Adverse Events information in its possession or control to Janssen for entry and validation into the Global Safety Database in a manner and time so as to enable Janssen to comply with all applicable reporting requirements. Janssen will provide Minerva with online, read-only access to the Global Safety Database and will train an appropriate number of Minerva employees in the use of such database.

5.5. Recalls and Market Withdrawals. In the event that either Party determines that an event, incident or circumstance has occurred that may result in the need for a recall or market withdrawal in the Territory, or in the event that any Regulatory Authority issues or requests a recall or takes a similar action in connection with a Licensed Product, the Party that has determined the need for such recall or similar action, or the Party notified of such recall or similar action, shall, within [*], advise the other Party thereof by telephone or facsimile. Minerva, in consultation with Janssen, shall decide whether to conduct a recall in the Minerva Territory (except in the case of a government mandated recall, in which case Minerva may act without such advance consultation, but shall notify Janssen as soon as possible) and the manner in which any such recall shall be conducted. Janssen, in its sole discretion, shall decide whether to conduct a recall in the Janssen Territory and the manner in which any such recall shall be conducted. Each Party will make available to the other Party, upon request, all of such Party's (and its Affiliates') pertinent records that such other Party may reasonably request to assist such other Party in effecting any recall. The costs and expenses of any such recall shall be borne by the Party whose actions or omissions caused the recall to be necessary or deemed advisable.

5.6. Medical Inquiries. Minerva shall handle all medical questions or inquiries from members of the medical profession in the Minerva Territory regarding the Licensed Products and Janssen shall, and shall cause its sales representatives to, refer to Minerva all such questions and inquiries within [*] of receipt and shall respond to all inquiries from Minerva and follow the directives of Minerva in connection therewith. Janssen shall handle all medical questions or inquiries from members of the medical profession in the Janssen Territory regarding the Licensed Products and Minerva shall, and shall cause its sales representatives to, refer to Janssen all such questions and inquiries within [*] of receipt and shall respond to all inquiries from Janssen and follow the directives of Janssen in connection therewith. Janssen and its sales representatives shall not respond to any such medical question or inquiry in the Minerva Territory, and Minerva and its sales representatives shall not respond to any such medical question or inquiry in the Janssen Territory, except those received by either Party from a Regulatory Authority.

5.7. Branding of the Licensed Products.

(a) **Product Trademarks.** The JSC shall be responsible for establishing a global branding strategy for the Licensed Products and identifying and selecting Product Trademarks consistent with such global branding strategy; provided that Janssen shall have the right to select alternative trademarks on a country-by-country basis in the Janssen Territory and Minerva shall have the right to select alternative trademarks on a country-by-country basis in the Minerva Territory in the event that the Product Trademarks selected by the JSC present any linguistic, cultural or legal issues in such country; provided, further, that any such alternative trademarks shall be consistent with such global branding strategy to the extent practicable. For the avoidance of doubt, Product Trademarks shall not include the corporate names and logos of Janssen or Minerva ("**Party Name Marks**"). The Product Trademarks shall be owned, on a country-by-country basis, by the Party responsible for Commercializing the Licensed Products in such country and such Party shall control the filing, prosecution and maintenance of the Product Trademarks in such country, and shall be responsible for all costs related thereto, including the search and clearance of the Product Trademarks.

(b) **Enforcement of Product Trademarks.** If a Party has a reasonable basis to believe that a Third Party is engaging in infringement of a Product Trademark, such Party shall promptly notify the other Party in writing and provide it with any evidence of such infringement that is reasonably available. As between the Parties, the Party owning the infringed Product Trademark, or its designee, shall have the sole right and option, at its sole expense, to respond to any infringement or potential infringement with respect to such Product Trademark by appropriate steps, including filing an infringement suit or taking other similar action. The non-owning Party shall provide reasonable assistance to the other Party, or the other Party's designee, at such other Party's expense, with respect to any enforcement activities with respect to such Product Trademark, including providing access to relevant documents and other evidence, making its employees reasonably available during business hours, and joining the action to the extent necessary to maintain the action. Any amounts recovered pursuant to this Section 5.7(b), whether by settlement or judgment, shall first be used to reimburse the applicable Party(ies) for their costs and expenses in making such recovery, and any remaining recovery shall be the property of the Party owning the infringed Product Trademark. Trademark or trade-dress infringement claims by Third Parties shall be governed by Section 8.3(e).

(c) **Party Name Marks.** The Party Name Marks shall be displayed on the packaging, labeling and promotional materials for the Licensed Products in the Field in the Territory as required by Applicable Laws on a country-by-country basis, and may include appropriate trademark notices (e.g., ™ or ®, as the case may be), as directed by each Party with respect to its own Party Name Marks. Each Party shall retain all right, title and interest in and to its respective Party Name Marks, except to the extent expressly licensed to the other Party in this Section 5.7(c), and each Party hereby grants to the other a royalty-free, revocable license to use and exploit its Party Name Marks solely as set forth in the preceding sentence in connection with the Commercialization of the Licensed Products in the Field under this Agreement.

(d) **Usage and Display.** All use (including placement, size, representation and the like) of the Product Trademarks and the Party Name Marks with respect to the Licensed

Products in the Field shall be subject to guidelines established by the JSC and consistent with the Parties' usage guidelines with respect to such marks.

5.8. Ex-Territory Sales; Export Monitoring.

(a) **Ex-Territory Sales.** Subject to Applicable Laws, neither Party shall engage in any advertising or promotional activities relating to any Licensed Product directed primarily to customers or other buyers or users of such Licensed Product located outside its Commercial Territory or accept orders for Licensed Products from or sell Licensed Products into the other Party's Commercial Territory for its own account, and if a Party receives any order for any Licensed Product in the other Party's Commercial Territory, it shall refer such orders to the other Party. The Parties agree and acknowledge that Applicable Laws may prevent or limit a Party from taking action to prevent exports from one European Union country to another.

(b) **Export Monitoring.** Each Party shall use Commercially Reasonable Efforts to monitor and prevent exports of Licensed Products from its own Commercial Territory for Commercialization in the other Party's Commercial Territory using methods permitted under Applicable Laws that are commonly used in the industry for such purpose (if any), and shall promptly notify the other Party of any such exports of Licensed Products from its Commercial Territory, and any actions taken to prevent such exports. Each Party agrees to take reasonable actions requested in writing by the other Party that are consistent with Applicable Laws to prevent exports of Licensed Products from its Commercial Territory for Commercialization in the other Party's Commercial Territory. The Parties agree and acknowledge that Applicable Laws may prevent or limit a Party from taking action to prevent exports from one European Union country to another.

ARTICLE 6

FINANCIAL TERMS

6.1. Upfront Payment. As partial consideration for the rights granted to Minerva under this Agreement, Minerva shall pay a one-time, non-refundable, non-creditable, upfront payment of twenty-two million dollars ($22,000,000) to Janssen (the "**Upfront Payment**"), within two Business Days of the date of the IPO Closing.

6.2. Minerva Royalties.

(a) **Royalty Rate and Royalty Term.** In accordance with the terms of this Section 6.2, Minerva shall pay to Janssen royalties in the amount of [*] of Net Sales of all Licensed Products sold by Minerva and its Affiliates and Sublicensees in the Minerva Territory, subject to any royalty rate reduction made pursuant to Section 3.10(c)(ii), Section 3.10(g)(iii), Section 6.2(b) or Section 6.2(c). Such royalties shall be payable, on a country-by-country and Licensed Product-by-Licensed Product basis, beginning upon First Commercial Sale of a Licensed Product in a particular country in the Minerva Territory until the latest of (i) the ten (10) year anniversary of the First Commercial Sale of such Licensed Product in such country, (ii) the expiration of the last to expire Janssen Patent or Program Patent Covering the Compound of the Licensed Product as a composition of matter or labeled use of such Licensed Product in such

country in the Minerva Territory, or (iii) the end of the period during which such Licensed Product is subject to Regulatory Exclusivity in such country (such period for a particular Licensed Product in a particular country, the "**Minerva Royalty Term**").

(b) **Loss of Patent Coverage and Regulatory Exclusivity.** In any country in the Minerva Territory where no Janssen Patents or Program Patents Cover the composition or use of a Licensed Product and where such Licensed Product is not subject to Regulatory Exclusivity, the royalty rate applicable to Net Sales of such Licensed Product in such country shall be reduced by [*], effective with respect to sales of such Licensed Product in such country occurring on or after the date upon which there are no such Patents or no such Regulatory Exclusivity.

(c) **Generic Competition.** If a Licensed Product is sold in a country in the Minerva Territory where a product that is an AB Rated Product with respect to such Licensed Product is sold or marketed by a Third Party, then the royalty rate applicable to Net Sales of such Licensed Product in such country shall be reduced by [*], effective with respect to sales of such Licensed Product in such country occurring on or after the first day of the first calendar month following the month during which such AB Rated Product is first sold in such country. In the event that such AB Rated Product subsequently ceases to be sold or marketed in such country, the reduction of the royalty rate with respect to such Licensed Product in such country under this Section 6.2(c) shall no longer apply, effective with respect to sales of such Licensed Product in such country occurring after the last day on which such AB Rated Product is sold or marketed in such country.

(d) **Maximum Royalty Adjustment.** Notwithstanding anything to the contrary in this Agreement, unless subject to further reduction pursuant to Section 3.10(c)(ii), the royalty rate applicable to Net Sales of a Licensed Product sold by Minerva or its Affiliates or Sublicensees in any country of the Minerva Territory during the applicable Minerva Royalty Term shall not, in any event, be less than [*] of the maximum royalty rate applicable pursuant to Section 3.10(g)(iii) or Section 6.2(a), regardless of any subsequent adjustments thereof.

6.3. Janssen Royalties.

(a) **Royalty Rate and Royalty Term.** In accordance with the terms of this Section 6.3, Janssen shall pay to Minerva royalties in the amount of [*] of Net Sales of all Licensed Products sold by Janssen and its Affiliates and Sublicensees in the Janssen Territory, subject to any royalty rate reduction made pursuant to Section 3.10(c)(ii), Section 3.10(g)(iii), Section 6.3(b), Section 6.3(c) or Section 11.6(b). Such royalties shall be payable, on a country-by-country and Licensed Product-by-Licensed Product basis, beginning upon First Commercial Sale of a Licensed Product in a particular country in the Janssen Territory until the latest of (i) the ten (10) year anniversary of the First Commercial Sale of such Licensed Product in such country, (ii) the expiration of the last to expire Program Patent or Minerva Patent Covering the Compound of the Licensed Product as a composition of matter or labeled use of such Licensed Product in such country in the Janssen Territory, or (iii) the end of the period during which such Licensed Product is subject to Regulatory Exclusivity in such country (such period for a particular Licensed Product in a particular country, the "**Janssen Royalty Term**").

(b) **Loss of Patent Coverage and Regulatory Exclusivity.** In any country in the Janssen Territory where no Program Patents or Minerva Patents Cover the composition, manufacture or use of a Licensed Product and where such Licensed Product is not subject to Regulatory Exclusivity, the royalty rate applicable to Net Sales of such Licensed Product in such country shall be reduced by [*], effective with respect to sales of such Licensed Product in such country occurring on or after the date upon which there are no such Patents or no such Regulatory Exclusivity.

(c) **Generic Competition.** If a Licensed Product is sold in a country in the Janssen Territory where a product that is an AB Rated Product with respect to such Licensed Product is sold or marketed by a Third Party, then the royalty rate applicable to Net Sales of such Licensed Product in such country shall be reduced by [*], effective with respect to sales of such Licensed Product in such country occurring on or after the first day of the first calendar month following the month during which such AB Rated Product is first sold in such country. In the event that such AB Rated Product subsequently ceases to be sold or marketed in such country, the reduction of the royalty rate with respect to such Licensed Product in such country under this Section 6.3(c) shall no longer apply, effective with respect to sales of such Licensed Product in such country occurring after the last day on which such AB Rated Product is sold or marketed in such country.

(d) **Maximum Royalty Adjustment.** Notwithstanding anything to the contrary in this Agreement, unless subject to further reduction pursuant to Section 3.10(c)(ii), the royalty rate applicable to Net Sales of a Licensed Product sold by Janssen or its Affiliates or Sublicensees in any country of the Janssen Territory during the applicable Janssen Royalty Term shall not, in any event, be less than [*] of the maximum royalty rate applicable pursuant to Section 3.10(g)(ii) or Section 6.3(a), regardless of any subsequent adjustments thereof.

ARTICLE 7

RECORDS, REPORTS AND PAYMENTS

7.1. Payment Method; Reports.

(a) **Wire and Currency.** All payments to a Payee pursuant to Article 6 shall be made by Federal Reserve electronic wire transfer in immediately available funds to an account designated by such Payee.

(b) **Royalty Payments.** All royalty payments by Minerva or Janssen, as the case may be, will be made in United States dollars. If sales were made in a currency other than United States dollars, then such amounts shall be converted into United States dollars in accordance with Section 7.4.

(c) **Financial Reports and Records.** Within sixty (60) days after the close of each Calendar Quarter in which there are any Net Sales subject to the payment of royalties or other amounts under this Agreement, Payor shall furnish to Payee a statement of Net Sales of each Licensed Product for such Calendar Quarter setting forth the Net Sales for each country in which Licensed Products were sold during such Calendar Quarter, and a calculation of royalties

due pursuant to Article 6 (including any currency conversions). Payor will mail such report to Payee pursuant to Section 14.4. The amount of the royalty payment due to Payee with respect to such Calendar Quarter shall be paid by Payor concurrently with the remittance of each royalty report. Interest shall accrue on any payments due under this Agreement (including royalties) not paid when due through and including the date upon which Payee is paid the funds in accordance herewith at a rate equal to the lesser of (i) [*], or (ii) the maximum interest rate allowed by Applicable Laws.

7.2. Taxes.

(a) Payor will make all payments to Payee under this Agreement without deduction or withholding for taxes except to the extent that any such deduction or withholding is required by Applicable Laws in effect at the time of payment.

(b) Any tax required to be withheld on amounts payable under this Agreement will promptly be paid by Payor on behalf of Payee to the appropriate governmental authority, and Payor will furnish Payee with proof of payment of such tax. Any such tax required to be withheld will be an expense of and borne by Payee.

(c) Payor and Payee will cooperate with respect to all documentation required by any governmental authority or reasonably requested by Payor to secure a reduction in the rate of applicable withholding taxes.

(d) If Payor had a duty to withhold taxes in connection with any payment it made to Payee under this Agreement but Payor failed to withhold, and such taxes were assessed against and paid by Payor, then Payee will indemnify and hold harmless Payor from and against such taxes (including interest). If Payor makes a claim under this Section 7.2(d), it will comply with the obligations imposed by Section 7.2(b) as if Payor had withheld taxes from a payment to Payee.

7.3. Blocked Currency. In each country where the local currency is blocked and cannot be removed from the country, royalty payments pursuant to Article 6 arising from Net Sales made in that country shall be paid to Payee in the country in local currency by deposit in a local bank designated by Payee, unless the Parties otherwise agree in writing.

7.4. Foreign Exchange. With respect to Net Sales invoiced or expenses incurred in a currency other than United States dollars, such Net Sales invoiced or expenses incurred will be converted into the United States dollars equivalent using (a) in the case of Minerva, a rate of exchange that corresponds to the rate used to record such receipt or expenditure for GAAP reporting purposes for the respective reporting period and (b) in the case of Janssen, the following method: For the upcoming Calendar Year, Janssen shall provide (i) a Currency Hedge Rate to be used for the local currency of each applicable country of the Territory and (ii) the details of such Currency Hedge Rates in writing to Minerva not later than ten (10) Business Days after such Currency Hedge Rates are available from the GTSC or an Affiliate of Janssen, which is customarily at the end of October. Such Currency Hedge Rates shall remain constant throughout the upcoming Calendar Year. Janssen shall use such Currency Hedge Rates to

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

convert the applicable Net Sales or expenses to United States dollars for the purpose of calculating royalties and other payments under this Agreement.

7.5. Records; Inspection. Payor shall keep, and shall require its Affiliates and Sublicensees to keep, complete, true and accurate books of accounts and records for the purpose of determining the basis and accuracy of payments to be made under this Agreement, including royalties and reimbursement of Development Costs. Such records shall be kept in accordance with GAAP and such entity's usual internal practices and procedures (which shall be commercially reasonable) consistently applied, showing Net Sales on a country-by-country and Licensed Product-by-Licensed Product basis and Development Costs on an itemized basis, as applicable. Such books and records shall be kept for at least [*] years following the end of the Calendar Quarter to which they pertain. Such records will be open for inspection by Payee during such [*] year period by independent accountants reasonably acceptable to Payor, solely for the purpose of verifying the basis and accuracy of amounts in the payment statements hereunder. Such inspections shall be made no more than once each Calendar Year, at a reasonable time and on reasonable notice, and shall be limited to information related to Licensed Products. Results of any such inspection shall be deemed to be Confidential Information of Payor, and any such independent accountant shall be required to enter into a customary confidentiality agreement with Payor. If any errors in favor of Payor are discovered in the course of such inspection, then within thirty (30) days of written request by Payee, Payor shall pay Payee those amounts that Payee would have received in the absence of such errors, plus interest pursuant to and in accordance with Section 7.1(c). Inspections conducted under this Section 7.5 shall be at the expense of Payee, unless a variation or error in favor of Payor exceeding [*] of the amount due for the period covered by the inspection is established in the course of such inspection, whereupon all reasonable, documented out-of-pocket costs relating to the inspection for such period will be paid promptly by Payor. In the event of overpayment to Payee, any amount of such overpayment shall be fully creditable against amounts payable in any succeeding Calendar Quarter.

ARTICLE 8

INFORMATION, INVENTIONS AND INTELLECTUAL PROPERTY

8.1. Ownership.

(a) **Inventorship.** Inventorship for all inventions arising under the Agreement, including Program Inventions, will be determined under the patent laws of the United States.

(b) **Ownership of Program Inventions.** Each Party shall own an undivided one-half interest in and to any and all Program Inventions and Program Patents, and each Party hereby assigns, and agrees to assign, to the other Party an undivided one-half interest in and to any and all Program Inventions and Program Patents of which such Party would otherwise be the sole owner. Subject to the terms of, and the rights granted under, this Agreement, each of Janssen and Minerva as joint owners shall each have the right to exploit and to grant licenses under such Program Inventions and Program Patents (without an accounting or obligation to, or consent required from, the other Party).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

8.2. Patent Prosecution and Maintenance.

(a) **Inventions.** Each Party shall notify the other Party promptly in writing of each Program Invention made by such Party.

(b) **Janssen Patents.** Janssen shall have the primary responsibility for Prosecuting Janssen Patents. The costs and expenses incurred as a result of such Prosecution shall be borne by Minerva to the extent such Prosecution is related to the Minerva Territory and by Janssen to the extent such Prosecution is related to the Janssen Territory; provided, however, that the cost and expense of Prosecuting any PCT application shall be borne by Janssen. Janssen shall provide to Minerva, at least on an annual basis, a detailed list accurately identifying the status of all Janssen Patents. Janssen shall provide Minerva with a reasonable opportunity to review and comment upon draft patent applications and office action responses in the Minerva Territory for such Janssen Patents. If Janssen decides not to file, prosecute, or maintain any Janssen Patents in the Minerva Territory, Janssen shall give Minerva reasonable notice of same (such notice to be provided reasonably in advance of any statutory, response, maintenance fee, or similar deadlines); and after receipt of such notice, Minerva may, upon written election to Janssen, file, prosecute, or maintain such Janssen Patents in its sole discretion at its own expense and shall be made the exclusive attorney of record for such Janssen Patents and Janssen shall promptly assign to Minerva any such Janssen Patents as a result of Minerva's assumption of any such responsibility. Minerva shall continue to keep Janssen reasonably informed with respect to the status of such Janssen Patents and their Prosecution in the Minerva Territory.

(c) **Minerva Patents.** Minerva shall have the primary responsibility for, using outside counsel mutually agreeable to the Parties, Prosecuting Minerva Patents. The costs and expenses incurred as a result of such Prosecution shall be borne by Minerva to the extent such Prosecution is related to the Minerva Territory and by Janssen to the extent such Prosecution is related to the Janssen Territory; provided, however, that the cost and expense of Prosecuting any PCT application shall be borne by Minerva. Minerva shall provide to Janssen, at least on an annual basis, a detailed list accurately identifying the status of all Minerva Patents. Minerva shall provide Janssen with a reasonable opportunity to review and comment upon draft patent applications and office action responses in the Janssen Territory for such Minerva Patents. If Minerva decides not to file, prosecute, or maintain any Minerva Patents in the Janssen Territory, Minerva shall give Janssen reasonable notice of same (such notice to be provided reasonably in advance of any statutory, response, maintenance fee, or similar deadlines); and after receipt of such notice, Janssen may, upon written election to Minerva, file, prosecute, or maintain such Minerva Patents in its sole discretion at its own expense and shall be made the exclusive attorney of record for such Minerva Patents and Minerva shall promptly assign to Janssen any such Minerva Patents as a result of Janssen's assumption of any such responsibility. Janssen shall continue to keep Minerva reasonably informed with respect to the status of such Minerva Patents and their Prosecution in the Janssen Territory.

(d) **Program Patents.** The Parties shall work in good faith to establish the strategy for Prosecuting Program Patents, and shall use outside counsel mutually agreeable to the Parties in connection with such Prosecution. The costs and expenses incurred as a result of Prosecuting any such Program Patents shall be borne equally by the Parties. The Parties shall

(i) exchange (A) drafts of any new application with respect to any Program Patent prior to filing that application, allowing adequate time for review and comment by the other Party if possible, and each Party shall take into account any reasonable comments or consideration of the other Party and (B) copies of all correspondence from any and all patent offices concerning applications with respect any Program Patents and have an opportunity to comment on any proposed responses, voluntary amendments and submissions of any kind to be made to any and all such patent offices; and (ii) with respect to any Program Patents, use Commercially Reasonable Efforts to cooperate and work together in good faith to Prosecute such Program Patents in a manner reasonably consistent with the Development and Commercialization of Licensed Products under this Agreement. If at any time either Party decides not to file, prosecute, or maintain any Program Patent in the other Party's Commercial Territory, such Party (the "**Abandoning Party**") shall give the other Party reasonable notice of same (such notice to be provided reasonably in advance of any statutory, response, maintenance fee, or similar deadlines); and after receipt of such notice, the other Party may, upon written election to the Abandoning Party, file, prosecute, or maintain such Program Patents in its sole discretion at its own expense and shall be made the exclusive attorney of record for such Program Patents and the Abandoning Party shall promptly assign to the other Party any such Program Patents as a result of the other Party's assumption of any such responsibility. A Party assuming control of Program Patents shall continue to keep the Abandoning Party reasonably informed with respect to the status of such Program Patents and their prosecution in the Abandoning Party's Commercial Territory.

(e) **General.** Each Party acknowledges that the Party responsible for Prosecution of Patents licensed or jointly owned under this Agreement does not guarantee the issuance, validity, or enforceability of any such Patent or any claim resulting from its efforts hereunder. Neither Party shall have any liability to the other Party for any negligent acts or misconduct of internal or outside legal counsel utilized in connection with such Prosecution, provided that, in the case of outside counsel, the other Party was notified of the selection of such outside counsel and gave consent thereto, not unreasonably withheld.

(f) **Assignment Documents**. Each Party will take all reasonable actions requested by the other Party to perfect or separately document each or both of the Parties' (as the case may be) ownership rights in any invention as provided for in this Agreement, including causing its, and its Affiliates' and Third Party contractors', representatives, employees, and agents to execute appropriate assignment documents and technology transfer and technology export documents, and the requesting Party shall not be required to pay any remuneration to the other Party or its Affiliates or Third Party contractors, or any of their representatives, employees, or agents, for the execution of any assignments or other papers in connection with this Section 8.2(f). Each Party shall be solely responsible for all compensation due to it and its Affiliates' and Third Party contractors' representatives, employees, and agents in connection with the assignment of rights to inventions pursuant to this Agreement or in connection with such Party's exercise of rights in relation to any such inventions hereunder.

8.3. Enforcement of Patent Rights.

(a) **Infringement of Patent Rights.** Each Party shall notify the other Party in writing promptly of any actual, potential or suspected infringement of Janssen Patents, Program

Patents, or Minerva Patents by a Third Party commercially manufacturing, using, offering for sale, selling, or importing a product competitive with any Licensed Product (collectively "**Alleged Infringement**") of which such Party becomes aware and shall promptly provide the other Party with available evidence of such Alleged Infringement. In such event, the Parties shall discuss the most appropriate action to take.

(b) **Right to Pursue Infringers.** With respect to any Alleged Infringement of Janssen Patents, Minerva Patents or Program Patents in any country in the Territory as they relate to Licensed Products, the Party having the right to Commercialize Licensed Products in such country hereunder (the "**Marketing Party**") shall have the first and primary right, but not the obligation, in its sole discretion, to initiate, prosecute, and control any action or legal proceedings by counsel of its choice and at its own expense, such as by Janssen in connection with the submission by any Third Party of an abbreviated new drug application or a 505(b)(2) application under the U.S. Drug Price Competition and Patent Term Restoration Act of 1984. If, within six (6) months of the notice above, the Marketing Party (i) shall have been unsuccessful in persuading the alleged infringer to desist, (ii) shall not have brought and shall not be diligently prosecuting an infringement action, or (iii) is not engaged in settlement discussions with respect to such infringement, or if such Marketing Party notifies the other Party that it has decided not to undertake any of the foregoing against any such alleged infringer, then, unless the Marketing Party provides the other Party with a commercially reasonable justification for not doing so, the Party having any ownership rights in such Patents shall have the right to bring suit to enforce such Patents upon notice to the Marketing Party. If either Party brings any infringement action or proceeding hereunder (such Party, the "**Enforcing Party**"), the other Party agrees to be joined as a plaintiff if necessary for standing and, at the expense of the Enforcing Party, to give the Enforcing Party reasonable cooperation, assistance and authority to control, file and prosecute the suit as necessary.

(c) **Litigation Control.** The Enforcing Party shall bear all of its costs and expenses of the suit and shall keep the other Party reasonably informed, and reasonably consult with the other Party, as to the strategy and progress of the suit and all settlement discussions. The Enforcing Party shall not approve a settlement or consent judgment or other final voluntary disposition of a suit brought by such Enforcing Party under Section 8.3(b) (i) in a manner that would admit the unenforceability or invalidity of Patents Controlled by the other Party, or of Program Patents, or (ii) to the extent pertaining specifically to Patents in the other Party's Commercial Territory, in each case without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed.

(d) **Allocation of Recoveries.** Any settlements, damages or monetary awards ("**Recovery**") recovered by the Enforcing Party pursuant to a suit brought by such Enforcing Party under Section 8.3(b) will be allocated first to reimburse the Enforcing Party for the costs and expenses incurred by it in connection with such suit (including any expenses or costs incurred by such Party to reimburse the other Party pursuant to Section 8.3(b)), and then to reimburse the other Party for the costs and expenses incurred by it in connection with such suit to the extent not previously reimbursed. If [*] is the Enforcing Party in the [*], any remaining Recovery [*] any remaining Recovery shall be retained by [*]. If [*] is the Enforcing Party in the [*], any remaining Recovery shall be retained by [*]. If [*] is the Enforcing Party in the [*],

any remaining Recovery [*] and any other remaining Recovery shall be retained by [*]. If [*] is the Enforcing Party in the [*], any remaining Recovery shall be retained by [*].

(e) **Infringement of Third Party Patent Rights.** If a Party's conduct or exercise of its rights under this Agreement becomes the basis of a claim of infringement of any Patent or other proprietary right of any Third Party, such Party shall promptly give notice to the other Party and the Parties shall confer to consider the claim and an appropriate course of action. Unless the Parties agree otherwise, each Party shall have the right to control the defense of any such Third Party claim brought against it, by counsel of its own choice, except such Party shall not approve a settlement or consent judgment or other final voluntary disposition of such claim in a manner that would admit the unenforceability or invalidity of Patents Controlled by the other Party, or of Program Patents, without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed. The Party defending any such Third Party claim shall bear all of its costs and expenses and shall retain any damages or other monetary awards recovered in connection therewith. The other Party shall cooperate with the defending Party, as reasonably requested by it, in connection with the defense against such claim or action, at the defending Party's expense.

8.4. Patent Term Extensions. Janssen shall have sole discretion, after consultation with Minerva, to determine which Janssen Patents, Program Patents and Minerva Patents, as the case may be, shall be extended pursuant to patent term extensions, patent term restorations, pediatric data package exclusivity extensions, supplementary protection certificates, any functional equivalents of any of the foregoing, or similar means of extending market exclusivity or patent protection for any Licensed Product in the Territory. Upon Janssen's written request specifying the extension(s) to be applied for and the time period(s) in which to apply, Minerva shall apply for any such extension(s) and shall provide Janssen with all information and data in Minerva's possession reasonably needed to enable Janssen to request, prepare or apply for any such extension(s) with respect to the applicable Patents or Licensed Product. Janssen shall have the right to (a) identify in any list of Patents in an MAA the applicable Janssen Patents, Program Patents and Minerva Patents, as Janssen reasonably believes are appropriate, and (b) exercise any rights that may be exercisable by a patent owner in order to apply for a patent term extension in accordance with this Section 8.4.

8.5. Patent Marking. To the extent permitted by Applicable Laws, the Party Commercializing any Licensed Product agrees to mark, and to cause any Affiliates and Sublicensees Commercializing such Licensed Product to mark, such Licensed Product (through a marking on containers, packaging or labels, or an Orange Book or like listing) made, sold, or otherwise disposed of by it or them with any notice of patent rights reasonably necessary, in any country where such Licensed Product is sold, to (a) enable Patents (to the extent, in each case, relating to such Licensed Product) to be enforced to their full extent or (b) ensure the availability of all potential legal or equitable remedies with respect to any infringement of any Patents (to the extent, in each case, relating to such Licensed Product) by any Third Party.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

ARTICLE 9

CONFIDENTIAL INFORMATION

9.1. Nondisclosure of Confidential Information. All Information disclosed by one Party to the other Party pursuant to this Agreement shall be the "**Confidential Information**" of the disclosing Party. The Parties agree that, during the Term and for a period of [*] years thereafter, a Party receiving Confidential Information of the other Party will (a) maintain in confidence such Confidential Information to the same extent such Party maintains its own proprietary information of similar kind and value (but at a minimum each Party shall use Commercially Reasonable Efforts to do so), (b) not publish or otherwise disclose such Confidential Information to any Third Party without prior written consent of the other Party, and (c) not use such Confidential Information for any purpose except those permitted by this Agreement.

9.2. Exceptions. The obligations in Section 9.1 shall not apply with respect to any portion of the Confidential Information that the receiving Party can show by competent written proof:

(a) Was generally available to the public or otherwise part of the public domain at the time it was disclosed to the receiving Party hereunder;

(b) Was known to the receiving Party or its Affiliate, without obligation to keep it confidential, prior to disclosure by the disclosing Party;

(c) Is subsequently disclosed to the receiving Party or its Affiliate without obligation to keep it confidential by a Third Party lawfully in possession thereof and having the right to so disclose such Confidential Information without breach of any obligation of confidentiality to the disclosing Party;

(d) Became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party; or

(e) Has been or was independently developed or discovered by employees of the receiving Party or its Affiliates without the aid or use of all or any part of such Confidential Information.

9.3. Authorized Disclosure. A Party may disclose the other Party's Confidential Information to the extent such disclosure is reasonably necessary in the following instances:

(a) Prosecuting Patents pursuant to the rights granted in Section 8.2;

(b) Making Regulatory Filings and applying for Regulatory Approvals;

(c) Prosecuting or defending litigation;

(d) To the extent such disclosure is required by Applicable Laws, valid court order or legal process, provided, however, that such Party gives the other Party advance notice of such

required disclosure, limits the disclosure to that actually required, and cooperates, at the other Party's expense, in the other Party's attempts to obtain a protective order or confidential treatment of the Confidential Information required to be disclosed; or

(e) Disclosure, in connection with the performance of, or exercise of rights under, this Agreement, to Sublicensees, manufacturers, collaborators, contractors, employees, consultants, or other agents or representatives of a Party or its Affiliates, each of whom prior to disclosure must be bound by obligations of confidentiality and non-use at least as protective as those set forth in this Article 9.

The Parties acknowledge that the terms of this Agreement shall be treated as Confidential Information of both Parties. Such terms may be disclosed by a Party to investment bankers, counsel, accountants, financial advisors, potential or actual investors, potential or actual lenders, potential or actual acquirers, acquisition targets, or merger targets, actual or potential Sublicensees, or actual or potential other strategic partners, provided that they are bound by obligations of confidentiality and non-use at least as protective as those set forth in this Article 9. In addition, a copy of this Agreement or a notification thereof may be filed or registered by either Party with any Regulatory Authority, including the Federal Trade Commission, the Justice Department, or the Securities and Exchange Commission (or any similar foreign agency), if such filing is required by Applicable Laws. In connection with any such filing, such Party shall (i) provide the other Party a reasonable opportunity to review and comment on any potential disclosure and (ii) use Commercially Reasonable Efforts to obtain confidential treatment of economic, trade secret, and other confidential or proprietary information to the extent permitted by Applicable Laws and the applicable governmental agency(ies). In any event, the Parties agree to take all reasonable action to avoid disclosure of Confidential Information except as permitted hereunder.

9.4. Publicity. No written publication, news release or other written public announcement relating to this Agreement, or to the execution or effectiveness hereof or performance hereunder, shall be made without the other Party's written consent. Notwithstanding the foregoing, any disclosure which is required by stock exchange regulation or by Applicable Laws (including Regulation FD and any duties to disclose material information or known trends and uncertainties, and duties to update financial guidance or other disclosure) as advised by the disclosing Party's counsel may be made without the prior consent of the other Party, provided that the other Party shall be given prompt notice of any such legally required written disclosure and the disclosing Party, to the extent reasonably practicable, shall provide the other Party an opportunity to comment on the proposed written disclosure prior to its disclosure or release.

9.5. Publications.

(a) **Publication Strategy.** The JSC shall develop and approve a global publication strategy for the Development activities related to the Licensed Products in the Field (the "**Publication Strategy**") that is consistent with the Development Plan and the Parties' applicable internal policies. The JSC may also from time to time develop and approve substantive amendments to such Publication Strategy and, upon approval by the JSC of any such amendment, the Publication Strategy shall be amended accordingly.

(b) **Review of Publications.** Except as required by Applicable Laws, and subject to Section 9.6, any proposed scientific or medical publications or public scientific or medical presentations related to the Licensed Products, other than publications or presentations of Janssen related to the use of Licensed Products outside the Field, shall be subject to the provisions of this Section 9.5(b). In the event a Party desires to publish such a scientific or medical publication or to make such a public scientific or medical presentation related to any Licensed Product, such Party shall provide the other Party a reasonable advance opportunity, but no less than [*] days prior to its intended submission for publication presentation, to review and comment on such proposed publication or presentation prior to its submission. Further, the reviewing Party shall have the right to require a delay of up to [*] days in publication or presentation in order to enable patent applications protecting each Party's rights in such information to be filed, and the reviewing Party shall have the right to prohibit disclosure of any of its Confidential Information in any such proposed publication or presentation. In any permitted publication or presentation by a Party, the other Party's contribution shall be duly recognized, and co-authorship shall be determined, in accordance with customary standards.

9.6. Publication of Clinical Studies. Minerva has read and understands the Johnson & Johnson Clinical Trial Data Transparency Statement as in effect from time to time (the "**Policy**"), a copy of which in its then current form has been provided to Minerva prior to the Execution Date, and agrees that the Development and Commercialization of Licensed Products contemplated herein is subject to the Policy. In connection with the Development and Commercialization of Licensed Products contemplated hereunder, Minerva agrees that it will, and it will cause any of its Affiliates to agree to, permit Janssen to register and publish the resulting Data in accordance with the Policy, and otherwise comply with all terms therein. Minerva further agrees to provide, or to cause any of its Affiliates to provide, to Minerva such reasonable assistance as Janssen may require in connection with fulfilling the requirements set forth in the Policy. Notwithstanding anything to the contrary in this Agreement, Janssen's compliance with the terms of the Policy will not result in a breach of any provision of this Agreement, including Section 9.1.

9.7. Prior Agreements. This Agreement supersedes the Confidentiality Agreements between Janssen and Minerva dated April 24, 2013 (F/K/A Cyrenaic Pharmaceuticals, Inc), May 14, 2013 (Mind-NRG SA) and May 14, 2013 (Sonkei Pharmaceuticals, Inc., predecessor of Minerva) (collectively, the "**Prior Agreements**"), provided, however, that the foregoing shall not limit any remedies available to either Party with respect to any breach of the Prior Agreements which occurred prior to the Effective Date. All information disclosed under the Prior Agreements shall be deemed to have been disclosed under this Agreement and shall be subject to the terms of this Article 9.

ARTICLE 10

REPRESENTATIONS, WARRANTIES, AND COVENANTS

10.1. Mutual Representations and Warranties. Janssen and Minerva each represents and warrants to the other, as of the Effective Date, that: (a) it is duly incorporated and validly existing under the laws of the state or jurisdiction of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof; (b) it has

taken all corporate action necessary to authorize the execution and delivery of this Agreement and the performance of its obligations under this Agreement; (c) this Agreement is a legal and valid obligation of such Party, binding upon such Party and enforceable against such Party in accordance with the terms of this Agreement, except as enforcement may be limited by applicable bankruptcy or other debtor's rights laws and regulations; (d) it has the authority and right to enter into and perform this Agreement; (e) its execution, delivery and performance of this Agreement will not conflict in any material respect with the terms of any other agreement to which it is a Party or by which it is bound; and (f) it has not been debarred and is not the subject of debarment proceedings by any Regulatory Authority.

10.2. Representations and Warranties of Janssen.

(a) Janssen represents and warrants to Minerva that Janssen has disclosed in writing to Minerva any Adverse Events that have arisen, as of the Execution Date, after administration of the study drug in the Phase I Trial of the Licensed Product identified as [*].

(b) Janssen represents and warrants to Minerva that, as of the Execution Date, Janssen, to the best of its knowledge, does not Control Patents Covering [*]as a composition of matter, other than those set forth on EXHIBIT C.

10.3. Representation and Warranty of Minerva. Minerva represents and warrants to Janssen that, as of the Execution Date, Minerva, to the best of its knowledge, does not Control Patents Covering [*] as a composition of matter, other than those set forth on EXHIBIT E. If there are no Patents set forth on EXHIBIT E, then Minerva represents and warrants to Janssen that, as of the Execution Date, Minerva, to the best of its knowledge, does not Control any Patents Covering any Compound as a composition of matter, such as [*] or any isomer, tautomer, enantiomer, diastereomer, prodrug, ester, salt, hydrate, solvate, racemate, metabolite, polymorph, or isotopic substitution thereof.

10.4. Performance by Affiliates. Each Party may perform some or all of its obligations under this Agreement through such Party's Affiliates, provided, however, that each Party shall remain responsible for the payment and performance by its Affiliates and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance.

10.5. Mutual Covenants. Janssen and Minerva each covenants to the other that:

(a) **No Conflicting Agreements.** It shall not enter into any agreement, or grant any rights to any Third Party, which would conflict with the rights granted to the other Party hereunder.

(b) **Invention Assignment Agreements.** It shall maintain valid and enforceable agreements with all persons and entities acting by or on behalf of such Party or its Affiliates under this Agreement which require such persons and entities to assign to such Party their entire right, title and interest in and to all Know-How made by such persons and entities in connection with their activities under this Agreement and any and all Patents Covering any such Know-How.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

(c) **Compliance.** It shall comply with all Applicable Laws in performing its obligations and exercising its rights under this Agreement, and shall ensure that all of its Affiliates and Sublicensees and all Third Parties conducting activities on its behalf, comply with all Applicable Laws in their Development, Manufacture and Commercialization of Licensed Products.

(d) **Debarment.** It shall not knowingly use in connection with the Development, Manufacture or Commercialization of the Licensed Products in the Field any employee, consultant, agent, contractor or investigator that has been debarred or is the subject of debarment proceedings by any Regulatory Authority.

(e) **FCPA.** Neither it, nor any of its Affiliates or Sublicensees, in performing any of its obligations or activities under this Agreement, shall engage in any activities (such as offering a bribe to any government official), directly or indirectly (e.g., through use of an agent), that would subject the other Party to liability under the U.S. Foreign Corrupt Practices Act. Without limiting the foregoing, Minerva and each of its Affiliates and Sublicensees shall conduct their respective activities hereunder in accordance with the provisions of EXHIBIT D.

10.6. Disclaimer of Warranties. EXCEPT AS SET FORTH IN SECTION 10.1, EACH PARTY EXPRESSLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS. IN PARTICULAR, THE COMPOUNDS, LICENSED PRODUCTS AND INFORMATION OF JANSSEN ARE PROVIDED "AS IS" AND WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY WARRANTY THAT THE USE OF COMPOUNDS OR LICENSED PRODUCTS WILL NOT INFRINGE OR VIOLATE ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY.

ARTICLE 11

EFFECTIVE DATE; TERM; AND TERMINATION

11.1. Effective Date. This Agreement shall not become effective, and the Parties shall not commence the performance of this Agreement (other than Section 9.1), unless and until Minerva completes the closing, on or before September 30, 2014 (the "**Outside Date**"), of a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "**IPO Closing**") and makes the Upfront Payment in accordance with Section 6.1 (the date on which both such conditions have been satisfied being referred to herein as the "**Effective Date**"). If such IPO Closing does not occur on or before the Outside Date, then this Agreement shall be deemed to be null and void, and of no further force or effect, as of the Outside Date, except that (a) the Parties shall continue to comply with Section 9.1 for a period of [*] years following the Execution Date and (b) Article 13 shall apply to any dispute, controversy or claim arising out of or related to this Agreement, or the interpretation, application, breach, termination or validity thereof.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

11.2. Term. Unless sooner terminated as hereinafter provided, this Agreement shall become effective upon the Effective Date and continue in full force and effect on a Licensed Product-by-Licensed Product and country-by-country basis until the date no further payment obligations of Payor to Payee relating to such Licensed Product are due under Article 6 in such country (the "**Term**"). At such time, all licenses granted to the Party Commercializing such Licensed Product under this Agreement in such country shall survive, but shall be non-exclusive, fully paid-up, and royalty-free, with rights of sublicense.

11.3. Early Termination for Material Breach. Notwithstanding anything to the contrary in this Agreement, if either Party is in material breach of this Agreement (including any material breach of a representation or warranty made in this Agreement), then the other Party may deliver notice of such breach to the breaching Party. In such notice, the non-breaching Party shall identify the specific nature of default, require the breaching Party to cure the breach, and state its intention to terminate the Agreement if such breach is not cured. The breaching Party shall have [*] days to either cure such breach or, if cure cannot be reasonably affected within such [*] day period, to deliver to the non-breaching Party a plan for curing such breach which is reasonably sufficient to effect a cure. Such a plan shall set forth a program for curing such breach as rapidly as practicable and specify a commercially reasonable date for achieving such cure consistent with the foregoing, which shall not, in any event, exceed [*] days. Following delivery of such plan, the breaching Party shall use Commercially Reasonable Efforts to carry out the plan and cure the breach by such date. If the breaching Party fails to cure such breach within the [*] day cure period (or such later date set forth in the plan provided by the breaching Party in accordance with the preceding sentence, which shall not in any event exceed [*] days following notice of such breach), or the non-breaching Party reasonably determines that (a) the proposed corrective plan or the actions being taken to carry it out is/are not commercially practicable by the specified date or (b) the specified date for cure in such plan does not represent a commercially reasonable date to achieve such cure as rapidly as practicable through the application of the breaching Party's Commercially Reasonable Efforts, the non-breaching Party may, upon written notice, terminate this Agreement in its entirety. Notwithstanding the foregoing, the cure period for any failure to pay amounts due under this Agreement shall not, in any event, exceed [*] days from written notice thereof by the non-breaching Party.

11.4. Early Termination for Bankruptcy. Notwithstanding anything to the contrary in this Agreement, upon the Bankruptcy of either Party (or its successor in interest in the event this Agreement is assigned as permitted hereunder), the other Party may, upon written notice, terminate this Agreement in its entirety. For the purposes of this Section 11.4, "**Bankruptcy**" means, with respect to a Party, that: (a) such Party has been declared insolvent or bankrupt by a court of competent jurisdiction; (b) a voluntary or involuntary petition in bankruptcy is filed in any court of competent jurisdiction against such Party and such petition has not been dismissed within ninety (90) days after filing; or (c) such Party has made or executed an assignment of all or substantially all of its assets for the benefit of creditors.

11.5. Early Termination by Minerva.

(a) **Decision Points.** Commencing upon, and within [*] days following each of Decision Point 2 and Decision Point 3, and at any time following Decision Point 4, Minerva may, upon at least [*] days prior written notice, terminate this Agreement in its entirety.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

(b) **Janssen Opt Out.** If Janssen makes an election to opt out of further joint Development of the Licensed Products pursuant to Section 3.10(g)(iii), Minerva thereafter may, upon prior written notice, terminate this Agreement in its entirety.

11.6. Effects of Termination.

(a) **Termination by Janssen pursuant to Section 11.3 or Section 11.4.** If Janssen terminates this Agreement pursuant to Section 11.3 or Section 11.4, then (i) any and all licenses granted to Minerva by Janssen under this Agreement, and any and all sublicenses granted thereunder, shall terminate and (ii) Minerva shall, without additional consideration (except as otherwise expressly provided below) to the extent requested by Janssen in writing, (A) assign and transfer to Janssen or its designee all right, title, and interest in and to all quantities of Clinical Trial Material and Finished Product in Minerva's control (subject to Janssen reimbursing Minerva's reasonable cost) and all Regulatory Filings, Regulatory Documentation, Regulatory Approvals, Product Trademarks and Product-Related Materials, (B) irrevocably and perpetually grant Janssen the rights described in Sections 2.5 and 2.6 with respect to Minerva Patents and Minerva Know-How, (C) assign (or use diligent efforts to assign if the applicable contract does not freely permit assignment) to Janssen any manufacturing, supplier, distributor, clinical study, or other contracts concerning the Development or Commercialization of Licensed Products entered into by Minerva with Third Parties or otherwise facilitate Janssen's establishment of similar relationships with such Third Parties, (D) continue to comply with Sections 8.4, 9.5 and 9.6, and (E) cooperate, at Janssen's request, in undertaking a reasonable wind-down and/or orderly transition to Janssen of Minerva's Development and/or Commercialization activities, consistent with Janssen's continuing rights and interest in the Licensed Products following such termination (including taking such reasonable actions in regard to Regulatory Approvals as may be directed by Janssen or its designee pending the assignment and transfer of such Regulatory Approvals pursuant to clause (ii)(A) above), provided, however, that Minerva shall not be obligated to initiate any new substantive activity, distinct from any previously ongoing substantive activity, that would itself create any new obligations on the part of Minerva that would continue following such termination. If Minerva has registered any Product Trademarks for any Licensed Product(s), upon Janssen's request, Minerva will cooperate with and execute any reasonable assignment and transfer documents prepared by Janssen to effectuate an assignment of such Product Trademarks to Janssen or its designee, at Janssen's cost for the assignment and transfer documents and any governmental fees for effecting such assignment.

(b) **Termination by Minerva pursuant to Section 11.5.** If Minerva terminates this Agreement pursuant to Section 11.5(a), then (i) the terms and conditions of Section 11.6(a) shall apply to such termination, (ii) if such termination occurs within forty-five (45) days following the completion of Decision Point 2, then Minerva shall pay a one-time, non-refundable, non-creditable termination fee of $3,000,000 to Janssen, within ten (10) Business Days after the effective date of such termination, and (iii) if such termination occurs on or any time following Decision Point 4, then Janssen shall thereafter pay to Minerva royalties with respect to worldwide Net Sales of Licensed Products sold by Janssen and its Affiliates and Sublicensees pursuant to Section 6.3(a) at the reduced rate of [*] of such Net Sales (excluding New Indications and New Formulations unless Minerva had paid its allocation of the Development Costs thereof pursuant to Section 3.10(h)), subject to potential further adjustment

pursuant to Section 3.10(c)(ii), Section 6.3(b) or Section 6.3(c); provided that in no event shall the royalties on Net Sales be reduced to an amount less than [*] of Net Sales. If Minerva terminates this Agreement pursuant to Section 11.5(b), then the terms and conditions of Section 11.6(a) shall apply to such termination.

(c) **Other Effects of Termination.** Except as expressly set forth this Section 11.6 and Section 11.8, upon the expiration or termination of this Agreement for any reason, all rights and obligations of the Parties under this Agreement shall terminate.

11.7. Accrued Obligations; Additional Remedies. Expiration or termination of this Agreement for any reason whatsoever will not release or discharge Janssen or Minerva from the performance of any obligation, the payment of any debt or responsibility for any liability which may have previously accrued and remains to be performed, paid or discharged as of the date of such expiration or termination. In addition, termination of this Agreement under this Article 11 or any other provision of this Agreement providing any right of termination shall not be exclusive or prejudicial to any legal or equitable rights or remedies each Party may have on account of any breach or default of this Agreement.

11.8. Survival. The following provisions of this Agreement shall, in addition to any provisions specified elsewhere in this Agreement as surviving expiration or termination of this Agreement in certain circumstances, survive any expiration or termination or expiration of this Agreement: Articles 6 and 7 (each only with respect to any payment obligation surviving termination), 12, 13 and 14 and Sections 5.4(a), 8.1, 9.1, 9.2, 9.3, 9.4 and 9.7.

ARTICLE 12

INDEMNIFICATION, INSURANCE; LIMITATION OF LIABILITY

12.1. Indemnification.

(a) **Indemnification by Each Party.** Each Party (such Party, the "**Indemnitor**") hereby agrees to indemnify, defend and hold harmless the other Party, its Affiliates, and such Party's and its Affiliates' directors, officers, employees, agents, and other representatives (each, an "**Indemnitee**" and, collectively, the "**Indemnitees**") from and against any and all damages, liabilities, expenses and losses, including reasonable legal expenses and reasonable attorneys' fees ("**Losses**") resulting from suits, claims, proceedings or causes of action brought by a Third Party (each, a "**Claim**") against such Indemnitee based on any of the following performed or committed by the indemnifying Party or its Affiliates, agents or, to the extent applicable, Sublicensees: (i) breach of a representation or warranty contained in this Agreement; (ii) breach of this Agreement or failure to comply with any Applicable Laws in connection with this Agreement; (iii) negligence, fraud or willful misconduct in connection with this Agreement; or (iv) Development, Manufacture or Commercialization of Licensed Products (which shall include but not be limited to any liability based on product liability or any personal injury or death resulting from the administration of any Licensed Product to any human subject or patient prior to or following Regulatory Approval thereof), except, in each case, to the extent such Losses result from any matter with respect to which the other Party is obligated to indemnify the Indemnitor pursuant to this Section 12.1(a).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

(b) **Indemnification Procedure.** In the event that an Indemnitee is seeking indemnification under this Section 12.1, it shall inform the Indemnitor in writing of the relevant claim as soon as reasonably practicable after it receives notice of the Claim, shall permit the Indemnitor to assume direction and control of the defense of the Claim, including the right to select defense counsel, which counsel shall be reasonably satisfactory to the Indemnitee, and shall cooperate as reasonably requested by the Indemnitor (at the expense of the Indemnitor) in the defense of the Claim. The failure or delay to so notify the Indemnitor shall not relieve the Indemnitor of any obligation or liability that it may have to the Indemnitee except to the extent that the Indemnitor demonstrates that its ability to defend or resolve such Claim is adversely affected thereby. In no event may the Indemnitor compromise or settle any Claim in any manner that admits fault or wrongdoing on the part of any Indemnitee, incurs non-indemnified liability on the part of any Indemnitee, adversely affects any of the intellectual property rights subject to this Agreement or otherwise adversely affects either Party's ability to Develop or Commercialize Licensed Products hereunder, without the prior written consent of the Indemnitee. No Indemnitee shall enter into any settlement of any claim subject to indemnification under this Section 12.1 without the prior written consent of the Indemnitor with respect thereto.

12.2. Limitation of Liability. EXCEPT IN CIRCUMSTANCES OF NEGLIGENCE, FRAUD, WILLFUL MISCONDUCT, PATENT INFRINGEMENT BY A PARTY OR ITS AFFILIATES, OR BREACH OF ARTICLE 9 BY A PARTY OR ITS AFFILIATES OR WITH RESPECT TO THE INDEMNIFICATION PROVIDED UNDER SECTION 12.1, IN NO EVENT SHALL EITHER PARTY, OR ITS AFFILIATES, DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS, BE LIABLE TO THE OTHER PARTY FOR ANY PUNITIVE, EXEMPLARY, MULTIPLIED, INDIRECT, CONSEQUENTIAL OR LOST PROFITS/REVENUES DAMAGES, WHETHER BASED UPON A CLAIM OR ACTION OF CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE, ARISING OUT OF THIS AGREEMENT. For clarification, the foregoing sentence shall not be interpreted to limit or to expand the express rights specifically granted in this Agreement.

12.3. Insurance. The JSC shall determine the appropriate amount of clinical trial insurance required in connection with conducting Clinical Studies performed under this Agreement and each Party shall procure such insurance for the clinical trials it sponsors in amounts suggested by the JSC and in compliance with local regulations. Such insurance shall cover bodily harm or personal injury resulting from any such Clinical Study. The premiums with respect to any such clinical trial insurance shall be a Development Cost. In addition, Minerva shall maintain in full force and effect during the Term of this Agreement, and for a period of not less than [*] years after the time the products are no longer commercialized, commercial general liability insurance and other appropriate insurance (including product liability insurance when and if Minerva or its Affiliates commercialize a pharmaceutical product) in amounts that are customary in the pharmaceutical business taking into consideration all relevant factors; however, in no event shall such product liability insurance be in amounts less than [*] per occurrence and annual aggregate. Such insurance shall include worldwide coverage where appropriate. Minerva shall furnish to Janssen certificates evidencing the insurance coverage within [*] Business Days of Janssen's written request. Each of the certificates shall provide that the coverage will not be

canceled or materially reduced until at least [*] days after written notice has been given to Janssen.

ARTICLE 13

DISPUTE RESOLUTION

13.1. Disputes. The Parties recognize that disputes as to certain matters may from time to time arise during the Term which relate to either Party's rights and/or obligations hereunder (each, a "**Dispute**"). It is the objective of the Parties to establish procedures to facilitate the resolution of Disputes in an expedient manner by mutual cooperation and good faith negotiation and without resort to litigation. To accomplish this objective, the Parties agree to follow the procedures set forth in this Article 13 if and when a Dispute arises under this Agreement, except as otherwise provided with respect to certain Committee Deadlocks under Section 3.3(c). If after negotiating in good faith pursuant to the foregoing sentence, the Parties fail to enter into a written agreement resolving the Dispute within [*] days, then the CEO of Minerva and the Therapeutic Head for Neuroscience at Janssen (or another appropriate executive of Janssen) and their respective legal counsel shall discuss in good faith an appropriate resolution to the Dispute. If these executives fail, after good-faith discussions undertaken within reasonable promptness, to reach an amicable agreement within [*] days, then either Party may upon notice to the other submit the Dispute to mediation and binding arbitration for final resolution pursuant to Sections 13.3 and 13.4 below. No statements made by either Party during such discussions will be used by the other Party or be admissible in arbitration or any other subsequent proceeding for resolving the Dispute.

13.2. Governing Law; Service of Process. This Agreement shall be governed by and construed under the substantive laws of the State of New York, without regard to conflicts of law or choice of law rules that would provide for application of the law of a jurisdiction outside New York. The Parties agree that service of process upon them in any legal action may be made if delivered in person, by courier service, by telegram, by facsimile or by first class mail, and shall be deemed effectively given upon receipt.

13.3. Mediation.

(a) The Parties shall first attempt in good faith to resolve any Dispute by confidential mediation in accordance with the then current Mediation Procedure of the International Institute for Conflict Prevention and Resolution (the "**CPR Mediation Procedure**") (www.cpradr.org) before initiating arbitration. The CPR Mediation Procedure shall control, except where it conflicts with these provisions, in which case these provisions control. The mediator shall be chosen pursuant to CPR Mediation Procedure. The mediation shall be held in New York, New York.

(b) Subject to Section 13.1, either Party may initiate mediation by written notice to the other Party of the existence of a Dispute. The Parties agree to select a mediator within [*] days of the notice and the mediation will begin promptly after the selection. The mediation will continue until the mediator, or either Party, declares in writing, no sooner than after the conclusion of [*] full day of a substantive mediation conference attended on behalf of each

Party by a senior business person with authority to resolve the Dispute, that the Dispute cannot be resolved by mediation. In no event, however, shall mediation continue more than [*] days from the initial notice by a Party to initiate meditation unless the Parties agree in writing to extend that period.

(c) Any period of limitations that would otherwise expire between the initiation of mediation and its conclusion shall be extended until [*] days after the conclusion of the mediation.

13.4. Arbitration.

(a) If the Parties fail to resolve the Dispute in mediation, and a Party desires to pursue resolution of the Dispute, the Dispute shall be submitted by either Party for resolution in arbitration pursuant to the then current CPR Non-Administered Arbitration Rules (the "**CPR Rules**") (www.cpradr.org), except where they conflict with these provisions, in which case these provisions control. The arbitration will be held in New York, New York. All aspects of the arbitration shall be treated as confidential.

(b) The arbitrators will be chosen from the CPR Panel of Distinguished Neutrals, unless a candidate not on such panel is approved by both Parties. Each arbitrator shall be a lawyer with at least fifteen (15) years experience with a law firm or corporate law department of over twenty-five (25) lawyers or who was a judge of a court of general jurisdiction. To the extent that the Dispute requires special expertise, the Parties will so inform CPR prior to the beginning of the selection process.

(c) The arbitration tribunal shall consist of three (3) arbitrators, of whom each Party shall designate one (1) in accordance with the "screened" appointment procedure provided in CPR Rule 5.4. The chair will be chosen in accordance with CPR Rule 6.4.

(d) If, however, the aggregate award sought by the Parties is less than [*] and equitable relief is not sought, a single arbitrator shall be chosen in accordance with the CPR Rules.

(e) Candidates for the arbitrator position(s) may be interviewed by representatives of the Parties in advance of their selection, provided that all Parties are represented.

(f) The Parties agree to select the arbitrator(s) within [*] days of initiation of the arbitration. The hearing will be concluded within [*] months after selection of the arbitrator(s) and the award will be rendered within [*] days of the conclusion of the hearing, or of any post hearing briefing, which briefing will be completed by both Parties within [*] days after the conclusion of the hearing. In the event the Parties cannot agree upon a schedule, then the arbitrator(s) shall set the schedule following the time limits set forth above as closely as practical.

(g) The hearing will be concluded in [*] hearing days or less. Multiple hearing days will be scheduled consecutively to the greatest extent possible. A transcript of the testimony adduced at the hearing shall be made and shall be made available to each Party.

(h) The arbitrator(s) shall be guided, but not bound, by the CPR Protocol on Disclosure of Documents and Presentation of Witnesses in Commercial Arbitration (www.cpradr.org) (the "**Protocol**"). The Parties will attempt to agree on modes of document disclosure, electronic discovery, witness presentation, and the like within the parameters of the Protocol. If the Parties cannot agree on discovery and presentation issues, the arbitrator(s) shall decide on presentation modes and provide for discovery within the Protocol, understanding that the Parties contemplate reasonable discovery.

(i) The arbitrator(s) shall decide the merits of any Dispute in accordance with the law governing this Agreement, without application of any principle of conflict of laws that would result in reference to a different law. The arbitrator(s) may not apply principles such as "amiable compositeur" or "natural justice and equity."

(j) The arbitrator(s) are expressly empowered to decide dispositive motions in advance of any hearing and shall endeavor to decide such motions as would a United States District Court Judge sitting in the jurisdiction whose substantive law governs.

(k) The arbitrator(s) shall render a written opinion stating the reasons upon which the award is based. The Parties consent to the jurisdiction of the United States District Court for the district in which the arbitration is held for the enforcement of these provisions and the entry of judgment on any award rendered hereunder. Should such court for any reason lack jurisdiction, any court with jurisdiction may act in the same fashion.

(l) Each Party has the right to seek from the appropriate court provisional remedies, such as attachment, preliminary injunction or replevin, to avoid irreparable harm, maintain the status quo, or preserve the subject matter of the Dispute. Rule 14 of the CPR Rules does not apply to this Agreement.

(m) EACH PARTY HERETO WAIVES ITS RIGHT TO TRIAL OF ANY ISSUE BY JURY AND ANY CLAIM FOR ATTORNEY FEES, COSTS AND PREJUDGMENT INTEREST.

13.5. Tolling of Time Periods. In the event that a controversy or claim has been raised and is in the process of dispute resolution in accordance with Sections 13.1, 13.3 or 13.4, any applicable time period governing the underlying controversy or claim shall be tolled pending the outcome of the resolution process after which the time period shall again begin to run.

ARTICLE 14

MISCELLANEOUS

14.1. Entire Agreement; Amendment. This Agreement, along with the Exhibits hereto and the Development Supply Agreement and the Commercial Supply Agreement, sets forth the complete and final agreement, and all covenants, promises, agreements, warranties, representations, conditions and understandings, between the Parties regarding the subject matter hereof and supersedes and terminates all prior agreements and understandings between the Parties regarding such subject matter. There are no covenants, promises, agreements, warranties,

representations, conditions or understandings, either oral or written, between the Parties other than as are set forth herein and therein. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party.

14.2. Bankruptcy. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the U.S. Bankruptcy Code. The Parties shall retain and may fully exercise all of their respective rights and elections under the U.S. Bankruptcy Code. The Parties agree that a Party that is a licensee of such rights under this Agreement shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code, and that upon commencement of a bankruptcy proceeding by or against the licensing Party (such Party, the "**Involved Party**") under the U.S. Bankruptcy Code, the other Party (such Party, the "**Noninvolved Party**") shall be entitled to a complete duplicate of or complete access to (as such Noninvolved Party deems appropriate) any such intellectual property and all embodiments of such intellectual property, provided the Noninvolved Party continues to fulfill its payment or royalty obligations as specified herein in full. Such intellectual property and all embodiments thereof shall be promptly delivered to the Noninvolved Party (a) upon any such commencement of a bankruptcy proceeding upon written request therefor by the Noninvolved Party, unless the Involved Party elects to continue to perform all of its obligations under this Agreement, or (b) if not delivered under clause (a) above, following the rejection of this Agreement by or on behalf of the Involved Party upon written request therefor by the Noninvolved Party. The foregoing is without prejudice to any rights the Noninvolved Party may have arising under the U.S. Bankruptcy Code or other Applicable Laws.

14.3. Force Majeure. Both Parties shall be excused from the performance of their obligations under this Agreement to the extent that such performance is prevented by force majeure and the nonperforming Party promptly provides notice of the prevention to the other Party (which notice shall specify the nature and extent of the force majeure event, its anticipated duration and any action being taken to avoid or minimize its effect). Such excuse shall be continued so long as the condition constituting force majeure continues and the nonperforming Party takes reasonable efforts to remove the condition. For purposes of this Agreement, "force majeure" shall mean conditions beyond the reasonable control of the Parties, including an act of God, government or regulatory acts or restrictions, change in any standard of medical care, war, acts of terrorism, civil commotion, labor strike or lock-out, epidemic, failure or default of public utilities or common carriers, destruction of facilities or materials by fire, earthquake, flood, storm or like catastrophe; provided, however, the payment of invoices due and owing hereunder shall not be delayed by the Payor because of a force majeure affecting the Payor.

14.4. Notices. Any notice required or permitted to be given under this Agreement shall be in writing, shall specifically refer to this Agreement and shall be deemed to have been sufficiently given for all purposes if transmitted by facsimile transmission (with transmission confirmed), mailed by first class certified or registered mail, postage prepaid (which shall be deemed received by the other Party on the fifth (5th) Business Day following deposit in the mail), sent by express delivery service with tracking (e.g., FedEx) (which shall be deemed

received by the other Party upon delivery) or personally delivered. Unless otherwise specified in writing, the mailing addresses of the Parties shall be as follows.

For Janssen:	Janssen Pharmaceutica, N.V. Turnhoutseweg 30, 2340 Beerse, Belgium Fax: [*] Attention: Chairman and Managing Director
With a copy to:	Johnson & Johnson 1 Johnson & Johnson Plaza New Brunswick, NJ 08933 Telephone: [*] Fax: [*] Attention: Philip Johnson, Esq., Chief Intellectual Property Counsel
With a copy to: (for royalty reporting)	Janssen Pharmaceutica, N.V. Turnhoutseweg 30, 2340 Beerse, Belgium Fax: [*] Attention: Royalty Group
For Minerva:	Minerva Neurosciences, Inc. 245 First Street Cambridge, Massachusetts Attention: Chief Executive Officer
With a copy to:	Morgan, Lewis & Bockius 502 Carnegie Center Princeton, NJ 08540-6241 Fax: [*] Attention: Denis Segota, Esq.

14.5. United States Dollars. References in this Agreement to "Dollars" or "$" shall mean the legal tender of the United States of America.

14.6. No Strict Construction. This Agreement has been prepared jointly and shall not be strictly construed against either Party.

14.7. Assignment. Except as expressly provided herein, and without limitation of the Parties' right to license or sublicense their rights to Licensed Products to Third Parties, as expressly provided in this Agreement, neither Party may assign or transfer (collectively "assign") this Agreement, or any rights or obligations under this Agreement, without the prior written consent of the other, which consent may be withheld in the consenting Party's discretion; provided, however, that a Party may make such an assignment without the other Party's consent (a) to an Affiliate, provided that such Affiliate agrees in writing to be bound by the terms and conditions of this Agreement and that the assigning Party remains liable for the full and complete

performance of its obligations arising hereunder prior to such assignment; or (b) to its successor in conjunction with a Change of Control of such Party, provided that such assignee agrees in writing to be bound by the terms and conditions of this Agreement. This Agreement shall be binding upon the successors and permitted assigns of the Parties. Any assignment or attempted assignment by either Party in violation of the terms of this Section 14.7 shall be null and void and of no legal effect.

14.8. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Facsimile signatures, including signatures in a fixed electronic format such as PDF, shall have the same effect as originals.

14.9. Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other reasonable acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

14.10. Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable by any court of competent jurisdiction from which no appeal can be or is taken, the provision shall be considered severed from this Agreement and shall not serve to invalidate any remaining provisions hereof. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable provision such that the objectives contemplated by the Parties when entering this Agreement may be realized.

14.11. Ambiguities. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision.

14.12. Headings. The headings for each Article and Section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular article or section.

14.13. No Waiver. Any delay in enforcing a Party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such Party's rights to the future enforcement of its rights under this Agreement, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be in limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

14.14. Relationship of the Parties. Nothing herein shall be construed to create any relationship of employer and employee, agent and principal, partnership or joint venture or any other legal entity, between the Parties or to constitute one Party as the agent of the other. Each Party is an independent contractor. Neither Party shall assume, either directly or indirectly, any liability of or for the other Party. Neither Party shall have the authority to bind or obligate the other Party and neither Party shall represent that it has such authority.

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

14.15. No Use of Name. Except as set forth in Article 9 hereof, neither Party shall use in writing the name of the other Party without the other Party's prior written consent, unless such writing simply refers to the existence of this Agreement or other information concerning this Agreement that has been previously publicly disclosed in a manner permitted under this Agreement.

14.16. No Implied Licenses. Except as expressly and specifically provided under this Agreement, the Parties agree that neither Party is granted any implied rights to or under any of the other Party's current or future patents, trade secrets, copyrights, moral rights, trademarks, service marks, trade dress, or other intellectual property rights.

14.17. Interpretation. Unless specified to the contrary, references to Articles, Sections or Exhibits mean the particular Articles, Sections or Exhibits to this Agreement and references to this Agreement include all Exhibits hereto. Unless the context otherwise clearly requires, whenever used in this Agreement: (a) the words "include", "includes" or "including" shall be construed as incorporating, also, "but not limited to" or "without limitation;" (b) the word "notice" means notice in writing (whether or not specifically stated) and shall include notices, consents, approvals and other written communications contemplated under this Agreement; (c) the words "hereof," "herein," "hereby" and derivative or similar words refer to this Agreement (including any Exhibits); (d) the word "or" shall be construed as the inclusive meaning identified with the phrase "and/or;" (e) provisions that require that a Party, the Parties or any Committee hereunder "agree," "consent" or "approve" or the like shall require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise; (f) words of any gender include the other gender; (g) words using the singular or plural number also include the plural or singular number, respectively; (h) references to any specific law or article, section or other division thereof shall be deemed to include the then-current amendments thereto or any replacement law thereof; (i) the word "will" shall be construed to have the same meaning and effect as the word "shall"; and (j) the word "any" means "any and all".

(*The remainder of this page is intentionally left blank. The signature page follows.*)

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate originals by their proper officers as of the Execution Date.

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho

Name: Rogerio Vivaldi Coelho, MD, MBA

Title: Co-Founder, President, CEO

JANSSEN PHARMACEUTICA, N.V.

By: /s/ Tom Heyman

Name: Tom Heyman

Title: Managing Director
Chairman Board of Directors

By: /s/ Hilde Claes

Name: Hilde Claes

Title: VP Personeelsaangelegenheder
Campus Business Services

[Signature Page to Co-Development and License Agreement]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

EXHIBIT A

Johnson & Johnson Universal Calendar

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

janssen

2014 Universal CALENDAR

	S	M	T	W	T	F	S	Work Wk
JAN 4 WEEKS 19 billing days		30	31	[1]	(2)	3	4	1
	5	6	7	8	9	10	11	2
	12	13	14	15	(16)	17	18	3
	19	20	21	22	23	24	25	4
	△26							
FEB 4 WEEKS 19 billing days		27	28	29	(30)	31	1	5
	2	3	4	5	6	7	8	6
	9	10	11	12	(13)	14	15	7
	16	[17]	18	19	20	21	22	8
	△23							
MAR 5 WEEKS 25 billing days		24	25	26	(27)	28	1	9
	2	3	4	5	6	7	8	10
	9	10	11	12	(13)	14	15	11
	16	17	18	19	20	21	22	12
	23	24	25	26	(27)	28	29	13
	△30							
APR 4 WEEKS 20 billing days		31	1	2	3	4	5	14
	6	7	8	9	(10)	11	12	15
	13	14	15	16	17	18	19	16
	20	21	22	23	(24)	25	26	17
	△27							
MAY 4 WEEKS 20 billing days		28	29	30	1	2	3	18
	4	5	6	7	(8)	9	10	19
	11	12	13	14	15	16	17	20
	18	19	20	21	(22)	23	24	21
	△25							
JUN 5 WEEKS 24 billing days		[26]	27	28	29	30	31	22
	1	2	3	4	(5)	6	7	23
	8	9	10	11	12	13	14	24
	15	16	17	18	(19)	20	21	25
	22	23	24	25	26	27	28	26
	△29							

	S	M	T	W	T	F	S	Work Wk
JUL 4 WEEKS 19 billing days		30	1	2	(3)	[4]	5	27
	6	7	8	9	10	11	12	28
	13	14	15	16	(17)	18	19	29
	20	21	22	23	24	25	26	30
	△27							
AUG 4 WEEKS 20 billing days		28	29	30	(31)	1	2	31
	3	4	5	6	7	8	9	32
	10	11	12	13	(14)	15	16	33
	17	18	19	20	21	22	23	34
	△24							
SEP 5 WEEKS 24 billing days		25	26	27	(28)	29	30	35
	31	[1]	2	3	4	5	6	36
	7	8	9	10	(11)	12	13	37
	14	15	16	17	18	19	20	38
	21	22	23	24	(25)	26	27	39
	△28							
OCT 4 WEEKS 20 billing days		29	30	1	2	3	4	40
	5	6	7	8	(9)	10	11	41
	12	13	14	15	16	17	18	42
	19	20	21	22	(23)	24	25	43
	△26							
NOV 4 WEEKS 20 billing days		27	28	29	30	31	1	44
	2	3	4	5	(6)	7	8	45
	9	10	11	12	13	14	15	46
	16	17	18	19	(20)	21	22	47
	△23							
DEC 5 WEEKS 21 billing days		24	25	26	[27]	[28]	29	48
	30	1	2	3	(4)	5	6	49
	7	8	9	10	11	12	13	50
	14	15	16	17	(18)	19	20	51
	21	22	23	24	[25]	[26]	27	52
	△28							

*NOTE: Payroll work week numbers refer to Monday thru Saturday of the line shown plus the Sunday of the next line. The calendar reflects the accounting closes, paydays and holidays. There are 9 Company Holidays plus three (3) personal choice holidays for each employee in 2014. There are 52 weeks and 251 billing days in 2014.

□ HOLIDAY ○ PAY PERIOD △ MONTHLY ACCOUNTING CLOSE

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

EXHIBIT B

Provisional Development Plan and budget for Orexin-2 Antagonist [*]

Provisional Development Plan

Estimated Timeframe: [*]

1) [*]
2) [*]
3) [*]
4) [*]
5) [*]

It is expected that the results of item 4 along with any available data from items 1-3 and 5 would be presented to the [*] and form the basis for the first decision point (Decision Point 1). With a positive decision by the [*], additional activities are planned to be undertaken.

Estimated Timeframe: [*]

6) [*]
7) [*]
8) [*]
9) [*]
10) [*]

It is expected that the results of items 9 and 8 along with any available data from items 6, 7 and 10 would be presented to the [*] and form the basis for the second decision point (Decision Point 2). With a positive decision by the [*] to continue, additional activities would be expected to be undertaken.

Estimated Timeframe: [*]

11) [*]

It is expected that the results of interim analysis from item 11 would be presented to the [*] and form the basis for the third decision point (Decision Point 3). With a positive decision by the [*] to continue, additional activities would be expected to be undertaken.

Estimated Timeframe: [*]

12) [*]

It is expected that the results of item 12 would be presented to the [*] and form the basis for the fourth decision point (Decision Point 4).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

Provisional Budget

Budget Estimates

Total Cost to Launch by Phase

in USD Millions	Adjunctive MDD	Primary Insomnia	Total	Notes
Phase 1A	[*]	[*]	[*]	2
Phase 1B	[*]	[*]	[*]	2
Phase 2A	[*]	[*]	[*]	4
Phase 2B	[*]	[*]	[*]	4
Phase 3	[*]	[*]	[*]	5
Registration	[*]	[*]	[*]	6
Total Cost to Launch	[*]	[*]	[*]	

2013-2016 Cost by Decision Point

in USD Millions	2013	2014	2015	2016	Total	Notes
Decision Point 1	[*]	[*]	—	—	[*]	1
Decision Point 2	—	[*]	[*]	—	[*]	2
Decision Point 3				[*]	[*]	3
Total	[*]	[*]	[*]	[*]	[*]	

Notes to Budget Estimates:
1) [*]
2) [*]
3) [*]
4) [*]
5) [*]
6) [*]

Provisional Gantt Chart

[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

<u>EXHIBIT C</u>

Janssen Patents

Country [W]	Title	Filing Number	Filing Date
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]		
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]
[*]	[*]	[*]	[*]

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

EXHIBIT D

Compliance

1.1 Minerva acknowledges that Janssen aims to perform its activities, and to have parties such as Minerva who enter into business arrangements with Janssen perform their activities under such arrangements, in accordance with the highest ethical standards and best industry practices, including without limitation any voluntary codes of practice applicable in the industry for the research. Minerva agrees to use commercially reasonable efforts to help ensure that Janssen does not fail to meet such aim with respect to activities hereunder through any violation of the FCPA.

1.2 Minerva shall comply with all laws and regulations concerning its efforts in any country or jurisdiction where it is providing work hereunder or otherwise applying to any of its activities under this Agreement. Minerva shall use reasonable efforts to ensure that its personnel performing under this Agreement become reasonably familiar with the U.S. Foreign Corrupt Practices Act (the "**FCPA**"), its prohibitions and purposes, and that they will not undertake any actions in connection with the Agreement and the business resulting therefrom that would violate the FCPA. Accordingly, Minerva hereby certifies that:

(i) no person employed by it is an official or employee of any government or any department, agency or instrumentality thereof (including, but not limited to, any health or medical providers owned or controlled by the government);

(ii) no payment or offer to pay, or the giving or offering to give, anything of value to an official or employee of any department, agency or instrumentality thereof (including, but not limited to, any health or medical providers owned or controlled by the government), or to any political party or any candidate for political office, shall be made with the purpose of influencing any decisions favorable to Janssen and its Affiliates in connection with this Agreement and the business resulting therefrom in contravention of the FCPA or the laws of the country in which it is providing work;

(iii) it has not paid, nor offered or agreed to pay, nor caused to be paid, directly or indirectly, any political contributions, fees or commissions to any governmental employee or representative (including, but not limited to, any employee of any health or medical provider owned or controlled by the government) in connection with this Agreement and the business resulting therefrom that would appear to cause a violation of the FCPA;

(iv) it will not, directly or indirectly, in connection with the Agreement and the business resulting therefrom, offer, pay, promise to pay, or authorize the

giving of money or anything of value to any governmental official or representative, to any political party or official thereof, or to any candidate for political office, or to any person, while knowing or having received an indication or evidence that all or any portion of such money or thing of value will be offered, given, or promised, directly or indirectly, to any government official, to any political party or official thereof, or to any candidate to political office, for the purpose of:

a. influencing any act or decisions of such official, political party, party official, or candidate in its official capacity, including a decision to fail to perform official functions in connection with this Agreement and the business resulting therefrom; or

b. inducing such official, political party, party official, or candidate to use influence with the government or instrumentality thereof to affect or influence any act or decision of such government or instrumentality, in order to assist Janssen or Minerva in obtaining or retaining business for or with, or directing business to, any Affiliate or Third Party.

Minerva further agrees that if subsequent developments cause the certifications and information reported herein to be no longer accurate or complete, Minerva will promptly so advise Janssen in writing.

1.3 In the event of a claim or investigation, or an official request for Janssen to cooperate with respect to any such claim or investigation, by a Regulatory Authority, government agency, or other legal authority having jurisdiction over either Party, of an alleged violation of the FCPA arising from any activities conducted by Minerva relating to this Agreement or any Licensed Products, Minerva shall provide Janssen and its agents and representatives (collectively, "**Agents**"), as well as any such Regulatory Authority or government agency, or other legal authority having jurisdiction over Janssen, with access to Minerva's facilities, records (financial and otherwise), and supporting documentation, as reasonably requested by Janssen or Janssen's Agents in order to cooperate in connection with such claim or investigation. Minerva acknowledges that the provisions of this EXHIBIT D granting Janssen certain audit rights shall in no way relieve Minerva of any of its obligations under the Agreement, nor shall such provisions require Janssen to conduct any such audits.

1.4 During the Term, Minerva shall maintain true and accurate records: (i) documenting its efforts made pursuant to Paragraph 1.1 of this EXHIBIT D; (ii) of payments made to any officials or employees of any government or any department, agency or instrumentality thereof; and (iii) of political contributions.

1.5 Minerva acknowledges and agrees that any breach of its obligations under Section 10.5(e) will constitute a material breach of the Agreement.

1.6 Notwithstanding anything to the contrary in the Agreement, Janssen may disclose its terms and conditions (including any financial terms) to any party that Janssen determines in good faith has a legitimate need for access to such information for purposes of investigating or determining either Party's compliance with Applicable Laws (including, but not limited to, any governmental authorities in the U.S. or those in the country where research is being provided).

A request for confidential treatment has been made with respect to portions of the following document that are marked with [*]. The redacted portions have been filed separately with the SEC.

EXHIBIT E

Minerva Patents

None

Exhibit 10.8

EXECUTION COPY

October 4, 2013

Dr. Rogerio Vivaldi Coelho
716 Newton Street
Brookline, MA, 02467
US

Dear Rogerio:

Further to our offer letter to you dated September 17, 2013 (the "Offer Letter"), this agreement (this "Employment Agreement") will formalize the terms and conditions of your employment with Cyrenaic Pharmaceuticals, Inc. (the "Company").

1. Employment. Subject to the termination of your employment in accordance with Section 8 below, you agree to be employed, and the Company agrees to employ you, effective November 1, 2013 (the "Effective Date"). The period during which you are actually employed by the Company is referred to as the "Employment Period". The Company will relocate its offices to the greater Boston, Massachusetts metropolitan area; these relocated offices will be your principal work location.

2. Position; Duties; Commitment. During the Employment Period, you will be employed by the Company as its Chief Executive Officer. You will report to the board of directors of the Company (the "Board"), and shall perform such duties consistent with your position as Chief Executive Officer and as may be assigned to you by the Board. During the Employment Period, the Company shall nominate you for election as a member of the Board at each meeting of the Company's shareholders at which your election is subject to a vote by the Company's shareholders and recommend that the shareholders of the Company vote to elect you as a member of the Board. To the extent so elected, you agree to serve on the Board without additional compensation. From time to time, you also may be designated to such offices within the Company or its subsidiaries as may be necessary or appropriate for the convenience of the businesses of the Company and its subsidiaries, and you agree to serve in such offices without additional compensation. You agree to devote substantially all of your working time, attention and energies to the Company and its Affiliates, and while you remain employed, not to engage in any other business activity that is in conflict with your duties and obligations to the Company; provided, however, that, for the avoidance of doubt, you may (i) manage your passive personal investments, (ii) serve on industry, trade, civic, charitable or non-profit corporate boards or committees, and (iii) with the

advance written consent of the Board, serve on outside for-profit corporate boards or committees. For purposes of this Agreement, the term "Affiliates" means all persons and entities directly or indirectly controlling, controlled by or under common control with the Company, where control may be by management authority or equity interest.

3. Base Salary. During the Employment Period, you will be paid an annual salary ("Base Salary") at a rate of $425,000, payable in accordance with the Company's normal payroll practice. Your Base Salary will be subject to review and increase (but not decrease) by the Board (or a subcommittee thereof) from time to time.

4. Annual Bonus**.** For each calendar year that ends during the Employment Period, commencing with the 2014 calendar year, you will be entitled to an annual bonus ("Annual Bonus") in an amount up to 50% of the Base Salary paid in such calendar year and based upon the achievement of objectives set by the Board (or a subcommittee thereof) following consultation with you; provided, however, that the Board may, in its sole discretion, award an Annual Bonus in excess of 50% of the Base Salary based on performance. The Annual Bonus with respect to any year shall be paid in the following calendar year as soon as practicable after preparation of the Company's financial statements, and in all events by May 31, subject to your continued employment through the last day of the calendar year for which the bonus is earned.

5. Special Bonus on an Initial Public Offering. On the date of the closing of an IPO (the "IPO Closing Date"), subject to your continued employment through such date, you shall receive a payment equal to $250,000. "IPO" means the initial sale of the equity securities of the Company to the public pursuant to an effective registration statement under the Securities Act of 1933.

6. Option Grant. Within thirty (30) days following the Effective Date, you will be granted an option (the "Option") to purchase the number of shares of common stock of the Company equal to 5% of the fully diluted outstanding shares of common stock of the Company on the date of the grant, with an exercise price equal to fair market value on the date of the grant. Provided you are employed by the Company on each such date, 25% of the shares subject to the Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Option will vest ratably at the end of each quarter over the three (3) year period thereafter. Upon the date an IPO is priced pursuant to a definitive agreement between the Company and an underwriter, subject to your continued employment through such date and the closing of the IPO, you will be granted an option (the "Anti-Dilution Option") to purchase a number of shares of common stock of the Company, with an exercise price equal to the price to the public in the IPO, such that, when the Option and the Anti-Dilution Option are aggregated, you continue to

hold options to purchase 5% of the fully diluted outstanding shares expected to be outstanding on the closing date of the IPO. Provided you are employed by the Company on each such date, 25% of the shares subject to the Anti-Dilution Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Anti-Dilution Option will vest ratably at the end of each quarter over the three (3) year period thereafter. The Option and Anti-Dilution Option shall be granted pursuant to an equity incentive plan to be adopted by the Company, and shall be subject to the terms thereof (to the extent not inconsistent with the terms of this Agreement).

7. Benefits.

(a) During the Employment Period, you will be eligible to participate in medical and life insurance plans, with the Company covering the full cost of such participation, and any other benefit plans as may be established by the Company from time to time. Notwithstanding the foregoing, if medical and life insurance plans have not been established by the Company as of the Effective Date, the Company will pay the COBRA and life insurance premiums (on a grossed-up basis) for your participation in the medical and life insurance plans that you participate in as of the date hereof, until such time when the Company's plans have been established.

(b) During the Employment Period, the Company shall reimburse or otherwise provide for or pay for reasonable out-of-pocket expenses incurred by you in furtherance of or in connection with the business of the Company, subject to such reasonable documentation as may required by the Company.

(c) During the Employment Period, in addition to holidays recognized by the Company, you will be entitled to four (4) weeks of paid vacation annually.

8. Termination of Employment.

(a) Death. Your employment will terminate upon your death. Your beneficiaries will be entitled to (i) any earned but unpaid Base Salary, to be paid within 10 days of your termination of employment, (ii) compensation at the rate of your Base Salary for any vacation time earned but not used as of the date your employment terminates, (iii) any amounts earned under Section 4 but not yet paid, to be paid in accordance with Section 4, (iv) reimbursement for any business expenses incurred by you but not yet paid to you as of the date your employment terminates, provided all expenses and supporting documentation required are submitted within sixty (60) days of the date your employment terminates, and provided further that such expenses are reimbursable under Company policy, and (iv) any amounts accrued and payable under the terms of any of the Company's benefit plans (collectively the "Accrued Obligations").

(b) Disability. The Board may terminate your employment by reason of your Disability. "Disability" means that you have been unable to perform your essential job functions

by reason of a physical or mental impairment, notwithstanding the provision of any reasonable accommodation, for a period of 180 days within a period of 365 consecutive days. Upon such termination, you will be entitled only to the Accrued Obligations.

(c) Termination by the Company for Cause. The Board may terminate your employment for Cause. "Cause" means that you have (i) been convicted of (x) a felony, or (y) a misdemeanor involving moral turpitude (other than a minor traffic violation), (ii) committed an act of fraud or embezzlement against the Company or its Affiliates, (iii) materially breached this Employment Agreement and failed to cure such breach within thirty (30) days following written notice from the Company, (iv) materially violated any written policy of the Company and failed to cure such violation within thirty (30) days following written notice from the Company, (v) materially failed or materially refused to substantially perform your duties (other than by reason of a physical or mental impairment) or to implement the lawful written directives of the Board that are consistent with your position, and such material failure or material refusal has continued after thirty (30) days following written notice from the Company, (vi) willfully engaged in conduct or willfully omitted to take any action, resulting in material injury to the Company or its Affiliates, monetarily or otherwise (including with respect to the Company's ability to comply with its legal or regulatory obligations), or (vii) materially breached your fiduciary duties as an officer or director of the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(d) Termination by the Company without Cause. The Company may terminate your employment for any or no reason. If such termination is not for Cause and not by reason of your Disability, then, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to (i) continued payment of your Base Salary for twelve (12) months, (ii) payment of your COBRA premiums on a grossed-up basis, less the amount charged to active employees for health coverage, for twelve (12) months, (iii) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus is equal to 50% of your Base Salary) and (iv) immediate vesting of any unvested options, restricted stock, restricted stock units, or other equity awards that are outstanding immediately prior to the date of termination and, but for the termination of your employment, would have vested during the twelve (12) month period immediately following the date of termination (collectively, the "Severance Benefits"). Your right to the Severance Benefits shall be conditional upon (x) your continuing compliance with the restrictive covenants contained in Section 9, (y) your continuing material compliance with the provisions of Section 10, and (z) your execution of a customary release of claims relating to your employment (which form does not impose any additional material obligations on you) in the form agreed to between you and the Company (the "Release of Claims"). You must execute the Release of Claims within forty-five (45) days following the date of the termination of your employment (which release shall be delivered to you within five (5) days following the date of such termination). The first payment of continued Base Salary and COBRA premiums, together with the pro-rata Annual Bonus payable pursuant to subsection (iii) above, pursuant to this Section 8(d) shall be made on the effective date of the Release of Claims as set forth in this Section 8(d); provided, however, that if the time period to consider and revoke the Release of Claims covers

two of your taxable years, payment of Severance Benefits of which any portion is treated as non-qualified deferred compensation pursuant to Section 409A of the Internal Revenue Code will begin in the later taxable year.

(e) Termination by You Without Good Reason. You may terminate your employment for any or no reason subject to your providing 30 days written notice to the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(f) Termination by Your For Good Reason. You may terminate your employment for Good Reason by providing notice to the Company of the condition giving rise to the Good Reason no later than ninety (90) days following the occurrence of the condition, by giving the Company thirty (30) days to remedy the condition and by terminating your employment for Good Reason within ninety (90) days thereafter if the Company fails to remedy the condition. For purposes of this Agreement, "Good Reason" shall mean, without your written consent, the occurrence of any one or more of the following events: (i) material diminution in the nature or scope of the your responsibilities, duties or authority; (ii) reduction in your Base Salary or maximum annual bonus potential; (iii) relocation of your principal work location more than fifty (50) miles from the location of your principal work location as of immediately prior to such relocation; or (iv) material breach of this Agreement by the Company. In the event you terminate your employment for Good Reason, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to the Severance Benefits, in accordance with and subject to the provisions of Section 8(d).

9. Restrictive Covenants.

(a) Non-Competition. During your employment and ending on the twelve (12) month anniversary following the termination of your employment (the "Restricted Period"), you will not (except as an officer, director, stockholder, member, manager, employee, agent or consultant of the Company or its subsidiaries) directly or indirectly, own, manage, operate, join, or have a financial interest in, control or participate in the ownership, management, operation or control of, or be employed as an employee, agent or consultant, or in any other individual or representative capacity whatsoever, or use or permit your name to be used in connection with, any business anywhere in the world which is primarily engaged in the business of research, development and commercialization of drugs to treat (i) psychiatric disorders, sleep disorders or Parkinson's disease or (ii) any other indication for which the Company is clinically developing or commercializing a drug at the time of termination of your employment (the "Restricted Business"). It is recognized that the Restricted Business is expected to be conducted throughout the world and that more narrow geographical limitations of any nature on this non-competition covenant (and the non-solicitation covenant set forth in Section 9(b)) are therefore not appropriate. These restrictions shall not prevent you from (y) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that your services

for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (z) holding five percent (5%) of the securities of any publicly traded entity.

(b) Non-Solicitation. During the Restricted Period, you agree not to, directly or indirectly, whether for your own account or for the account of any other individual or entity, (i) solicit for hire or engagement, hire, or engage any individual who is employed by the Company or its Affiliates on the date of any attempted solicitation or was employed during the six month period prior thereto unless such individual had been involuntarily terminated by the Company or (ii) otherwise induce or attempt to induce any individual who is employed by Company or its Affiliates to terminate such employment.

(c) Trade Secrets and Confidential Information. You recognize that it is in the legitimate business interest of the Company and its Affiliates to restrict your disclosure or use of Trade Secrets or other Confidential Information relating to the Company and its Affiliates for any purpose other than in connection with your performance of your duties to the Company and its Affiliates, and to limit any potential appropriation of such Trade Secrets or other Confidential Information. You therefore agree that all Trade Secrets or other Confidential Information relating to the Company and its Affiliates heretofore or in the future obtained by you shall be considered confidential and the proprietary information of the Company and its Affiliates. Except as required in connection with the performance of your duties, you shall not use or disclose, or authorize any other person or entity to use or disclose, any Trade Secrets or other Confidential Information. The term "Trade Secrets or other Confidential Information," means any information of the Company or its Affiliates that is not generally known by those with whom they compete and includes, by way of example and without limitation, in whatever medium, the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, machine, invention, improvement, manufacturing, sales or test data, business or financial information which are non-public in nature and which are treated as confidential or trade secret information by the Company. The term "Trade Secrets or other Confidential Information" does not include information that enters the public domain, other than through your breach of your obligations under this Agreement.

(d) Discoveries and Works. All Discoveries and Works made or conceived by you, during the Employment Period, jointly or with others, that relate to the present or anticipated activities of the Company or its Affiliates, or are used by the Company or any Affiliate shall be owned by the Company or any Affiliate. The term "Discoveries and Works" means Trade Secrets or other Confidential Information, patents and patent applications, trademarks and trademark registrations and applications, service marks and service mark registrations and applications, trade names, copyrights and copyright registrations and applications, inventions,

developments and discoveries. You shall (a) promptly notify, make full disclosure to, and execute and deliver any documents, including any assignment agreement, requested by the Company or any Affiliate, as the case may be, to evidence or better assure title to Discoveries and Works in the Company or any subsidiary, as so requested, (b) renounce any and all claims, including but not limited to claims of ownership and royalty, with respect to all Discoveries and Works and all other property owned or licensed by the Company or any of its Affiliates, (c) assist the Company or any of its Affiliates in obtaining or maintaining for itself at its own expense United States and foreign patents, copyrights, trade secret protection or other protection of any and all Discoveries and Works, and (d) promptly execute, whether during the Employment Period or thereafter, all applications or other endorsements necessary or appropriate to maintain patents and other rights for the Company or any Affiliate and to protect the title of the Company or any Affiliate thereto, including but not limited to assignments of such patents and other rights to Discoveries and Works. You acknowledge that all Discoveries and Works shall be deemed "works made for hire" under the Copyright Act of 1976, as amended, 17 U.S.C. § 101.

(e) Remedies. You agree that the Company and its Affiliates' remedies at law for any breach or threatened breach by you of any of the provisions of this Section 9 will be inadequate, and that, in addition to any other remedy to which the Company and its Affiliates may be entitled at law or in equity, the Company shall be entitled to a temporary or permanent injunction or injunctions or temporary restraining order or orders to prevent breaches of the provisions of this Section 9 and to enforce specifically the terms and provisions hereof, in each case without the need to post any security or bond. Nothing herein contained shall be construed as prohibiting the Company or its Affiliates from pursuing, in addition, any other remedies available to the Company or any Affiliate for such breach or threatened breach.

(f) Enforceability. It is expressly understood and agreed that although the parties consider the restrictions contained in this Section 9 hereof to be reasonable for the purpose of preserving the goodwill, proprietary rights and going concern value of the Company and its Affiliates, if a final determination is made by an arbitrator or court, as the case may be, having jurisdiction that the time or territory or any other restriction contained in this Section 9 is an unenforceable restriction on your activities, the provisions of this Section 9 shall not necessarily be rendered void but shall be deemed amended to apply as to such maximum time, if any and territory, if any and to such other extent, if any, as such arbitrator or court, as the case may be, may determine to be reasonable. Alternatively, if the arbitrator or court, as the case may be, referred to above finds that any restriction contained in this Section 9 or any remedy provided herein is unenforceable, and such restriction or remedy cannot be amended so as to make it enforceable, such

finding shall not affect the enforceability of any of the other restrictions contained therein or the availability of any other remedy.

10. Future Cooperation. You agree that upon the Company's reasonable request following your termination of employment, you will use reasonable efforts to assist and cooperate with the Company in connection with the defense or prosecution of any claim that may be made against or by the Company or its Affiliates, or in connection with any ongoing or future investigation or dispute or claim of any kind involving the Company or its Affiliates, including any proceeding before any arbitral, administrative, regulatory, self-regulatory, judicial, legislative, or other body or agency. You will be entitled only to reimbursement for reasonable out-of-pocket expenses (including travel expenses) incurred in connection with providing such assistance.

11. Withholding. The Company shall have the right to withhold from any amount payable to you hereunder an amount necessary in order for the Company to satisfy any withholding tax obligation it may have under applicable law.

12. Governing Law. The terms of this Employment Agreement, and any action arising hereunder, shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts giving effect to any choice of law or conflict of law provision or rule (whether of the Commonwealth of Massachusetts or other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Massachusetts.

13. Waiver. This Employment Agreement may not be released, changed or modified in any manner, except by an instrument in writing signed by you and the Board. The failure of either party to enforce any of the provisions of this Employment Agreement shall in no way be construed to be a waiver of any such provision. No waiver of any breach of this Employment Agreement shall be held to be a waiver of any other or subsequent breach.

14. Assignment. This Employment Agreement is personal to you. You shall not assign this Employment Agreement or any of your rights and/or obligations under this Employment Agreement to any other person. The Company may, without your consent, assign this Employment Agreement to a successor to all or substantially all of its stock or assets, provided that the assignee or any successor remains bound by these terms.

15. Dispute Resolution. To benefit mutually from the time and cost savings of arbitration over the delay and expense of the use of the federal and state court systems, all disputes involving this Employment Agreement (except, at the election of either party, for injunctive or declaratory relief with respect to disputes arising

out of an alleged breach or threatened breach of the restrictive covenants contained in Section 9), including claims of violations of federal or state discrimination statutes or public policy, shall be resolved pursuant to binding arbitration in the Commonwealth of Massachusetts. In the event of a dispute, a written request for arbitration shall be submitted to the Boston office of the American Arbitration Association. The award of the arbitrators shall be final and binding and judgment upon the award may be entered in any court having jurisdiction thereof. Except as otherwise provided above, this procedure shall be the exclusive means of settling any disputes that may arise under this Employment Agreement. All fees and expenses of the arbitrators and all other expenses of the arbitration, except for attorneys' fees and witness expenses, shall be allocated as determined by the arbitrators. Each party shall bear its own witness expenses and attorneys' fees, except as otherwise determined by the arbitrators.

16. Jointly Drafted Agreement. This Employment Agreement is and shall be deemed jointly drafted and written by the parties and shall not be construed or interpreted against any party originating or preparing any part of it because of its authorship.

17. No Conflicts. You represent and warrant to the Company that your acceptance of employment and the performance of your duties for the Company will not conflict with or result in a violation or breach of, or constitute a default under any contract, agreement or understanding to which you are or were a party or of which you are aware and that there are no restrictions, covenants, agreements or limitations on your right or ability to enter into and perform the terms of this Employment Agreement. You further represent and warrant that you have no knowledge of any fact or circumstance that could prevent or materially delay you or the Company (as a result of your employment hereunder) from obtaining or maintaining any registration, license or other authorization or approval required for (i) you to perform your duties hereunder or (ii) the Company to operate its business as currently contemplated.

18. Notices. All notices and other communications provided for in this Employment Agreement shall be in writing, shall be given to the respective addresses or telecopy numbers set forth in clauses (a) and (b) of this Section 18.

(a) Each notice or other communication to the Company under this Employment Agreement shall be directed as follows or to such other address as Company may have furnished to you in writing in accordance herewith:

Cyrenaic Pharmaceuticals, Inc.
47 Hulfish Street
Princeton, NJ 08542
Facsimile No.: 609-683-5787
Attn: Lorenzo Pellegrini
Email: lorenzopellegrini@carecapital.com

With a required copy to:

Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540-6241
Facsimile No.: 609.919.6701
Attn: Denis Segota
E-mail: dsegota@morganlewis.com

(b) Each notice or other communication to you under this Employment Agreement shall be directed to your home address on file with the Company or to such other address as you may have furnished to the Company in writing in accordance herewith

19. Entire Agreement. Upon the date hereof, this Employment Agreement supersedes all previous and contemporaneous communications, agreements and understandings between you, on the one hand, and the Company or any of its Affiliates, on the other hand, including the Offer Letter, and constitutes the sole and entire agreement between you and the Company pertaining to the subject matter hereof.

20. Counterparts. This Employment Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become a binding agreement when one or more counterparts have been signed by each party and delivered to the other party.

21. 409A Matters.

(a) Notwithstanding any provision of this Employment Agreement to the contrary, this Employment Agreement is intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). Accordingly, all provisions herein, or incorporated by reference, shall be construed and interpreted to comply with Section 409A of the Code. For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury

regulations after giving effect to the presumptions contained therein). Further, for purposes of the limitations on nonqualified deferred compensation under Section 409A of the Code, each payment of compensation under this Employment Agreement shall be treated as a separate payment of compensation. Any amounts payable solely on account of an involuntary separation from service within the meaning of Section 409A of the Code shall be excludible from the requirements of Section 409A of the Code, either as involuntary separation pay or as short-term deferral amounts to the maximum possible extent. Any reimbursements or in-kind benefits provided under this Employment Agreement shall be made or provided in accordance with the requirements of Section 409A of the Code, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the period of time specified in this Employment Agreement, (ii) the amount of expenses eligible for reimbursement, or in kind benefits provided, during a calendar year may not affect the expenses eligible for reimbursement, or in kind benefits to be provided, in any other calendar year, (iii) the reimbursement of an eligible expense will be made no later than the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement or in kind benefits is not subject to liquidation or exchange for another benefit. The welfare benefit continuation provided during the period of time in which you would be entitled to continuation coverage under the Company's group health plan under COBRA is intended to qualify for the exception from deferred compensation as a medical benefit provided in accordance with the requirements of Treasury Regulation Section 1.409A-1(b)(9)(v)(B).

(b) Notwithstanding any provision of the Employment Agreement to the contrary, if you are a "specified employee" within the meaning of Section 409A of the Code at the time of termination of employment, to the extent necessary to comply with Section 409A of the Code, any payment required under this Employment Agreement shall be delayed for a period of six (6) months after termination of employment pursuant to Section 409A of the Code, regardless of the circumstances giving rise to or the basis for such payment. Payment of such delayed amount shall be paid in a lump sum on the day immediately following the end of the six (6) month period. If you die during the postponement period prior to the payment of the delayed amount, the amounts delayed on account of Section 409A of the Code shall be paid to the personal representative of your estate within ninety (90) days after the date of your death. For these purposes, a "specified employee" shall mean an employee who, at any time during the 12-month period ending on the identification date, is a "specified employee" under Section 409A of the Code, as determined by the Company. The determination of "specified employees," including the number and identity of persons considered "specified employees" and the identification date, shall be made by the Company in accordance with Treasury regulation Section 1.409A-1(i).

* * * *

If the foregoing is acceptable to you, kindly sign and return to us one copy of this letter.

Sincerely yours,

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Lorenzo Pellegrini
Name: Dr. Lorenzo Pellegrini
Title: Director

AGREED TO AND ACCEPTED BY:

/s/ Rogerio Vivaldi Coelho
Rogerio Vivaldi Coelho

AMENDMENT NO. 1
TO
EMPLOYMENT AGREEMENT

The Employment Agreement entered into by and between Minerva Neurosciences, Inc. (formerly known as Cyrenaic Pharmaceuticals, Inc.) (the "Company") and Rogerio Vivaldi Coelho, MD, MBA, dated October 4, 2013 (the "Employment Agreement") is hereby amended as follows:

1. Section 6 of the Employment Agreement is hereby amended in its entirety to read as follows:

"6. Option Grant. You will be granted an option (the "Initial Option") to purchase 1,892,528 shares of common stock of the Company with an exercise price per share equal to the fair market value per share of common stock on the date of the grant. Provided you are employed by the Company on each such date, 25% of the shares subject to the Initial Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Initial Option will vest in equal installments at the end of each quarter over the three (3) year period thereafter. Upon the date an IPO is priced pursuant to a definitive agreement between the Company and an underwriter, subject to your continued employment through such date, you will be granted an option (the "Anti-Dilution Option") to purchase a number of shares of common stock of the Company, with an exercise price per share equal to the price per share issued to the public in the IPO, such that, when the Initial Option and the Anti-Dilution Option are aggregated, you hold options to purchase 5% of the fully diluted outstanding shares expected to be outstanding on the closing date of the IPO. Provided you are employed by the Company on the closing date of the IPO and each vesting date, 25% of the shares subject to the Anti-Dilution Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Anti-Dilution Option will vest in equal installments at the end of each quarter over the three (3) year period thereafter. The Initial Option and Anti-Dilution Option shall be granted pursuant to an equity incentive plan to be adopted by the Company, and shall be subject to the terms thereof (to the extent not inconsistent with the terms of this Agreement)."

2. Except as modified by this Agreement, all the term and provisions of the Employment Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment on the date indicated below.

ROGERIO VIVALDI COELHO, MD, MBA

/s/Rogerio Vivaldi Coelho

Dated: 30 Dec., 2013

MINERVA NEUROSCIENCES, INC.

By: /s/ Lorenzo Pellegrini

Title: Secretary & Director

Dated: 30 December, 2013

Exhibit 10.9

December 23, 2013

Joseph Reilly
12 Nelson Way
Wilmington, MA 01887

Dear Joe:

Further to our offer letter to you dated December 13, 2013 (the "Offer Letter"), this agreement (this "Employment Agreement") will formalize the terms and conditions of your employment with Minerva Neurosciences, Inc. (the "Company").

1. Employment. You agree to be employed, and the Company agrees to employ you, effective January 5, 2014 (the "Effective Date"). The period during which you are actually employed by the Company is referred to as the "Employment Period".

2. Position; Duties; Commitment. During the Employment Period, you will be employed by the Company as its Chief Business Offer. You will report to the Company's President and Chief Executive Officer ("CEO"), and shall perform such duties consistent with your position as Chief Business Officer and as may be assigned to you by the CEO and/or the Board of Directors of the Company (the "Board"). You agree to devote substantially all of your working time, attention and energies to the Company and its Affiliates, and while you remain employed, not to engage in any other business activity that is in conflict with your duties and obligations to the Company; provided, however, that, for the avoidance of doubt, you may (i) manage your passive personal investments, (ii) with advance written approval from the Company, serve on industry, trade, civic, charitable or non-profit corporate boards or committees, and (iii) with the advance written approval of the Company, serve on outside for-profit corporate boards or committees. For purposes of this Agreement, the term "Affiliates" means all persons and entities directly or indirectly controlling, controlled by or under common control with the Company, where control may be by management authority or equity interest.

3. Base Salary. During the Employment Period, you will be paid an annualized base salary ("Base Salary") of $250,000, payable in accordance with the Company's

normal payroll practice. Your Base Salary will be subject to review and adjustment by the Company from time to time.

4. Sign-On Bonus. Provided you commence employment pursuant to this Employment Agreement, after you have completed 90 calendar days of employment you will receive a one-time sign-on bonus of $30,000, less applicable taxes and withholdings. This payment will be made in the first payroll period after completion of the 90 calendar days of employment.

5. Annual Bonus**.** For each calendar year that ends during the Employment Period, commencing with the 2014 calendar year, you will be eligible to receive an annual bonus ("Annual Bonus") in an amount up to 30% of the Base Salary paid in such calendar year. Whether to grant a bonus, and in what amount, are determinations to be made in the discretion of the Company based on a variety of factors including, but not limited to, achievement of objectives established by the Board for the Company and specific annual objectives for your position set by the Board or the CEO. Since one of the objectives of the Annual Bonus is employee retention, in order to remain eligible and receive any Annual Bonus, you must be employed through the end of the calendar year and still be employed by the Company at the time it makes bonus payments to employees for that year — generally during the first quarter of the following year.

6. Option Grant. Provided you continue to be employed by the Company on the date of the closing of the Company's Initial Public Offering (the "IPO"), you will be granted an option (the "Option") to purchase the number of shares of common stock of the Company equal to 0.45% of the fully diluted outstanding shares of common stock of the Company on the date immediately following the close of the IPO, with an exercise price equal to the price to the public in the IPO. Provided you are employed by the Company on each such date, 25% of the shares subject to the Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Option will vest ratably at the end of each quarter over the three (3) year period thereafter. The Option will be evidenced by a standard stock option agreement, and will be subject to the terms and conditions of that agreement and the stock option plan under which the Option is granted.

7. Benefits.

(a) You shall be eligible to participate in any and all benefit programs that the Company establishes and makes available to similarly situated employees from time to time, provided that you are eligible under (and subject to all provisions

of) the plan documents governing those programs. Such benefits may include participation in group medical, dental, and vision insurance programs, and term life insurance. The benefits made available by the Company, and the rules, terms, and conditions for participation in such benefit plans, may be changed by the Company at any time without advance notice.

(b) Notwithstanding the foregoing, if medical and life insurance plans have not been established by the Company as of the Effective Date, the Company will pay the COBRA and life insurance premiums (on a grossed-up basis) for your participation in the medical and life insurance plans that you participate in as of the date hereof, until such time when the Company's plans have been established.

(c) During the Employment Period, the Company shall reimburse or otherwise provide for payment for reasonable out-of-pocket business expenses incurred by you in furtherance of or in connection with the legitimate business of the Company, subject to such reasonable documentation or policy requirements established by the Company from time to time.

(d) During the Employment Period, in addition to holidays recognized by the Company, you will be entitled to four (4) weeks of paid vacation annually. Pursuant to Company policy, vacation time cannot be carried over from year to year.

8. Termination of Employment.

(a) Death. Your employment will terminate upon your death. Your beneficiaries and/or estate will be entitled to (i) any earned but unpaid Base Salary, to be paid less applicable taxes and withholdings within 10 days of your termination of employment, (ii) compensation at the rate of your Base Salary for any vacation time earned but not used as of the date your employment terminates, (iii) reimbursement for any business expenses incurred by you but not yet paid to you as of the date your employment terminates, provided all expenses and supporting documentation required are submitted within sixty (60) days of the date your employment terminates, and provided further that such expenses are reimbursable under Company policy, (iv) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus would be equal to 30% of your Base Salary, and (v) any amounts accrued and payable under the terms of any of the Company's benefit plans (items (i), (ii), (iii) and (v) referred to as the "Accrued Obligations").

(b) Disability. The Board may terminate your employment by reason of your Disability upon written notice of termination. "Disability" means that you have

been unable to perform your essential job functions by reason of a physical or mental impairment, notwithstanding the provision of any reasonable accommodation, for a period of 180 days within a period of 365 consecutive days. Upon such termination, you will be entitled only to the Accrued Obligations.

(c) Termination by the Company for Cause. The Board may terminate your employment for Cause. "Cause" means that you have (i) been convicted of (x) a felony, or (y) a misdemeanor involving moral turpitude (other than a minor traffic violation), (ii) committed an act of fraud or embezzlement against the Company or its Affiliates, (iii) materially breached this Employment Agreement and failed to cure such breach within thirty (30) days following written notice from the Company, (iv) materially violated any written policy of the Company and failed to cure such violation within thirty (30) days following written notice from the Company, (v) materially failed or materially refused to substantially perform your duties (other than by reason of a physical or mental impairment) or to implement the lawful written directives of the CEO and/or Board that are consistent with your position, and such material failure or material refusal has continued after thirty (30) days following written notice from the Company, (vi) willfully engaged in conduct or willfully omitted to take any action, resulting in material injury to the Company or its Affiliates, monetarily or otherwise (including with respect to the Company's ability to comply with its legal or regulatory obligations), or (vii) materially breached your fiduciary duties as an officer or director of the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(d) Termination by the Company without Cause. The Company may terminate your employment without "Cause" immediately upon written notice. If such termination is without Cause and not by reason of your Disability, then, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy or plan in effect, you will be entitled to (i) continued payment of your Base Salary for six (6) months, (ii) should you be eligible for and timely elect COBRA coverage, payment of your COBRA premiums, less the amount charged to active employees for health coverage, for up to six (6) months (iii) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus is equal to 30% of your Base Salary) and (iv) immediate vesting of any unvested options, restricted stock, restricted stock units, or other equity awards that are outstanding immediately prior to the date of termination and, but for the termination of your employment, would have vested during the six (6) month period immediately following the date of termination (collectively, the "Severance Benefits"). Your right to the Severance Benefits shall be conditional upon (x) your continuing compliance with the restrictive covenants contained in Section 9, (y) your continuing material compliance with the provisions of Section 10, and (z) your execution of a release of claims relating to your employment in a form

prepared by and satisfactory to the Company (the "Release of Claims"). You must execute the Release of Claims within forty-five (45) days following the date of the termination of your employment (which release shall be delivered to you within five (5) days following the date of such termination). The first payment of continued Base Salary and COBRA premiums, together with the pro-rata Annual Bonus payable pursuant to subsection (iii) above, pursuant to this Section 8(d) shall be made on the effective date of the Release of Claims as set forth in this Section 8(d); provided, however, that if the time period to consider and revoke the Release of Claims covers two of your taxable years, payment of Severance Benefits of which any portion is treated as non-qualified deferred compensation pursuant to Section 409A of the Internal Revenue Code will begin in the later taxable year.

(e) Termination by You Without Good Reason. You may terminate your employment for any or no reason subject to your providing 30 days written notice to the Company. The Company shall have the right to elect to terminate your employment immediately or at any other date during the notice period. Upon such termination, you will be entitled only to the Accrued Obligations.

(f) Termination by Your For Good Reason. You may terminate your employment for Good Reason by providing notice to the Company of the condition giving rise to the Good Reason no later than ninety (90) days following the first occurrence of the condition, by giving the Company thirty (30) days to remedy the condition and by terminating your employment for Good Reason within ninety (90) days thereafter if the Company fails to remedy the condition. For purposes of this Agreement, "Good Reason" shall mean, without your written consent, the occurrence of any one or more of the following events: (i) material diminution in the nature or scope of the your responsibilities, duties or authority; (ii) material reduction in your Base Salary; (iii) relocation of your principal work location more than fifty (50) miles from the location of your principal work location as of immediately prior to such relocation; or (iv) material breach of this Agreement by the Company. In the event you terminate your employment for Good Reason, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to the Severance Benefits, in accordance with and subject to the provisions of Section 8(d).

9. Restrictive Covenants.

(a) Non-Competition. During your employment and ending on the twelve (12) month anniversary following the termination of your employment (the "Restricted Period"), you will not (except as an officer, director, stockholder, member,

manager, employee, agent or consultant of the Company or its subsidiaries) directly or indirectly, own, manage, operate, join, or have a financial interest in, control or participate in the ownership, management, operation or control of, or be employed as an employee, agent or consultant, or in any other individual or representative capacity whatsoever, or use or permit your name to be used in connection with, any business anywhere in the world which is primarily engaged in the business of research, development and commercialization of drugs to treat (i) psychiatric disorders, sleep disorders or Parkinson's disease or (ii) any other indication for which the Company is clinically developing or commercializing a drug at the time of termination of your employment (the "Restricted Business"). It is recognized that the Restricted Business is expected to be conducted throughout the world and that more narrow geographical limitations of any nature on this non-competition covenant (and the non-solicitation covenant set forth in Section 9(b)) are therefore not appropriate. These restrictions shall not prevent you from (y) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that your services for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (z) holding five percent (5%) of the securities of any publicly traded entity.

(b) Non-Solicitation. During the Restricted Period, you agree not to, directly or indirectly, whether for your own account or for the account of any other individual or entity, (i) solicit for hire or engagement, hire, or engage any individual who is employed by the Company or its Affiliates on the date of any attempted solicitation or was employed during the six month period prior thereto unless such individual had been involuntarily terminated by the Company or (ii) otherwise induce or attempt to induce any individual who is employed by Company or its Affiliates to terminate such employment.

(c) Trade Secrets and Confidential Information. You recognize that it is in the legitimate business interest of the Company and its Affiliates to restrict your disclosure or use of Trade Secrets or other Confidential Information relating to the Company and its Affiliates for any purpose other than in connection with your performance of your duties to the Company and its Affiliates, and to limit any potential appropriation of such Trade Secrets or other Confidential Information. You therefore agree that all Trade Secrets or other Confidential Information relating to the Company and its Affiliates heretofore or in the future obtained by you shall be considered confidential and the proprietary information of the Company and its Affiliates. Except as required in connection with the performance of your duties, you shall not use or disclose, or authorize any other person or entity to use or disclose, any Trade Secrets or other Confidential Information. The term "Trade Secrets or other Confidential Information," means any information of the Company or its Affiliates that is not generally known by

those with whom they compete and includes, by way of example and without limitation, in whatever medium, the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, machine, invention, improvement, manufacturing, sales or test data, business or financial information which are non-public in nature and which are treated as confidential or trade secret information by the Company. The term "Trade Secrets or other Confidential Information" does not include information that enters the public domain, other than through your breach of your obligations under this Agreement.

(d) Discoveries and Works. All Discoveries and Works made or conceived by you, during the Employment Period, jointly or with others, that relate to the present or anticipated activities of the Company or its Affiliates, or are used by the Company or any Affiliate shall be owned by the Company or any Affiliate. The term "Discoveries and Works" means Trade Secrets or other Confidential Information, patents and patent applications, trademarks and trademark registrations and applications, service marks and service mark registrations and applications, trade names, copyrights and copyright registrations and applications, inventions, developments and discoveries. You shall (a) promptly notify, make full disclosure to, and execute and deliver any documents, including any assignment agreement, requested by the Company or any Affiliate, as the case may be, to evidence or better assure title to Discoveries and Works in the Company or any subsidiary, as so requested, (b) renounce any and all claims, including but not limited to claims of ownership and royalty, with respect to all Discoveries and Works and all other property owned or licensed by the Company or any of its Affiliates, (c) assist the Company or any of its Affiliates in obtaining or maintaining for itself at its own expense United States and foreign patents, copyrights, trade secret protection or other protection of any and all Discoveries and Works, and (d) promptly execute, whether during the Employment Period or thereafter, all applications or other endorsements necessary or appropriate to maintain patents and other rights for the Company or any Affiliate and to protect the title of the Company or any Affiliate thereto, including but not limited to assignments of such patents and other rights to Discoveries and Works. You acknowledge that all Discoveries and Works shall be deemed "works made for hire" under the Copyright Act of 1976, as amended, 17 U.S.C. § 101.

(e) Remedies. You agree that the Company and its Affiliates' remedies at law for any breach or threatened breach by you of any of the provisions of this Section 9 will be inadequate, and that, in addition to any other remedy to which the Company and its Affiliates may be entitled at law or in equity, the Company shall be entitled to a temporary or permanent injunction or injunctions or temporary restraining order or orders to prevent breaches of the provisions of this Section 9 and to enforce specifically the terms and provisions hereof, in each case without the need to post any security or bond. Nothing herein contained shall be construed as

prohibiting the Company or its Affiliates from pursuing, in addition, any other remedies available to the Company or any Affiliate for such breach or threatened breach.

(f) Enforceability. It is expressly understood and agreed that although the parties consider the restrictions contained in this Section 9 hereof to be reasonable for the purpose of preserving the goodwill, proprietary rights and going concern value of the Company and its Affiliates, if a final determination is made by an arbitrator or court, as the case may be, having jurisdiction that the time or territory or any other restriction contained in this Section 9 is an unenforceable restriction on your activities, the provisions of this Section 9 shall not necessarily be rendered void but shall be deemed amended to apply as to such maximum time, if any and territory, if any and to such other extent, if any, as such arbitrator or court, as the case may be, may determine to be reasonable. Alternatively, if the arbitrator or court, as the case may be, referred to above finds that any restriction contained in this Section 9 or any remedy provided herein is unenforceable, and such restriction or remedy cannot be amended so as to make it enforceable, such finding shall not affect the enforceability of any of the other restrictions contained therein or the availability of any other remedy.

10. Future Cooperation. You agree that upon the Company's reasonable request following your termination of employment, you will use reasonable efforts to assist and cooperate with the Company in connection with the defense or prosecution of any claim that may be made against or by the Company or its Affiliates, or in connection with any ongoing or future investigation or dispute or claim of any kind involving the Company or its Affiliates, including any proceeding before any arbitral, administrative, regulatory, self-regulatory, judicial, legislative, or other body or agency. You will be entitled only to reimbursement for reasonable out-of-pocket expenses (including travel expenses) incurred in connection with providing such assistance.

11. Withholding. The Company shall have the right to withhold from any amount payable to you hereunder an amount necessary in order for the Company to satisfy any withholding tax obligation it may have under applicable law.

12. Governing Law. The terms of this Employment Agreement, and any action arising hereunder, shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts giving effect to any choice of law or conflict of law provision or rule (whether of the Commonwealth of Massachusetts or other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Massachusetts.

13. Waiver. This Employment Agreement may not be released, changed or modified in any manner, except by an instrument in writing signed by you and the Board. The failure of either party to enforce any of the provisions of this Employment Agreement shall in no way be construed to be a waiver of any such provision. No waiver of any breach of this Employment Agreement shall be held to be a waiver of any other or subsequent breach.

14. Assignment. This Employment Agreement is personal to you. You shall not assign this Employment Agreement or any of your rights and/or obligations under this Employment Agreement to any other person. The Company may, without your consent, assign this Employment Agreement to a successor to all or substantially all of its stock or assets, provided that the assignee or any successor remains bound by these terms.

15. Dispute Resolution. To benefit mutually from the time and cost savings of arbitration over the delay and expense of the use of the federal and state court systems, all disputes involving this Employment Agreement (except, at the election of either party, for injunctive or declaratory relief with respect to disputes arising out of an alleged breach or threatened breach of the restrictive covenants contained in Section 9), including claims of violations of federal or state discrimination statutes, wage and hour laws, or public policy, shall be resolved pursuant to binding arbitration in the Commonwealth of Massachusetts. In the event of a dispute, a written request for arbitration shall be submitted to the Boston office of the American Arbitration Association. The award of the arbitrators shall be final and binding and judgment upon the award may be entered in any court having jurisdiction thereof. Except as otherwise provided above, this procedure shall be the exclusive means of settling any disputes that may arise under this Employment Agreement. All fees and expenses of the arbitrators and all other expenses of the arbitration, except for attorneys' fees and witness expenses, shall be allocated as determined by the arbitrators. Each party shall bear its own witness expenses and attorneys' fees, except as otherwise determined by the arbitrators.

16. Jointly Drafted Agreement. This Employment Agreement is and shall be deemed jointly drafted and written by the parties and shall not be construed or interpreted against any party originating or preparing any part of it because of its authorship.

17. No Conflicts. You represent and warrant to the Company that your acceptance of employment and the performance of your duties for the Company will not conflict with or result in a violation or breach of, or constitute a default under any contract, agreement or understanding to which you are or were a party or of which you are aware and that there are no restrictions, covenants, agreements or limitations on your right or ability to enter into and perform the terms of this Employment

Agreement. You further represent and warrant that you have no knowledge of any fact or circumstance that could prevent or materially delay you or the Company (as a result of your employment hereunder) from obtaining or maintaining any registration, license or other authorization or approval required for (i) you to perform your duties hereunder or (ii) the Company to operate its business as currently contemplated.

18. Company Policies and Procedures. As an employee of the Company, you will be required to comply with all Company policies and procedures. The Company's premises, including all workspaces, furniture, documents, and other tangible materials, and all information technology resources of the Company (including computers, data and other electronic files, and all internet and email) are subject to oversight and inspection by the Company at any time, with or without notice. Company employees should have no expectation of privacy with regard to any Company premises, materials, resources, or information.

19. Notices. All notices and other communications provided for in this Employment Agreement shall be in writing, shall be given to the respective addresses or telecopy numbers set forth in clauses (a) and (b) of this Section 19.

(a) Each notice or other communication to the Company under this Employment Agreement shall be directed as follows or to such other address as Company may have furnished to you in writing in accordance herewith:

Minerva Neurosciences, Inc.
245 First Street, Suite 1800
Cambridge, MA 02142
Attn: Rogerio Vivaldi
Email: rvivaldi@minervaneurosciences.com

With a required copy to:

Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540-6241
Facsimile No.: 609.919.6701
Attn: Denis Segota
E-mail: dsegota@morganlewis.com

(b) Each notice or other communication to you under this Employment Agreement shall be directed to your home address on file with the Company or to such other address as you may have furnished to the Company in writing in accordance herewith

20. Entire Agreement. Upon the date hereof, this Employment Agreement supersedes all previous and contemporaneous communications, agreements and understandings between you, on the one hand, and the Company or any of its Affiliates, on the other hand, including the Offer Letter, and constitutes the sole and entire agreement between you and the Company pertaining to the subject matter hereof.

21. Counterparts. This Employment Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become a binding agreement when one or more counterparts have been signed by each party and delivered to the other party.

22. 409A Matters.

(a) Notwithstanding any provision of this Employment Agreement to the contrary, this Employment Agreement is intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). Accordingly, all provisions herein, or incorporated by reference, shall be construed and interpreted to comply with Section 409A of the Code. For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury regulations after giving effect to the presumptions contained therein). Further, for purposes of the limitations on nonqualified deferred compensation under Section 409A of the Code, each payment of compensation under this Employment Agreement shall be treated as a separate payment of compensation. Any amounts payable solely on account of an involuntary separation from service within the meaning of Section 409A of the Code shall be excludible from the requirements of Section 409A of the Code, either as involuntary separation pay or as short-term deferral amounts to the maximum possible extent. Any reimbursements or in-kind benefits provided under this Employment Agreement shall be made or provided in accordance with the requirements of Section 409A of the Code, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the period of time specified in this Employment Agreement, (ii) the amount of expenses eligible for reimbursement, or in kind benefits provided, during a calendar year may not affect the expenses eligible for reimbursement, or in kind benefits to be provided, in any other calendar year, (iii) the reimbursement of an eligible expense will be made no later than the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement or in kind benefits is not subject to liquidation or exchange for another benefit. The welfare benefit continuation provided during the period of time in which you would be entitled to continuation coverage under the

Company's group health plan under COBRA is intended to qualify for the exception from deferred compensation as a medical benefit provided in accordance with the requirements of Treasury Regulation Section 1.409A-1(b)(9)(v)(B).

(b) Notwithstanding any provision of the Employment Agreement to the contrary, if you are a "specified employee" within the meaning of Section 409A of the Code at the time of termination of employment, to the extent necessary to comply with Section 409A of the Code, any payment required under this Employment Agreement shall be delayed for a period of six (6) months after termination of employment pursuant to Section 409A of the Code, regardless of the circumstances giving rise to or the basis for such payment. Payment of such delayed amount shall be paid in a lump sum on the day immediately following the end of the six (6) month period. If you die during the postponement period prior to the payment of the delayed amount, the amounts delayed on account of Section 409A of the Code shall be paid to the personal representative of your estate within ninety (90) days after the date of your death. For these purposes, a "specified employee" shall mean an employee who, at any time during the 12-month period ending on the identification date, is a "specified employee" under Section 409A of the Code, as determined by the Company. The determination of "specified employees," including the number and identity of persons considered "specified employees" and the identification date, shall be made by the Company in accordance with Treasury regulation Section 1.409A-1(i).

* * * *

If the foregoing is acceptable to you, kindly sign and return to us one copy of this letter by December , 2013.

Sincerely yours,

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi, MD, MBA
Title: Co-Founder, President and CEO

AGREED TO AND ACCEPTED ON THIS 2nd DAY OF JANUARY, 2014

BY:

/s/ Joseph Reilly
Joseph Reilly

Exhibit 10.10

Execution Copy

October 16, 2013

Mr. Marc D. Beer
50 Silver Hill Road
Sudbury, MA 01776

Dear Marc:

On behalf of the Board of Directors (the "Board") of Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), it is my pleasure to confirm that you have been offered appointment as Chairman of the Board. Sonkei Pharmaceuticals, Inc. will shortly be merged with and into the Company, and the name of the Company will be changed to Minerva Neurosciences, Inc.

1. Upon acceptance of this letter and subject to approval by the Board, you will be appointed as a non-employee director and Chairman of the Board to serve until the next annual meeting of stockholders, and until your successor is duly elected and qualified. As Chairman, among other duties, you will be expected to assist the Board in overseeing the Company's long and short term strategic and business planning.

2. As a non-employee director you will be entitled to participate in the Company's Equity Compensation Plan (the "Plan"). In consideration of your role, the Company will grant to you, on the date of your first appointment to the Board of Directors, an option to purchase such number of shares of the Company's Common Stock as represents one percent (1%) of the total outstanding capital stock of the Company, on an equity and debt as-converted basis, with an exercise price equal to the then current fair market value of the Company's Common Stock (the "Initial Option"). Immediately after the initial public offering (the "IPO"), the Company shall grant you an additional option (the "Second Option", and together with the Initial Option, the "Options"), such that the number of shares underlying the Options represent, in aggregate, one percent (1%) of the Company's total outstanding capital stock, on an as-converted basis, immediately after the IPO. The exercise price of the Second Option shall be equal to the price per share of the Company's Common Stock issued in connection with the IPO. The Initial Option shall vest as to twenty-five percent (25%) of the shares immediately upon completion of the IPO, with the remaining seventy-five percent (75%) of the shares % to vest in monthly installments over the three (3) year period commencing on the date of your appointment to the Board. The Second Option shall vest in monthly installments over the three (3) year period that will be deemed to have commenced on the date of your appointment to the Board, provided that, since the Second Option is not granted until completion of the IPO, the monthly vesting attributable to the period between your appointment and the date of completion of the IPO will become immediately vested on the grant date of the Second Option. The Options will fully vest in the event of a change of control. The Options will be exercisable over a term of ten years. During your term you will also be eligible for annual option grants made to all non-employee directors in an amount to be determined by the Company's Compensation Committee. These additional option grants are to be issued at the sole discretion of the Compensation Committee. Vesting of the annual grants will be determined by the Compensation Committee, provided that such options will also fully vest in the event of a change of control. All stock option grants shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the Plan, and the corresponding option grant agreement, provided such provisions are consistent with the terms of this letter. You will also be entitled to compensation in the amount of $75,000 per year to be paid on a quarterly basis. You will also be entitled

to reasonable travel and out-of-pocket expenses in connection with services as Chairman and a member of the Board.

3. As Chairman, you are not an employee of the Company and will not be entitled to participate in or receive any benefit or right as a Company employee under any Company employee benefit and welfare plan, including, without limitation, employee insurance, pension, savings and security plans as a result of accepting this offer.

4. You represent to the Company that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from being appointed as Chairman of the Board or carrying out your responsibilities related thereto, or which is in any way inconsistent with the terms of this letter.

5. This letter shall not be construed as an agreement, either express or implied, to have you serve on the Board for any stated term. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit beyond your services as Chairman and a member of the Board.

6. The Company will provide insurance coverage for our directors under a Director and Officers policy. You will also be entitled to indemnification under the Company's By-laws, and under a separate indemnification agreement in a form to be mutually agreed upon.

7. This agreement constitutes the entire agreement between the parties to the subject matter hereof; and supersedes and replaces all prior agreements, oral and written, between the parties relating to the subject matter hereof; and may only be amended by a written instrument clearly setting forth the amendment and executed by both parties.

If this letter correctly sets forth the terms under which you will be appointed as Chairman of the Board, please sign the enclosed duplicate of this letter in the space provided below and return it to the Company.

Very Truly Yours,

Cyrenaic Pharmaceuticals, Inc.

By: /s/ Francesco DeRubertis
Name: Francesco DeRubertis
Title: Board Member

/s/ Marc D. Beer
Name: Marc D. Beer

Date: 10/17/13

Exhibit 10.24

MINERVA NEUROSCIENCES, INC.

AMENDED AND RESTATED
2013 EQUITY INCENTIVE PLAN

(Amended and Restated as of April 30, 2014)

ARTICLE 1

GENERAL PROVISIONS

1.1 PURPOSE OF THE PLAN

This Amended and Restated 2013 Equity Incentive Plan (the "Plan") is intended to promote the interests of Minerva Neurosciences, Inc., a Delaware corporation, by providing eligible persons in the Corporation's service with the opportunity to acquire a proprietary interest, or otherwise increase their proprietary interest, in the Corporation as an incentive for them to remain in such service.

All share numbers set forth herein give effect to the 3.5:1 reverse stock split approved by the Board on April 29, 2014.

Capitalized terms shall have the meanings assigned to such terms in the attached Appendix.

1.2 TYPES OF AWARDS

Awards may be made under the Plan in the form of (i) options, (ii) stock appreciation rights, (iii) stock awards and (iv) restricted stock units.

1.3 ADMINISTRATION OF THE PLAN

(a) The Compensation Committee shall have sole and exclusive authority to administer the Plan with respect to Section 16 Insiders. Administration of the Plan with respect to all other persons eligible to participate in the Plan may, at the Board's discretion, be vested in the Compensation Committee or a Secondary Board Committee, or the Board may retain the power to administer those programs with respect to such persons. To the extent permitted by law, the Board or the Compensation Committee may delegate any or all of its authority to administer the Plan with respect to one or more classes of eligible persons (other than Section 16 Insiders) to one or more officers of the Corporation.

(b) Members of the Compensation Committee or any Secondary Board Committee shall serve for such period of time as the Board may determine and may be removed by the Board at any time. The Board may also at any time terminate the functions of any Secondary Board Committee and reassume all powers and authority previously delegated to such committee.

(c) Each Plan Administrator shall, within the scope of its administrative functions under the Plan, have full power and authority (subject to the provisions of the Plan) to establish such rules and regulations as it may deem appropriate for proper administration of the Plan and to make such determinations under, and issue such interpretations of, the provisions of the Plan and any outstanding Awards thereunder as it may deem necessary or advisable. Decisions of the Plan Administrator within the scope of its administrative functions under the Plan shall be final and binding on all parties who have an interest in the Plan under its jurisdiction or any Award thereunder.

(d) Service as a Plan Administrator by the members of the Compensation Committee or the Secondary Board Committee shall constitute service as Board members, and the members of each such committee shall accordingly be entitled to full indemnification and reimbursement as Board members for their service on such committee. No member of the Compensation Committee or the Secondary Board Committee shall be liable for any act or omission made in good faith with respect to the Plan or any Award thereunder.

1.4 ELIGIBILITY

(a) The persons eligible to participate in the Plan are as follows:

(i) Employees,

(ii) non-employee members of the Board or the board of directors of any Parent or Subsidiary, and

(iii) consultants and other independent advisors who provide services to the Corporation (or any Parent or Subsidiary).

(b) The Plan Administrator shall have full authority to determine which eligible persons are to receive Awards under the Plan, the time or times when those Awards are to be made, the number of shares to be covered by each such Award, the time or times when the Award is to become exercisable, the status of an option for federal tax purposes, the maximum term for which an option or stock appreciation right is to remain outstanding, the vesting and issuance schedules applicable to the shares which are the subject of the Award, the cash consideration (if any) payable for those shares and the form (cash or shares of Common Stock) in which the Award is to be settled and, with respect to performance—based Awards, the performance objectives for each such Award, the amounts payable at designated levels of attained performance, any applicable service vesting requirements, and the payout schedule for each such Award.

1.5 STOCK SUBJECT TO THE PLAN

(a) The stock issuable under the Plan shall be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Corporation on the open market. The number of shares of Common Stock initially reserved for issuance over the term of the Plan shall be limited to 3,543,754 shares, which consists of (i) 2,585,994 shares approved by the Board upon adoption of the original Plan, and (ii) 957,760 shares approved by

the Board on April 29, 2014 and which are subject to stockholder approval of this amended and restated Plan.

(b) The number of shares of Common Stock available for issuance under the Plan shall automatically increase on the first trading day in January each calendar year during the term of the Plan, beginning with the 2015 calendar year, by an amount equal to four percent (4%) of the total number of shares of Common Stock outstanding as measured as of the last trading day in the immediately preceding calendar month, but in no event shall any such annual increase exceed 750,000 shares.

(c) The maximum number of shares of Common Stock that may be issued pursuant to Incentive Options granted under the Plan shall be 3,543,754 plus, to the extent allowable under Section 422 of the Code, any shares that became available for issuance under the Plan pursuant to Section 1.5(f). Such share limitation shall automatically be increased on the first trading day in January each calendar year, beginning with the 2015 calendar year, by the number of shares of Common Stock added to the share reserve on that day pursuant to the provisions of Section 1.5(b).

(d) The maximum number of shares of Common Stock for which Stock Options and Stand-alone Rights that are settled in shares may be made to any person under the Plan in any calendar year shall not exceed 750,000 shares of Common Stock in the aggregate.

(e) The maximum number of shares of Common Stock for which Awards (other than Stock Options and Stand-alone Rights that are settled in shares) may be made to any person under the Plan in any calendar year shall not exceed 750,000 shares of Common Stock in the aggregate.

(f) Shares of Common Stock subject to outstanding Awards made under the Plan shall be available for subsequent award and issuance under the Plan to the extent those Awards expire or terminate for any reason prior to the issuance of the shares of Common Stock subject to those Awards or such Awards are cancelled in connection with the provisions of Section 2.6. Unvested shares issued under the Plan and subsequently forfeited or repurchased by the Corporation, at a price per share not greater than the original issue price paid per share, pursuant to the Corporation's repurchase rights under the Plan shall be added back to the number of shares of Common Stock reserved for issuance under the Plan and shall accordingly be available for subsequent reissuance. To the extent an Award is settled in cash rather than Shares, then the number of shares of Common Stock available for issuance under the Plan shall not be reduced by the number of shares subject to such Award.

(g) Should the exercise price of an option under the Plan be paid with shares of Common Stock (whether through the withholding of a portion of the otherwise issuable sharers or through the tender of actual outstanding shares), then the authorized reserve of Common Stock under the Plan shall be reduced only by the net number of shares issued under the exercised stock option and not by the gross number of shares for which that option is exercised. Upon the exercise of any stock appreciation right under the Plan, the share reserve shall be reduced only by the net number of shares actually issued by the Corporation upon such exercise and not by the gross number of shares as to which such right is exercised. If shares of

Common Stock otherwise issuable under the Plan are withheld by the Corporation in satisfaction of the withholding taxes incurred in connection with the exercise, vesting or settlement of an Award, then the number of shares of Common Stock available for issuance under the Plan shall be reduced by the net number of shares issued after such share withholding.

(h) Should any change be made to the Common Stock by reason of any stock split, stock dividend, recapitalization, combination of shares, exchange of shares, spin-off transaction or other change affecting the outstanding Common Stock as a class without the Corporation's receipt of consideration, or should the value of outstanding shares of Common Stock be substantially reduced as a result of a spin-off transaction or an extraordinary dividend or distribution, or should there occur any merger, consolidation or other reorganization, then equitable adjustments shall be made by the Plan Administrator to (i) the maximum number and/or class of securities issuable under the Plan, (ii) the maximum number and/or class of securities by which the share reserve is to increase automatically each calendar year pursuant to the provisions of Section 1.5(b), (iii) the maximum number and/or class of securities for which any one person may be granted Stock Options and Stand-alone Rights that are settled in shares under the Plan in any calendar year, (iv) the maximum number and/or class of securities for which any one person may be granted Awards (other than Stock Options and Stand-alone Rights that are settled in shares) under the Plan in any calendar year, (v) the maximum number and/or class of securities that may be issued pursuant to Incentive Options, (vi) the number and/or class of securities and the exercise or base price per share in effect under each outstanding Award under the Plan and the consideration (if any) payable per share, and (vii) the number and/or class of securities subject to the Corporation's outstanding repurchase rights under the Plan and the repurchase price payable per share. The adjustments shall be made in such manner as the Plan Administrator deems appropriate and such adjustments shall be final, binding and conclusive. In addition, in the event of a Change in Control, the provisions of Section 2.5 shall apply.

(i) Outstanding Awards granted pursuant to the Plan shall in no way affect the right of the Corporation to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

ARTICLE 2

AWARDS

2.1 OPTIONS

(a) **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant Incentive Options and Nonstatutory Options evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that the terms of each such agreement shall not be inconsistent with the terms specified below. Each agreement evidencing an Incentive Option shall, in addition, be subject to the provisions of Section 2.1(f) below.

(b) **Exercise Price**.

(i) The exercise price per share shall be fixed by the Plan Administrator; provided, however, that such exercise price shall not be less than one hundred percent (100%) of the Fair Market Value per share of Common Stock on the grant date.

(ii) The exercise price shall become immediately due upon exercise of the option and shall, subject to the provisions of the Award Agreement evidencing the option, be payable in one or more of the forms specified below:

(A) cash or check made payable to the Corporation,

(B) shares of Common Stock (whether delivered in the form of actual stock certificates or through attestation of ownership) held for the requisite period (if any) necessary to avoid any resulting charge to the Corporation's earnings for financial reporting purposes and valued at Fair Market Value on the Exercise Date,

(C) shares of Common Stock otherwise issuable under the option but withheld by the Corporation in satisfaction of the exercise price, with such withheld shares to be valued at Fair Market Value on the exercise date, or

(D) to the extent the option is exercised for vested shares of Common Stock, through a special sale and remittance procedure pursuant to which the Participant shall concurrently provide instructions to (a) a brokerage firm (reasonably satisfactory to the Corporation for purposes of administering such procedure in compliance with the Corporation's pre-clearance/pre-notification policies) to effect the immediate sale of the purchased shares and remit to the Corporation, out of the sale proceeds available on the settlement date, sufficient funds to cover the aggregate exercise price payable for the purchased shares plus all applicable income and employment taxes required to be withheld by the Corporation by reason of such exercise and (b) the Corporation to deliver the certificates for the purchased shares directly to such brokerage firm on such settlement date in order to complete the sale.

Except to the extent such sale and remittance procedure is utilized, payment of the exercise price for the purchased shares must be made on the Exercise Date.

(c) **Exercise and Term of Options**. Each option shall be exercisable at such time or times, during such period and for such number of shares as shall be determined by the Plan Administrator and set forth in the Award Agreements evidencing the option. However, no option shall have a term in excess of ten (10) years measured from the option grant date.

(d) **Effect of Termination of Service**.

(i) The following provisions shall govern the exercise of any options that are outstanding at the time of the Participant's cessation of Service or death:

(A) Any option outstanding at the time of the Participant's cessation of Service for any reason shall remain exercisable for such period of time thereafter as

shall be determined by the Plan Administrator and set forth in the documents evidencing the option, but no such option shall be exercisable after the expiration of the option term.

(B) Any option held by the Participant at the time of the Participant's death and exercisable in whole or in part at that time may be subsequently exercised by the personal representative of the Participant's estate or by the person or persons to whom the option is transferred pursuant to the Participant's will or the laws of inheritance or by the Participant's designated beneficiary or beneficiaries of that option.

(C) Should the Participant's Service be terminated for Misconduct or should the Participant otherwise engage in Misconduct while holding one or more outstanding options, then all of those options shall terminate immediately and cease to be outstanding.

(D) During the applicable post-Service exercise period, the option may not be exercised for more than the number of vested shares for which the option is at the time exercisable. No additional shares shall vest under the option following the Participant's cessation of Service except to the extent (if any) specifically authorized by the Plan Administrator in its sole discretion pursuant to an express written agreement with the Participant. Upon the expiration of the applicable exercise period or (if earlier) upon the expiration of the option term, the option shall terminate and cease to be outstanding for any shares for which the option has not been exercised.

(ii) The Plan Administrator shall have complete discretion, exercisable either at the time an option is granted or at any time while the option remains outstanding, to:

(A) extend the period of time for which the option is to remain exercisable following the Participant's cessation of Service from the limited exercise period otherwise in effect for that option to such greater period of time as the Plan Administrator shall deem appropriate, but in no event beyond the expiration of the option term;

(B) include an automatic extension provision whereby the specified post-Service exercise period in effect for any option shall automatically be extended by an additional period of time equal in duration to any interval within the specified post-Service exercise period during which the exercise of that option or the immediate sale of the shares acquired under such option could not be effected in compliance with applicable federal and state securities laws, but in no event shall such an extension result in the continuation of such option beyond the expiration date of the term of that option; and/or

(C) permit the option to be exercised, during the applicable post-Service exercise period, not only with respect to the number of vested shares of Common Stock for which such option is exercisable at the time of the Participant's cessation of Service but also with respect to one or more additional installments in which the Participant would have vested had the Participant continued in Service.

(e) **Repurchase Rights**. The Plan Administrator shall have the discretion to grant options which are exercisable for unvested shares of Common Stock. Should the Participant cease Service while such shares are unvested, the Corporation shall have the right to

repurchase any or all of those unvested shares at a price per share equal to the ***lower*** of (i) the exercise price paid per share or (ii) the Fair Market Value per share of Common Stock at the time of repurchase. The terms upon which such repurchase right shall be exercisable (including the period and procedure for exercise and the appropriate vesting schedule for the purchased shares) shall be established by the Plan Administrator and set forth in the document evidencing such repurchase right.

(f) **Incentive Options**. The terms specified below shall be applicable to all Incentive Options. Except as modified by the provisions of this Section 2.1(f), all the provisions of the Plan shall be applicable to Incentive Options. Options which are specifically designated as Non-Statutory Options when issued under the Plan shall not be subject to the terms of this Section 2.1(f).

(i) *Eligibility*. Incentive Options may only be granted to Employees.

(ii) *Dollar Limitation*. The aggregate Fair Market Value of the shares of Common Stock (determined as of the respective date or dates of grant) for which one or more options granted to any Employee under the Plan (or any other option plan of the Corporation or any Parent or Subsidiary) may for the first time become exercisable as Incentive Options during any one calendar year shall not exceed the sum of One Hundred Thousand Dollars ($100,000).

To the extent the Employee holds two (2) or more such options which become exercisable for the first time in the same calendar year, then for purposes of the foregoing limitations on the exercisability of those options as Incentive Options, such options shall be deemed to become first exercisable in that calendar year on the basis of the chronological order in which they were granted, except to the extent otherwise provided under applicable law or regulation.

(iii) *10% Stockholder*. If any Employee to whom an Incentive Option is granted is a 10% Stockholder, then the exercise price per share shall not be less than one hundred ten percent (110%) of the Fair Market Value per share of Common Stock on the option grant date, and the option term shall not exceed five (5) years measured from the option grant date.

2.2 STOCK APPRECIATION RIGHTS

(a) **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant stock appreciation rights evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that the terms of each such agreement shall not be inconsistent with the terms specified below.

(b) **Types**. Two types of stock appreciation rights shall be authorized for issuance under this Section 2.2: (i) tandem stock appreciation rights ("Tandem Rights") and (ii) stand-alone stock appreciation rights ("Stand-alone Rights").

(c) **Tandem Rights**. The following terms and conditions shall govern the grant and exercise of Tandem Rights.

(i) One or more Participants may be granted a Tandem Right, exercisable upon such terms and conditions as the Plan Administrator may establish, to elect between the exercise of the underlying option for shares of Common Stock or the surrender of that option in exchange for a distribution from the Corporation in an amount equal to the excess of (i) the Fair Market Value (on the option surrender date) of the number of shares in which the Participant is at the time vested under the surrendered option (or surrendered portion thereof) over (ii) the aggregate exercise price payable for such vested shares.

(ii) Any distribution to which the Participant becomes entitled upon the exercise of a Tandem Right may be made in (i) shares of Common Stock valued at Fair Market Value on the option surrender date, (ii) cash or (iii) a combination of cash and shares of Common Stock, as specified in the applicable Award Agreement.

(d) **Stand-Alone Rights**. The following terms and conditions shall govern the grant and exercise of Stand-alone Rights:

(i) One or more Participants may be granted a Stand-alone Right not tied to any underlying option. The Stand-alone Right shall relate to a specified number of shares of Common Stock and shall be exercisable upon such terms and conditions as the Plan Administrator may establish. In no event, however, may the Stand-alone Right have a maximum term in excess of ten (10) years measured from the grant date.

(ii) Upon exercise of the Stand-alone Right, the holder shall be entitled to receive a distribution from the Corporation in an amount equal to the excess of (i) the aggregate Fair Market Value (on the exercise date) of the shares of Common Stock underlying the exercised right over (ii) the aggregate base price in effect for those shares.

(iii) The number of shares of Common Stock underlying each Stand-alone Right and the base price in effect for those shares shall be determined by the Plan Administrator in its sole discretion at the time the Stand-alone Right is granted. In no event, however, may the base price per share be less than the Fair Market Value per underlying share of Common Stock on the grant date.

(iv) The distribution with respect to an exercised Stand-alone Right may be made in (i) shares of Common Stock valued at Fair Market Value on the exercise date, (ii) cash or (iii) a combination of cash and shares of Common Stock, as specified in the applicable Award agreement.

(v) The holder of a Stand-alone Right shall have no stockholder rights with respect to the shares subject to the Stand-alone Right unless and until such person shall have exercised the Stand-alone Right and become a holder of record of the shares of Common Stock issued upon the exercise of such Stand-alone Right.

(e) **Post-Service Exercise**. The provisions governing the exercise of Tandem and Stand-alone Rights following the cessation of the Participant's Service shall be substantially

the same as those set forth in Section 2.1(d) for the options granted under the Plan, and the Plan Administrator's discretionary authority under Section 2.1(d)(ii) shall also extend to any outstanding Tandem or Stand-alone Appreciation Rights.

2.3 STOCK AWARDS

(a) **Authority**. The Plan Administrator shall have full power and authority, exercisable in its sole discretion, to grant stock awards either as vested or unvested shares of Common Stock, through direct and immediate issuances. Each stock award shall be evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that the terms of each such agreement shall not be inconsistent with the terms specified below.

(b) **Issue Price/Consideration**.

Shares of Common Stock may be issued under a stock award for any of the following items of consideration which the Plan Administrator may deem appropriate in each individual instance:

(i) cash or check made payable to the Corporation,

(ii) past services rendered to the Corporation (or any Parent or Subsidiary); or

(iii) any other valid consideration under the State in which the Corporation is at the time incorporated.

However, if the consideration for the shares is to be paid in the form of a cash purchase price, then the cash consideration payable per share shall not be less than one hundred percent (100%) of the Fair Market Value per share of Common Stock on the issuance date.

(c) **Vesting Provisions**.

(i) Stock awards may, in the discretion of the Plan Administrator, be fully and immediately vested upon issuance as a bonus for Service rendered or may vest in one or more installments over the Participant's period of Service and/or upon the attainment of specified performance objectives. The elements of the vesting schedule applicable to any stock award shall be determined by the Plan Administrator and incorporated into the Award Agreement.

(ii) Should the Participant cease to remain in Service while holding one or more unvested shares of Common Stock issued under a stock award or should the performance objectives not be attained with respect to one or more such unvested shares of Common Stock, then those shares shall be immediately surrendered to the Corporation for cancellation, and the Participant shall have no further stockholder rights with respect to those shares. To the extent the surrendered shares were previously issued to the Participant for consideration paid in cash or cash equivalent, the Corporation shall repay to the Participant the

lower of (i) the cash consideration paid for the surrendered shares or (ii) the Fair Market Value of those shares at the time of cancellation.

(iii) The Plan Administrator may in its discretion waive the surrender and cancellation of one or more unvested shares of Common Stock which would otherwise occur upon the cessation of the Participant's Service or the non-attainment of the performance objectives applicable to those shares. Any such waiver shall result in the immediate vesting of the Participant's interest in the shares of Common Stock as to which the waiver applies.

(iv) Any new, substituted or additional securities or other property (including money paid other than as a regular cash dividend) which the Participant may have the right to receive with respect to the Participant's unvested shares of Common Stock by reason of any stock dividend, stock split, recapitalization, combination of shares, exchange of shares, spin-off transaction, extraordinary dividend or distribution or other change affecting the outstanding Common Stock as a class without the Corporation's receipt of consideration shall be issued subject to (i) the same vesting requirements applicable to the Participant's unvested shares of Common Stock and (ii) such escrow arrangements as the Plan Administrator shall deem appropriate, unless and to the extent the Plan Administrator determines at the time to vest and distribute such securities or other property. Equitable adjustments to reflect each such transaction shall also be made by the Plan Administrator to the repurchase price payable per share by the Corporation for any unvested securities subject to its existing repurchase rights under the Plan; provided the aggregate repurchase price shall in each instance remain the same.

2.4 RESTRICTED STOCK UNITS

(a) **Authority**. The Plan Administrator shall have the full power and authority, exercisable in its sole discretion, to grant restricted stock units evidenced by one or more Award Agreements in the form approved by the Plan Administrator; provided, however, that the terms of each such agreement shall not be inconsistent with the terms specified below.

(b) **Terms**. Each restricted stock unit award shall entitle the Participant to receive the shares underlying that Award (or an amount based on the value of the shares) upon vesting or upon the expiration of a designated time period following the vesting of those Awards. Restricted stock units subject to performance vesting may also be structured so that the underlying shares are convertible into shares of Common Stock (or a payment based on the value of the shares), but the rate at which each share is to so convert shall be based on the attained level of performance for each applicable performance objective.

(c) **Vesting Provisions**. Restricted stock units may, in the discretion of the Plan Administrator, vest in one or more installments over the Participant's period of Service or upon the attainment of specified performance objectives. Outstanding restricted stock units shall automatically terminate without any payment if the performance goals or Service requirements established for those Awards are not attained or satisfied. The Plan Administrator, however, shall have the discretionary authority to make a payment under one or more outstanding Awards of restricted stock units as to which the designated performance goals or Service requirements have not been attained or satisfied.

(d) **Payment**. Restricted stock units that vest may be settled in (i) cash, (ii) shares of Common stock valued at Fair Market Value on the payment date or (iii) a combination of cash and shares of Common Stock, as determined by the Plan Administrator in its sole discretion.

(e) **Dividend Equivalents**. Dividend-equivalent units may be paid or credited, either in cash or in actual or phantom shares of Common Stock, on outstanding restricted stock unit awards, subject to such terms and conditions as the Plan Administrator may deem appropriate.

2.5 EFFECT OF CHANGE IN CONTROL

(a) In the event of a Change in Control transaction, each option, stock appreciation right and restricted stock unit award outstanding at that time under the Plan but not otherwise fully vested shall automatically accelerate and vest in full, immediately prior to the effective date of that Change in Control, as to all the shares of Common Stock at the time subject to such Award, unless (i) such Award is to be assumed or substituted with an equivalent award by the successor corporation (or parent thereof) or is otherwise to continue in full force and effect pursuant to the terms of the Change in Control transaction, (ii) such Award is replaced with a cash retention program of the successor corporation that preserves the spread existing at the time of the Change in Control on the shares of Common Stock as to which the Award is not otherwise at that time vested and exercisable and provides for the subsequent vesting and payout of that spread in accordance with the same exercise/vesting schedule applicable to those shares, but only if such replacement cash program would not result in the treatment of the Award as an item of deferred compensation subject to Code Section 409A, or (iii) the acceleration of such Award is subject to other limitations imposed by the Plan Administrator at the time the Award is granted.

(b) All outstanding repurchase rights shall automatically terminate, and the shares of Common Stock subject to those terminated rights shall vest in full, immediately prior to the effective date of a Change in Control transaction, except to the extent (i) those repurchase rights are to be assigned to the successor corporation (or parent thereof) or are otherwise to continue in full force and effect pursuant to the terms of the Change in Control transaction or (ii) such accelerated vesting is precluded by other limitations imposed by the Plan Administrator.

(c) Immediately following the consummation of the Change in Control, all outstanding Awards shall terminate and cease to be outstanding, except to the extent assumed by the successor corporation (or parent thereof) or otherwise continued in full force and effect pursuant to the terms of the Change in Control transaction.

(d) Each Award which is assumed in connection with a Change in Control or otherwise continued in effect shall be appropriately adjusted, immediately after such Change in Control, to apply to the number and class of securities into which the shares of Common Stock subject to that Award would have been converted in consummation of such Change in Control had those shares actually been outstanding at that time. Appropriate adjustments to reflect such Change in Control shall also be made to (i) the exercise or base price or cash consideration payable per share in effect under each outstanding Award, provided the aggregate exercise or

base price or cash consideration in effect for such securities shall remain the same, (ii) the maximum number and/or class of securities available for issuance over the remaining term of the Plan, (iii) the maximum number and/or class of securities for which Incentive Options may be granted under the Plan, (iv) the maximum number and/or class of securities for which any one person may be granted Awards under the Plan per calendar year and (v) the number and/or class of securities subject to the Corporation's outstanding repurchase rights under the Plan and the repurchase price payable per share. To the extent the actual holders of the Corporation's outstanding Common Stock receive cash consideration for their Common Stock in consummation of the Change in Control, the successor corporation may, in connection with the assumption or continuation of the outstanding Awards under the Plan and subject to the Plan Administrator's approval, substitute, for the securities underlying those assumed Awards, one or more shares of its own common stock with a fair market value equivalent to the cash consideration paid per share of Common Stock in such Change in Control transaction, provided such common stock is readily traded on an established U.S. securities exchange or market.

(e) The Plan Administrator shall have the discretionary authority to structure one or more outstanding Awards so that those Awards shall, immediately prior to the effective date of a Change in Control transaction, vest as to all the shares of Common Stock at the time subject to those Awards, whether or not those Awards are to be assumed in the Change in Control transaction or otherwise continued in effect. In addition, the Plan Administrator shall have the discretionary authority to structure one or more of the Corporation's repurchase rights so that those rights shall terminate immediately prior to the effective date of a Change in Control transaction, and the shares subject to those terminated rights shall thereupon vest in full.

(f) The Plan Administrator shall have full power and authority to structure one or more outstanding Awards so that those Awards shall vest as to all the shares of Common Stock at the time subject to those Awards in the event the Participant's Service is subsequently terminated by reason of an Involuntary Termination within a designated period following the effective date of any Change in Control transaction in which those Awards do not otherwise vest on an accelerated basis. In addition, the Plan Administrator may structure one or more of the Corporation's repurchase rights so that those rights shall immediately terminate with respect to any shares held by the Participant at the time of such Involuntary Termination, and the shares subject to those terminated repurchase rights shall accordingly vest in full at that time.

(g) The portion of any Incentive Option accelerated in connection with a Change in Control shall remain exercisable as an Incentive Option only to the extent the applicable One Hundred Thousand Dollar ($100,000) limitation is not exceeded. To the extent such dollar limitation is exceeded, the accelerated portion of such option shall be exercisable as a Non-statutory Option under the Federal tax laws.

2.6 REPRICING PROGRAMS

The Plan Administrator shall have the discretionary authority, exercisable on such terms and conditions that it deems appropriate under the circumstances, to (i) implement cancellation/regrant programs pursuant to which outstanding options or stock appreciation rights under the Plan are cancelled and new options or stock appreciation rights are granted in replacement with a lower exercise or base price per share, (ii) cancel outstanding options or stock

appreciation rights under the Plan with exercise or base prices per share in excess of the then current Fair Market Value per share of Common Stock for consideration payable in cash or in equity securities of the Corporation or (iii) reduce the exercise or base price in effect for outstanding options or stock appreciation rights under the Plan.

ARTICLE 3

MISCELLANEOUS

3.1 DEFERRED COMPENSATION

(a) The Plan Administrator may, in its sole discretion, structure one or more Awards (other than options and stock appreciation rights) so that the Participants may be provided with an election to defer the compensation associated with those Awards for federal income tax purposes. Any such deferral opportunity shall comply with all applicable requirements of Code Section 409A.

(b) The Plan Administrator may implement a non-employee Board member retainer fee deferral program under the Plan so as to allow the non-employee Board members the opportunity to elect, prior to the start of each calendar year, to convert the Board and Board committee retainer fees to be earned for such year into restricted stock units under the Plan that will defer the issuance of the shares of Common Stock that vest under those restricted stock units until a permissible date or event under Code Section 409A. If such program is implemented, the Plan Administrator shall have the authority to establish such rules and procedures as it deems appropriate for the filing of such deferral elections and the designation of the permissible distribution events under Code Section 409A.

(c) To the extent the Corporation maintains one or more separate non-qualified deferred compensation arrangements which allow the participants the opportunity to make notional investments of their deferred account balances in shares of Common Stock, the Plan Administrator may authorize the share reserve under the Plan to serve as the source of any shares of Common Stock that become payable under those deferred compensation arrangements. In such event, the share reserve under the Plan shall be reduced on a share-for-share basis for each share of Common Stock issued under the Plan in settlement of the deferred compensation owed under those separate arrangements.

3.2 TRANSFERABILITY OF AWARDS

The transferability of Awards granted under the Plan shall be governed by the following provisions:

(a) *Incentive Options*. During the lifetime of the Participant, Incentive Options shall be exercisable only by the Participant and shall not be assignable or transferable other than by will or the laws of inheritance following the Participant's death.

(b) *Other Awards*. All other Awards shall be subject to the same limitation on transfer as Incentive Options, except that the Plan Administrator may structure one or more such Awards so that the Award may be assigned in whole or in part during the Participant's lifetime to

one or more Family Members of the Participant or to a trust established exclusively for the Participant and/or such Family Members, to the extent such assignment is in connection with the Participant's estate plan or pursuant to a domestic relations order. The assigned portion of an Award may only be exercised (if applicable) by the person or persons who acquire a proprietary interest in the Award pursuant to the assignment. The terms applicable to the assigned portion of the Award shall be the same as those in effect for the Award immediately prior to such assignment and shall be set forth in such documents issued to the assignee as the Plan Administrator may deem appropriate.

(c) *Beneficiary Designation*. Notwithstanding the foregoing, a Participant may, to the extent permitted by the Plan Administrator, designate one or more persons as the beneficiary or beneficiaries of some or all of his or her outstanding Awards, and those Awards shall, in accordance with such designation, automatically be transferred to such beneficiary or beneficiaries upon the Participant's death while holding those Awards. Such beneficiary or beneficiaries shall take the transferred Awards subject to all the terms and conditions of the applicable agreement evidencing each such transferred Award, including (without limitation) the limited time period during which the Award may be exercised (if applicable) following the Participant's death.

3.3 STOCKHOLDER RIGHTS

A Participant shall not have any of the rights of a stockholder with respect to shares of Common Stock covered by an Award until the Participant becomes the holder of record of such shares. However, a Participant may be granted the right to receive dividend equivalents under Section 2.4(e) with respect to one or more outstanding restricted stock unit awards.

3.4 TAX WITHHOLDING

(a) The Corporation's obligation to deliver shares of Common Stock upon the exercise, issuance or vesting of an Award under the Plan shall be subject to the satisfaction of all applicable tax withholding requirements.

(b) The Plan Administrator may, in its discretion, provide Participants to whom Awards are made under the Plan with the right to use shares of Common Stock in satisfaction of all or part of the Withholding Taxes to which such holders may become subject in connection with the issuance, exercise, vesting or settlement of those Awards or the issuance of shares of Common Stock thereunder. Such right may be provided to any such holder in either or both of the following formats:

(i) *Stock Withholding*: The election to have the Corporation withhold, from the shares of Common Stock otherwise issuable upon the issuance, exercise, vesting or settlement of such Award or the issuance of shares of Common Stock thereunder, a portion of those shares with an aggregate Fair Market Value at the time of delivery equal to the percentage of the Withholding Taxes (not to exceed one hundred percent (100%)) designated by such individual. The shares of Common Stock so withheld shall not reduce the number of shares of Common Stock authorized for issuance under the Plan.

(ii) *Stock Delivery*: The election to deliver to the Corporation, at the time of the issuance, exercise, vesting or settlement of such Award, one or more shares of Common Stock previously acquired by such individual (other than in connection with the exercise, share issuance or share vesting triggering the Withholding Taxes) with an aggregate Fair Market Value equal to the percentage of the Withholding Taxes (not to exceed one hundred percent (100%)) designated by the individual. The shares of Common Stock so delivered shall neither reduce the number of shares of Common Stock authorized for issuance under the Plan nor be added to the number of shares of Common Stock authorized for issuance under the Plan.

3.5 SHARE ESCROW/LEGENDS

Unvested shares may, in the Plan Administrator's discretion, be held in escrow by the Corporation until the Participant's interest in such shares vests or may be issued directly to the Participant with restrictive legends on the certificates evidencing those unvested shares.

3.6 EFFECTIVE DATE AND TERM OF THE PLAN

(a) The Plan shall become effective on the Plan Effective Date.

(b) The Plan shall terminate upon the ***earliest*** to occur of (i) December 19, 2023, (ii) the date on which all shares available for issuance under the Plan shall have been issued as fully vested shares or (iii) the termination of all outstanding Awards in connection with a Change in Control. Should the Plan terminate on December 19, 2023, then all Awards outstanding at that time shall continue to have force and effect in accordance with the provisions of the documents evidencing those Awards.

3.7 AMENDMENT OF THE PLAN

(a) The Board shall have complete and exclusive power and authority to amend or modify the Plan in any or all respects, subject to stockholder approval to the extent required under applicable law or regulation or pursuant to the listing standards of the Stock Exchange on which the Common Stock is at the time primarily traded. However, no such amendment or modification shall adversely affect the rights and obligations with respect to Awards at the time outstanding under the Plan unless the Participant consents to such amendment or modification.

(b) The Compensation Committee shall have the discretionary authority to adopt and implement from time to time such addenda or subplans to the Plan as it may deem necessary in order to bring the Plan into compliance with applicable laws and regulations of any foreign jurisdictions in which Awards are to be made under the Plan and/or to obtain favorable tax treatment in those foreign jurisdictions for the individuals to whom the Awards are made.

(c) Awards may be made under the Plan that involve shares of Common Stock in excess of the number of shares then available for issuance under the Plan, provided no shares shall actually be issued pursuant to those Awards until the number of shares of Common Stock available for issuance under the Plan is sufficiently increased by stockholder approval of an amendment of the Plan authorizing such increase. If such stockholder approval is not

obtained within twelve (12) months after the date the first excess Award is made, then all Awards granted on the basis of such excess shares shall terminate and cease to be outstanding.

3.8 USE OF PROCEEDS

Any cash proceeds received by the Corporation from the sale of shares of Common Stock under the Plan shall be used for general corporate purposes.

3.9 REGULATORY APPROVALS

(a) The implementation of the Plan, the granting of any Award under the Plan and the issuance of any shares of Common Stock in connection with the issuance, exercise, vesting or settlement of any Award under the Plan shall be subject to the Corporation's procurement of all approvals and permits required by regulatory authorities having jurisdiction over the Plan, the Awards made under the Plan and the shares of Common Stock issuable pursuant to those Awards.

(b) No shares of Common Stock or other assets shall be issued or delivered under the Plan unless and until there shall have been compliance with all applicable requirements of applicable securities laws, and all applicable listing requirements of any Stock Exchange on which Common Stock is then listed for trading.

3.10 NO EMPLOYMENT/SERVICE RIGHTS

Nothing in the Plan shall confer upon the Participant any right to continue in Service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Corporation (or any Parent or Subsidiary employing or retaining such person) or of the Participant, which rights are hereby expressly reserved by each, to terminate such person's Service at any time for any reason, with or without cause.

3.11 RECOUPMENT

Participants shall be subject to any clawback, recoupment or other similar policy adopted by the Board as in effect from time to time and Awards and any cash, shares of Common Stock or other property or amounts due, paid or issued to a Participant shall be subject to the terms of such policy, as in effect from time to time.

APPENDIX

The following definitions shall be in effect under the Plan:

(a) **Award** shall mean any of the following awards authorized for issuance or grant under the Plan: options, stock appreciation rights, stock awards and restricted stock units.

(b) **Award Agreement** shall mean the written agreement(s) between the Corporation and the Participant evidencing a particular Award made to that individual under the Plan, as such agreement(s) may be in effect from time to time.

(c) **Board** shall mean the Corporation's Board of Directors.

(d) **Change in Control** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Change in Control shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Change in Control definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Change in Control shall mean a change in ownership or control of the Corporation effected through any of the following transactions:

(A) a merger, consolidation or other reorganization approved by the Corporation's stockholders, unless securities representing at least fifty percent (50%) of the total combined voting power of the voting securities of the successor corporation are immediately thereafter beneficially owned, directly or indirectly and in substantially the same proportion, by the persons who beneficially owned the Corporation's outstanding voting securities immediately prior to such transaction,

(B) a sale, transfer or other disposition of all or substantially all of the Corporation's assets, or

(C) the closing of any transaction or series of related transactions pursuant to which any person or any group of persons comprising a "group" within the meaning of Rule 13d-5(b)(1) of the 1934 Act (other than the Corporation or a person that, prior to such transaction or series of related transactions, directly or indirectly controls, is controlled by or is under common control with, the Corporation) becomes directly or indirectly (whether as a result of a single acquisition or by reason of one or more acquisitions within the twelve (12)-month period ending with the most recent acquisition) the beneficial owner (within the meaning of Rule 13d-3 of the 1934 Act) of securities possessing (or convertible into or exercisable for securities possessing) more than fifty percent (50%) of the total combined voting power of the Corporation's securities (as measured in terms of the power to vote with respect to the election of Board members) outstanding immediately after the consummation of such transaction or series of related transactions, whether such transaction involves a direct issuance

from the Corporation or the acquisition of outstanding securities held by one or more of the Corporation's existing stockholders.

(D) a change in the composition of the Board over a period of twelve (12) consecutive months or less such that a majority of the Board members ceases to be comprised of individuals who either (A) have been Board members continuously since the beginning of such period ("Incumbent Directors") or (B) have been elected or nominated for election as Board members during such period by at least a majority of the Incumbent Directors who were still in office at the time the Board approved such election or nomination; provided that any individual who becomes a Board member subsequent to the beginning of such period and whose election or nomination was approved by two-thirds of the Board members then comprising the Incumbent Directors will be considered an Incumbent Director.

(e) **Code** shall mean the Internal Revenue Code of 1986, as amended.

(f) **Common Stock** shall mean the Corporation's Common Stock.

(g) **Compensation Committee** shall mean the Compensation Committee of the Board comprised of two (2) or more non-employee Board members, each of whom is intended to qualify as a "non-employee director" (as defined in Rule 16b-3 under the Exchange Act), an "outside director" for purposes of Section 162(m) of the Code and an "independent director" under the rules of any securities exchange or automated quotation system on which the Common Stock is then listed, quoted or traded; provided that any action taken by the Compensation Committee shall be valid and effective, whether or not one or more members of the Compensation Committee at the time of such action are later determined not to have satisfied the requirements for membership set forth in this definition or otherwise provided in the charter of the Compensation Committee.

(h) **Corporation** shall mean Minerva Neurosciences, Inc., a Delaware corporation, and any corporate successor to all or substantially all of the assets or voting stock of Minerva Neurosciences, Inc. which has by appropriate action assumed the Plan.

(i) **Employee** shall mean an individual who is in the employ of the Corporation (or any Parent or Subsidiary, whether now existing or subsequently established), subject to the control and direction of the employer entity as to both the work to be performed and the manner and method of performance.

(j) **Exercise Date** shall mean the date on which the Corporation shall have received written notice of the option exercise.

(k) **Fair Market Value** per share of Common Stock on any relevant date shall be determined in accordance with the following provisions:

(i) If the Common stock is at the time traded on a Stock Exchange, then the Fair Market Value shall be the closing selling price per share of Common Stock at the close of regular hours trading (i.e., before after-hours trading begins) on date in question on the Stock Exchange serving as the primary market for the Common Stock, as such price is reported by the National Association of Securities Dealers (if primarily traded on the Nasdaq Global or

Global Select Market) or as officially quoted in the composite tape of transactions on any other Stock Exchange on which the Common Stock is then primarily traded. If there is no closing selling price for the Common Stock on the date in question, then the Fair Market Value shall be the closing selling price on the last preceding date for which such quotation exists.

(ii) For purposes of option grants made on the Underwriting Date, the Fair Market Value shall be deemed to be equal to the established initial public offering price per share. For purposes of option grants made prior to such date, the Fair Market Value shall be determined by the Plan Administrator through the reasonable application of a reasonable valuation method that takes into account the applicable valuation factors set forth in the Treasury Regulations issued under Section 409A of the Code; provided, however, that with respect to an Incentive Option, such Fair Market Value shall be determined in accordance with the standards of Section 422 of the Code and the applicable Treasury Regulations thereunder.

(l) **Family Member** shall mean, with respect to a particular Participant, any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law.

(m) **Good Reason** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Good Reason shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Good Reason definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Good Reason shall mean an individual's voluntary resignation following (A) a change in his or her position with the Corporation (or any Parent or Subsidiary) which materially reduces his or her duties, responsibilities or authority, (B) a material diminution in the duties, responsibilities or authority of the person to whom such individual reports, (C) a material reduction in such individual's level of base compensation, with a reduction of more than fifteen percent (15%) to be deemed material for such purpose, or (D) a material relocation of such individual's place of employment, with a relocation of more than fifty (50) miles to be deemed material for such purpose, ***provided, however,*** that a resignation for Good Reason may be effected only after (i) the individual provides written notice to the Corporation of the event or transaction constituting grounds for such resignation within sixty (60) days after the occurrence of that event or transaction and (ii) the Corporation fails to take the requisite remedial action with respect to such event or transaction within thirty (30) days after receipt of such notice.

(n) **Incentive Option** shall mean an option which satisfies the requirements of Code Section 422.

(o) **Involuntary Termination** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Involuntary Termination shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Involuntary Termination definition in the Award Agreement (or in any other agreement incorporated by reference into the Award Agreement), Involuntary Termination shall mean such individual's involuntary dismissal or discharge by the Corporation (or any Parent or Subsidiary) for reasons other than Misconduct, or such individual's voluntary resignation for Good Reason.

(p) **Misconduct** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Misconduct shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other Misconduct definition in the Award Agreement for a particular Award (or in any other agreement incorporated by reference into the Award Agreement), Misconduct shall mean the commission of any act of fraud, embezzlement or dishonesty by the Participant, any unauthorized use or disclosure by such person of confidential information or trade secrets of the Corporation (or any Parent or Subsidiary), or any other intentional misconduct by such person adversely affecting the business or affairs of the Corporation (or any Parent or Subsidiary) in a material manner. The foregoing definition shall not in any way preclude or restrict the right of the Corporation (or any Parent or Subsidiary) to discharge or dismiss any Participant or other person in the Service of the Corporation (or any Parent or Subsidiary) for any other acts or omissions, but such other acts or omissions shall not be deemed, for purposes of the Plan, to constitute grounds for termination for Misconduct.

(q) **1934 Act** shall mean the Securities Exchange Act of 1934, as amended.

(r) **Non-Statutory Option** shall mean an option not an Incentive Option.

(s) **Parent** shall mean any corporation (other than the Corporation) in an unbroken chain of corporations ending with the Corporation, provided each corporation in the unbroken chain (other than the Corporation) owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

(t) **Participant** shall mean any person who is granted an Award under the Plan.

(u) **Permanent Disability** shall mean the inability of the Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental

impairment expected to result in death or to be of continuous duration of twelve (12) months or more.

(v) **Plan** shall mean the Corporation's 2013 Equity Incentive Plan, as set forth in this document.

(w) **Plan Administrator** shall mean the particular entity, whether the Compensation Committee, the Board, the Secondary Board Committee or any delegate of the Board or the Compensation Committee authorized to administer the Plan with respect to one or more classes of eligible persons, to the extent such entity is carrying out its administrative functions under the Plan with respect to the persons under its jurisdiction.

(x) **Plan Effective Date** shall mean the date upon which the Plan was approved by the Board.

(y) **Secondary Board Committee** shall mean a committee of one or more Board members appointed by the Board to administer the Plan with respect to eligible persons other than Section 16 Insiders.

(z) **Section 16 Insider** shall mean an officer or director of the Corporation subject to the short-swing profit liabilities of Section 16 of the 1934 Act.

(aa) **Service** shall, with respect to each Award made under the Plan, be defined in accordance with the following provisions:

(i) Service shall have the meaning assigned to such term in the Award Agreement for the particular Award or in any other agreement incorporated by reference into the Award Agreement for purposes of defining such term.

(ii) In the absence of any other definition of Service in the Award Agreement for a particular Award (or in any other agreement incorporated by reference into the Award Agreement), Service shall mean the performance of services for the Corporation (or any Parent or Subsidiary, whether now existing or subsequently established) by a person in the capacity of an Employee, a non-employee member of the board of directors or a consultant or independent advisor, except to the extent otherwise specifically provided in the documents evidencing the option grant or stock issuance. For purposes of this particular definition of Service, a Participant shall be deemed to cease Service immediately upon the occurrence of the either of the following events: (i) the Participant no longer performs services in any of the foregoing capacities for the Corporation or any Parent or Subsidiary or (ii) the entity for which the Participant is performing such services ceases to remain a Parent or Subsidiary of the Corporation, even though the Participant may subsequently continue to perform services for that entity.

(iii) Service shall not be deemed to cease during a period of military leave, sick leave or other personal leave approved by the Corporation; provided, however, that should such leave of absence exceed three (3) months, then for purposes of determining the period within which an Incentive Option may be exercised as such under the federal tax laws, the Participant's Service shall be deemed to cease on the first day immediately following the

expiration of such three (3)-month period, unless Participant is provided with the right to return to Service following such leave either by statute or by written contract. Except to the extent otherwise required by law or expressly authorized by the Plan Administrator or by the Corporation's written policy on leaves of absence, no Service credit shall be given for vesting purposes for any period the Participant is on a leave of absence.

(bb) **Stock Exchange** shall mean the American Stock Exchange, the Nasdaq Global or Global Select Market or the New York Stock Exchange.

(cc) **Subsidiary** shall mean any corporation (other than the Corporation) in an unbroken chain of corporations beginning with the Corporation, provided each corporation (other than the last corporation) in the unbroken chain owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

(dd) **10% Stockholder** shall mean the owner of stock (as determined under Code Section 424(d)) possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Corporation (or any Parent or Subsidiary).

(ee) **Underwriting Agreement** shall mean the agreement between the Corporation and the underwriter or underwriters managing the initial public offering of the Common Stock.

(ff) **Underwriting Date** shall mean the date on which the Underwriting Agreement is executed and priced in connection with the initial public offering of the Common Stock.

(gg) **Withholding Taxes** shall mean the applicable federal, state and foreign income and employment withholding taxes and other payments to which the holder of an Award under the Plan may become subject in connection with the issuance, exercise, vesting or settlement of that Award.

Exhibit 10.26

LOAN AGREEMENT
(the "AGREEMENT")

made as of April 30, 2014

by and among

Index Ventures V (Jersey), L.P.
Ogier House, The Esplande,
St. Helier, Jersey, JE4 9WG,
Channel Islands ("**Index V**")

Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P.
Ogier House, The Esplande
St. Helier, Jersey, JE4 9WG
Channel Islands ("**Index V Parallel**")

Yucca (Jersey), SLP
Ogier House, The Esplande
St. Helier, Jersey, JE4 9WG
Channel Islands ("**Yucca**")

Limburgse Reconversiemaatschappij NV
Kempische Steenweg 555
3500 Hasselt, Belgium ("**LRM**")

KMOFIN 2 NV
Kempische Steenweg 555
3500 Hasselt, Belgium ("**KMOFIN**")

(Index V, Index Parallel V, Yucca, LRM, and KMOFIN, each a "**Lender**" and, together, the "**Lenders**").

and

Minerva Neurosciences, Inc.
245 First Street, Suite 1800,
Cambridge, MA 02142
United States of America ("**Minerva**")

WHEREAS, the Lenders, who are at the same time shareholders of Minerva, a Delaware corporation, desire to grant Minerva a loan facility for the financing of its net working capital in the total amount of up to maximum USD 600'000, subject to the terms and conditions of this Agreement.

NOW, THEREFORE, the Parties agree as follows:

1. **DEFINITIONS**

1.1 In this Agreement, unless the context otherwise requires, each of the following expressions has the meaning defined next to it:

"**Affiliate**" of an entity means any company Controlling, Controlled by, or under common Control of the entity and any individual Controlling such entity.

"**Business Day**" means a day except a Saturday or Sunday, on which banks in Geneva, Switzerland are open for business generally.

"**Control**", "**Controlled**" and "**Controlling**" means when an entity or a person is able to exercise significant influence over the financial and/or operating policies of a company.

1.2 In this Agreement:

(a) headings are for convenience only and shall not affect its interpretation;

(b) references to Clauses are to be construed as references to the Clauses of this Agreement;

(c) references to (or to any specified provision of) this Agreement shall be construed as a reference to this Agreement or that provision as in force for the time being and as amended from time to time in accordance with the terms thereof;

(d) words denoting the singular number shall include the plural and vice versa; and

(e) references to persons shall include individuals, corporations (where incorporated), unincorporated associations (including partnerships), trusts, any form of governmental body, agency or authority and any other organisation of any nature (in each case, whether or not having separate legal personality).

2. **LOAN**

2.1 **Loan Amount**

Subject to the terms and conditions of this Agreement, including Section 3.3, the Lenders grant to Minerva a loan (the "**Loan**") in the aggregate amount of up to USD 600,000 (the "**Loan Amount**").

The allocation of the Loan between the Lenders shall be as follows:

Lender	Participation	Individual Loan Amount	
Index V	48.978%	USD	293,870
Index V Parallel	0.397%	USD	2,380
Yucca	0.625%	USD	3,750
Limburgse	33 1/3%	USD	200,000
KMOFIN	16 2/3%	USD	100,000

For purposes of clarity, the above Loan is granted by each of the Lenders for its individual portion of the Loan Amount and not on a joint and several basis for the entire Loan.

2.2 **Payment of Loan Amount**

The Loan shall be made available by the Lenders as of the Effective Date and must be paid (i) USD 250,000 as of the Effective Date, (ii) USD 250,000 once called by Minerva within 10 Business Days and (iii) USD 100,000 once called by Minerva within 10 Business Days.

3. **LENDER'S OBLIGATIONS**

The Lenders undertakes pursuant to the terms and conditions of this Agreement to participate with the amount specified above in Section 2.1. Each Lender shall be only liable for his pro rata amount and not jointly for the entire Loan Amount.

4. **INTEREST**

The amount outstanding under the Loan (the "**Outstanding Loan Amount**") shall bear interest at the rate of eight percent (8%) per annum, compounded annually, calculated for each year (or fraction thereof) (the "**Interest Period**") from the respective date on which such part of the Outstanding Loan Amount is received by Minerva, until the Repayment Date (as defined below). Interest shall accrue and be added to the Outstanding Loan Amount at the end of each Interest Period.

5. **REPAYMENT**

5.1 The outstanding Loan Amounts shall become due for repayment on the earlier of (each a "**Repayment Date**"):

(a) The closing of Minerva's initial public offering of common stock, par value $0.0001,(the "**IPO**"); or

(b) 1 December 2015; or

(c) at any time Minerva voluntarily decides to repay the Loan (or part thereof); or

(d) the Business Day following the occurrence of an Event of Default as set forth in Section 6 below.

In case of partial repayment of the Outstanding Loan Amount, this Section 5 shall remain applicable for the remaining Outstanding Loan Amount.

6. **EVENTS OF DEFAULT**

6.1 **Events of Default**

Each of the events set out in this Section is an Event of Default (whether or not caused by reason whatsoever outside the control of the Borrower):

a) Minerva's failure to pay any amount of principal or interest on the Loan when due, or any fees or expenses due and payable under this Agreement, and such failure(s) shall continue un-remedied for 10 Business Days;

b) Minerva shall fail to observe and adhere to any of the terms of this Agreement (subject to any applicable cure periods); or

c) Minerva's senior lenders or other third party lenders shall have accelerated the loans or any other obligations outstanding under their credit facilities with Minerva (cross default); or

d) bankruptcy, liquidation or dissolution proceedings of Minerva have been initiated.

6.2 **Default Interest Rate**

Upon the occurrence, and during the continuation of an Event of Default, the outstanding amount of the Loan shall bear, in addition to the base interest pursuant to Section 4, default additional interest at a rate of 3 % (three percent) per annum.

6.3 **Declaration of Maturity and Repayment**

Upon an Event of Default, each Lender may declare its outstanding portion of the Loan to be immediately due and payable in cash, and exercise any and all rights and remedies available to the Lender under the applicable laws.

7. **GENERAL PROVISIONS**

7.1 **Confidentiality**

The Parties expressly acknowledge and agree that this Agreement and its terms and all information, whether written or oral, furnished by either Party to the other Party in connection with the preparation and negotiation of this Agreement are confidential and shall not be disclosed except as otherwise agreed in advanced by each of the Parties.

7.2 **Effective Date**

This Agreement shall become effective upon receipt by the Borrower of the originals or electronic copies of all signatures of the Parties hereto.

7.3 **Costs and Expenses**

Each Party shall pay the cost and expenses it incurs.

7.4 **Notices**

Any notices between the parties shall be sent by registered mail or pre-paid express courier service to the addresses listed on top of this Amendment or such other ad-dress as the addressee shall have specified in a notice actually received by the ad-dressor. Notices can be validly transmitted by telefax

provided that a confirmation copy shall be sent by registered mail or pre-paid express courier service at the same time.

7.5 **No Waiver**

The failure of any Party to enforce any of the provisions of this Agreement or any rights with respect thereto shall in no way be considered as a waiver of such provisions or rights or in any way to affect the validity of this Agreement. The waiver of any breach of this Agreement by any Party hereto shall not be construed as a waiver of any other prior or subsequent breach.

7.6 **Entire Agreement**

This Agreement and the instruments referred to herein embodies the entire agreement between the Parties hereto with respect to the Loan contemplated herein. This Agreement may be amended only in writing through a document signed by the Parties hereto.

7.7 **Severability**

Should any provision of this Agreement turn out to be invalid, illegal or unenforceable, the remaining provisions have to be regarded as severable and enforceable in accordance with their terms. The Parties shall replace the partly or entirely invalid, illegal or unenforceable provisions by provisions which are as similar as possible and correspond to the economic intent and purpose of such partly or entirely invalid or impractical provision and are valid and enforceable.

7.8 **Amendments or Waivers**

This Agreement may be amended only in writing through a document duly signed by all Parties and any waivers to this Agreement require prior written approval of all Parties hereto.

7.9 **Transfers or Assignments**

No Party shall transfer the Loan or assign any of its rights or obligations under the Loan or under this Agreement to any third party without the prior written consent of all the other Parties.

Notwithstanding the foregoing, no Party shall enter into any arrangement with any other person, as a result of which Swiss stamp duties and withholding tax on interest payments could be triggered. The Parties agree and shall procure that during the term of this Agreement, the Borrower shall at no time be the recipient of loans or other debt capital (including the Loan) from: (i) more than ten creditors (other than qualifying banks as per the relevant Guidelines of the Swiss Federal Tax Authorities) on identical terms under this Agreement, or (ii) more than twenty creditors (other than qualifying banks as per the relevant Guidelines of the Swiss Federal Tax Authorities) in total. Except that each Lender may assign its rights and obligations under this Agreement to the ultimate holders of such Lender.

For the purpose of this clause each Lender confirms that it is a single creditor for the purpose to the Swiss non-bank rules according to the Guidelines.

7.10 **Governing Law**

This Agreement and any questions related thereto shall be subject to the laws of Switzerland excluding its conflict of law rules.

7.11 **Arbitration**

Any dispute, controversy or claim arising out of or in relation to this Agreement, including the validity, invalidity, breach or termination thereof, shall be settled by arbitration, in accordance with the

rules of the International Chamber of Commerce in force on the date when the notice of arbitration is submitted in accordance with such rules. The number of arbitrators shall be three. The seat of the arbitration shall be in London, England. The arbitral proceedings shall be conducted in English.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date and year first above written.

MINERVA NEUROSCIENCES, INC.

/s/ Rogerio Vivaldi Coelho

Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO
Place, Date:

INDEX VENTURES V (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Paul Willing
Name: Paul Willing
Title: Director
Place, Date:

INDEX VENTURES V PARALLEL ENTREPRENEUR FUND (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Paul Willing
Name: Paul Willing
Title: Director
Place, Date:

YUCCA (JERSEY) SLP

By: Ogier Employee Benefit Services Limited as Authorised Signatory of Yucca (Jersey) SLP in its capacity as administrator of the Index Co-Investment Scheme

By:	/s/ Giles Johnstone-Scott /s/ Sherin Sugeeswaran
Name:	Giles Johnstone-Scott and Sherin Sugeeswaran
Title:	Authorised Signatory — Ogier Employee Benefits Services Limited

Place, Date:

LIMBURGSE RECONVERSIEMAATSCHAPPIJ NV

By: /s/ Stijn Bijnens
Name: Stijn Bijnens
Title: CEO
Place, Date: 30-04-2014

KMOFIN 2 NV

By: /s/ Stijn Bijnens
Name: LRM NVC represented by Stijn Bijnens
Title: Daily Manager
Place, Date: 30-04-2014

Exhibit 10.27

LOAN AGREEMENT
(the "AGREEMENT")

made as of May 23, 2014

by and among

Index Ventures V (Jersey), L.P.
Ogier House, The Esplanade,
St. Helier, Jersey, JE4 9WG,
Channel Islands ("**Index V**")

Index Ventures V Parallel Entrepreneur Fund (Jersey), L.P.
Ogier House, The Esplanade
St. Helier, Jersey, JE4 9WG
Channel Islands ("**Index V Parallel**")

Index Ventures IV (Jersey), L.P.
Ogier House, The Esplanade,
St. Helier, Jersey, JE4 9WG,
Channel Islands ("**Index IV**")

Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P.
Ogier House, The Esplanade,
St. Helier, Jersey, JE4 9WG,
Channel Islands ("**Index IV Parallel**")

Index Ventures III (Delaware), L.P.
No 1 Seaton Place
St Helier
Jersey JE4 8YJ
Channel Islands ("**Index III Delaware")**

Index Ventures III (Jersey), L.P.
No 1 Seaton Place
St Helier
Jersey JE4 8YJ
Channel Islands ("**Index III Jersey**")

Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P.
No 1 Seaton Place
St Helier
Jersey JE4 8YJ

Channel Islands ("**Index III Parallel**")

Yucca (Jersey), SLP
Ogier House, The Esplande
St. Helier, Jersey, JE4 9WG
Channel Islands ("**Yucca**")

Limburgse Reconversiemaatschappij NV
Kempische Steenweg 555
3500 Hasselt, Belgium ("**LRM**")

KMOFIN 2 NV
Kempische Steenweg 555
3500 Hasselt, Belgium ("**KMOFIN**")

Care Capital Investments III LP
47 Hulfish St.
Princeton, NJ 08542
United States ("**Care**")

Care Capital Offshore Investments III LP
47 Hulfish St.
Princeton, NJ 08542
United States ("**Care Offshore**")

(Index V, Index Parallel V, Index IV, Index IV Parallel, Index III Delaware, Index III Jersey, Index III Parallel, Yucca, LRM, KMOFIN, Care and Care Offshore each a "**Lender**" and, together, the "**Lenders**").

and

Minerva Neurosciences, Inc.
245 First Street, Suite 1800,
Cambridge, MA 02142
United States of America ("**Minerva**")

WHEREAS, the Lenders, who are at the same time shareholders of Minerva, a Delaware corporation, desire to grant Minerva a loan facility for the financing of its net working capital in the total amount of up to maximum USD 1,000,000, subject to the terms and conditions of this Agreement.

NOW, THEREFORE, the Parties agree as follows:

1. **DEFINITIONS**

1.1 In this Agreement, unless the context otherwise requires, each of the following expressions has the meaning defined next to it:

"**Business Day**" means a day except a Saturday or Sunday, on which banks in Boston, Massachusetts are open for business generally.

"**Control**", "**Controlled**" and "**Controlling**" means when an entity or a person is able to exercise significant influence over the financial and/or operating policies of a company.

1.2 In this Agreement:

(a) headings are for convenience only and shall not affect its interpretation;

(b) references to Clauses are to be construed as references to the Clauses of this Agreement;

(c) references to (or to any specified provision of) this Agreement shall be construed as a reference to this Agreement or that provision as in force for the time being and as amended from time to time in accordance with the terms thereof;

(d) words denoting the singular number shall include the plural and vice versa; and

(e) references to persons shall include individuals, corporations (where incorporated), unincorporated associations (including partnerships), trusts, any form of governmental body, agency or authority and any other organisation of any nature (in each case, whether or not having separate legal personality).

2. LOAN

2.1 Loan Amount

Subject to the terms and conditions of this Agreement, including Section 3.3, the Lenders grant to Minerva a loan (the "**Loan**") in the aggregate amount of up to USD 1,000,000 (the "**Loan Amount**").

The allocation of the Loan between the Lenders shall be as follows:

Lender	Participation	Individual Loan Amount	
Index V	6.79%	USD	67,946.27
Index V Parallel	0.06%	USD	550.43
Index IV	13.14%	USD	131,401.74
Index IV Parallel	1.25%	USD	12,472.65
Index III Delaware	19.28%	USD	192,802.38
Index III Jersey	9.49%	USD	94,911.50
Index III Parallel	0.34%	USD	3,434.50
Yucca	0.68%	USD	6,761.53
LRM	3.69%	USD	36,902.00
KMOFIN	1.85%	USD	18,451.00
Care	42.72%	USD	427,223.00
Care Offshore	0.71%	USD	7,135.00

For purposes of clarity, the above Loan is granted by each of the Lenders for its individual portion of the Loan Amount and not on a joint and several basis for the entire Loan.

2.2 **Payment of Loan Amount**

The Loan shall be made available by the Lenders as of the Effective Date and must be paid (i) USD 500,000 as of the Effective Date and (ii) up to an additional USD 500,000 to be paid in multiples of USD 100,000, in one or more subsequent closings, once called by Minerva and approved by the Lenders within ten (10) Business Days.

3. **LENDER'S OBLIGATIONS**

The Lenders undertakes pursuant to the terms and conditions of this Agreement to participate with the amount specified above in Section 2.1. Each Lender shall be only liable for his pro rata amount and not jointly for the entire Loan Amount.

4. **INTEREST**

The amount outstanding under the Loan (the "**Outstanding Loan Amount**") shall bear interest at the rate of eight percent (8%) per annum, compounded annually, calculated for each year (or fraction thereof) (the "**Interest Period**") from the respective date on which such part of the Outstanding Loan Amount is received by Minerva, until the Repayment Date (as defined below). Interest shall accrue and be added to the Outstanding Loan Amount at the end of each Interest Period.

5. **REPAYMENT**

5.1 The outstanding Loan Amounts and accrued interest shall become due for repayment on the earlier of (each a "**Repayment Date**"):

(a) The closing of Minerva's initial public offering of common stock, par value $0.0001,(the "**IPO**"); or

(b) the closing of a financing transaction or series of related financing transactions after the date hereof, with aggregate gross proceeds to the Company of at least USD 5,000,000; or

(c) 1 December 2015; or

(d) at any time Minerva voluntarily decides to repay the Loan (or part thereof); or

(e) the Business Day following the occurrence of an Event of Default as set forth in Section 6 below.

In case of partial repayment of the Outstanding Loan Amount, this Section 5 shall remain applicable for the remaining Outstanding Loan Amount.

6. EVENTS OF DEFAULT

6.1 Events of Default

Each of the events set out in this Section is an Event of Default (whether or not caused by reason whatsoever outside the control of the Borrower):

a) Minerva's failure to pay any amount of principal or interest on the Loan when due, or any fees or expenses due and payable under this Agreement, and such failure(s) shall continue un-remedied for 10 Business Days;

b) Minerva shall fail to observe and adhere to any of the terms of this Agreement (subject to any applicable cure periods); or

c) Minerva's senior lenders or other third party lenders shall have accelerated the loans or any other obligations outstanding under their credit facilities with Minerva (cross default); or

d) bankruptcy, liquidation or dissolution proceedings of Minerva have been initiated.

6.2 Default Interest Rate

Upon the occurrence, and during the continuation of an Event of Default, the outstanding amount of the Loan shall bear, in addition to the base interest pursuant to Section 4, default additional interest at a rate of 3 % (three percent) per annum.

6.3 Declaration of Maturity and Repayment

Upon an Event of Default, each Lender may declare its outstanding portion of the Loan to be immediately due and payable in cash, and exercise any and all rights and remedies available to the Lender under the applicable laws.

7. GENERAL PROVISIONS

7.1 Confidentiality

The Parties expressly acknowledge and agree that this Agreement and its terms and all information, whether written or oral, furnished by either Party to the other Party in connection with the preparation and negotiation of this Agreement are confidential and shall not be disclosed except as otherwise agreed in advanced by each of the Parties.

7.2 Effective Date

This Agreement shall become effective upon receipt by the Borrower of the originals or electronic copies of all signatures of the Parties hereto.

7.3 Costs and Expenses

Each Party shall pay the cost and expenses it incurs.

7.4 Notices

Any notices between the parties shall be sent by registered mail or pre-paid express courier service to the addresses listed on top of this Amendment or such other ad-dress as the addressee shall have specified in a notice actually received by the addressor. Notices can be validly transmitted by telefax provided that a confirmation copy shall be sent by registered mail or pre-paid express courier service at the same time.

7.5 **No Waiver**

The failure of any Party to enforce any of the provisions of this Agreement or any rights with respect thereto shall in no way be considered as a waiver of such provisions or rights or in any way to affect the validity of this Agreement. The waiver of any breach of this Agreement by any Party hereto shall not be construed as a waiver of any other prior or subsequent breach.

7.6 **Entire Agreement**

This Agreement and the instruments referred to herein embodies the entire agreement between the Parties hereto with respect to the Loan contemplated herein. This Agreement may be amended only in writing through a document signed by the Parties hereto.

7.7 **Severability**

Should any provision of this Agreement turn out to be invalid, illegal or unenforceable, the remaining provisions have to be regarded as severable and enforceable in accordance with their terms. The Parties shall replace the partly or entirely invalid, illegal or unenforceable provisions by provisions which are as similar as possible and correspond to the economic intent and purpose of such partly or entirely invalid or impractical provision and are valid and enforceable.

7.8 **Amendments or Waivers**

This Agreement may be amended only in writing through a document duly signed by all Parties and any waivers to this Agreement require prior written approval of all Parties hereto.

7.9 **Transfers or Assignments**

No Party shall transfer the Loan or assign any of its rights or obligations under the Loan or under this Agreement to any third party without the prior written consent of all the other Parties.

7.10 **Governing Law**

This Agreement and any questions related thereto shall be subject to the laws of Delaware excluding its conflict of law rules.

7.11 **Jurisdiction**

Each party hereby submits itself for the sole purpose of this Agreement, and any dispute, controversy or claim arising hereunder. to the exclusive jurisdiction of the state and federal courts located in Boston, Massachuetts, and waives any objection (on the grounds of lack of jurisdiction, *forum non conveniens* or otherwise) to the exercise of such jurisdiction over it by any state or federal court located in Boston, Massachuetts.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date and year first above written.

MINERVA NEUROSCIENCES, INC.

/s/ Rogerio Vivaldi Coelho

Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO
Place, Date:

05/20/14

INDEX VENTURES V (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES V PARALLEL ENTREPRENEUR FUND (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES IV (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES IV PARALLEL ENTREPRENEUR FUND (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES III (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES III (DELAWARE), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY), L.P.

By: Its Managing General Partner:
Index Venture Associates V Limited

By: /s/ Sinead Meehan
Name: Sinead Meehan
Title: Director
Place, Date:

05/22/14

Signature Page to Loan Agreement

YUCCA (JERSEY) SLP

By: Ogier Employee Benefit Services Limited as Authorised Signatory of Yucca (Jersey) SLP in its capacity as administrator of the Index Co-Investment Scheme

By: /s/ Giles Johnstone-Scott /s/ Alex DiSanto
Name: Giles Johnstone-Scott and Alex DiSanto
Title: Authorised Signatory — Ogier Employee Benefits Services Limited

Place, Date:

05/20/14

LIMBURGSE RECONVERSIEMAATSCHAPPIJ NV

By: /s/ Stijn Bijnens
Name: Stijn Bijnens
Title: CEO
Place, Date: Hasselt, 28-05-2014

KMOFIN 2 NV

By: /s/ Stijn Bijnens
Name: Stijn Bijnens
Title: CEO LRM NV
Place, Date: Hasselt, 28-05-2014

CARE CAPITAL INVESTMENTS III LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Name: David Ramsay
Title: Authorized Signatory
Place, Date:

05/22/2014

CARE CAPITAL OFFSHORE INVESTMENTS III LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Name: David Ramsay
Title: Authorized Signatory
Place, Date:

05/22/2014

Exhibit 21.1

Name	Jurisdiction
Mind-NRG SA	Switzerland

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Amendment No. 1 to Registration Statement No. 333-195169 of our report dated April 9, 2014 (June 9, 2014 as to the effects of the reverse stock split described in the last paragraph of Note 13) relating to the financial statements of Minerva Neurosciences, Inc. (which report expresses an unqualified opinion and includes an explanatory paragraph referring to substantial doubt about the Company's ability to continue as a going concern) appearing in the Prospectus, which is part of this Registration Statement. We also consent to the reference to us under the heading "Experts" in such Prospectus.

/s/ DELOITTE & TOUCHE LLP

Parsippany, New Jersey
June 10, 2014

Exhibit 23.3

CONSENT OF INDEPENDENT AUDITORS

We consent to the use in this Amendment No. 1 to Registration Statement No. 333-195169 of Minerva Neurosciences, Inc. of our report dated February 14, 2014 related to the financial statements of Sonkei Pharmaceuticals, Inc. (Sonkei) as of and for the years ended December 31, 2012 and 2011 and for the period from August 29, 2008 (date of incorporation) to December 31, 2012 (which report expresses an unqualified opinion and includes emphasis of matter paragraphs referring to 1) substantial doubt about Sonkei's ability to continue as a going concern and 2) Sonkei's merger into Cyrenaic Pharmaceuticals, Inc.), appearing in the prospectus, which is part of this Registration Statement, and to the reference to us under the heading "Experts" in such prospectus.

/s/ DELOITTE & TOUCHE LLP

Parsippany, New Jersey
June 10, 2014

Exhibit 23.4

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in this Registration Statement on Form S-1 of Minerva Neurosciences, Inc. of our report dated March 26, 2014 relating to the financial statements of Mind-NRG S.A., which appears in such Registration Statement. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

PricewaterhouseCoopers SA

/s/ LUC SCHULTHESS	/s/ LEILANI HUNT
Luc Schulthess	Leilani Hunt

Geneva, Switzerland, June 9, 2014