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As filed with the Securities and Exchange Commission on April 9, 2014

Registration No. 333-

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

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

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

Delaware (State or other jurisdiction of incorporation or organization)	**2834** (Primary Standard Industrial Classification Code Number)	**26-0784194** (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 ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, $0.0001 par value per share	$69,000,000	$8,888

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933. Includes the offering price of any additional shares that the underwriters have the option to purchase.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

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.

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 APRIL 9, 2014.

PRELIMINARY PROSPECTUS

Shares

MINERVA NEUROSCIENCES, INC.

Common Stock

We are offering 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 $ and $ 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. See the section of this prospectus titled "Underwriting" for details.

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 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.

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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.

Program	Primary Indication	Mechanism	Structure	Preclinical	Phase 1	Phase 2	Commercialization Rights
MIN-101	Schizophrenia	5-HT2A Sigma2	Small molecule	Next: Phase 1, followed by Planned Phase IIb in the second half of 2014			Global (ex-Asia)
MIN-117	MDD	5-HT1A, 5-HTT, Alpha-1a,b Dopamine Transporter 5-HT2A	Small molecule	Next: Planned Phase II in the second half of 2014			Global (ex-Asia)
MIN-202	Primary and Secondary Insomnia	Orexin-2 antagonist	Small molecule	Phase Ib started in December 2013			Europe Union (Co-development with Janssen)
MIN-301	Parkinson's	ErbB4 activator	Protein	Next: IND enabling studies, followed by Planned Phase I in the first half of 2015			Global

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 second half 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 II 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	shares
Common stock to be outstanding after this offering	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 additional shares of our common stock.
Use of proceeds	We estimate that our net proceeds from this offering will be approximately $ million, assuming an initial public offering price of $ 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"

The number of shares of our common stock outstanding immediately after this offering is based on 29,823,210 shares of common stock outstanding as of April 9, 2014 and excludes:

- 2,263,661 shares of common stock issuable upon the exercise of options outstanding as of April 9, 2014, with an exercise price of $2.71 per share; and
- 6,787,318 shares of common stock reserved for future issuance under our 2013 Equity Incentive Plan.

Unless otherwise indicated, all information in this prospectus:

- assumes no exercise by the underwriters of their option to purchase up to 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 shares of common stock upon the closing of this offering, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and a closing date of , 2014;

- assumes the sale of $26.0 million of our common stock to Johnson & Johnson Development Corporation, or JJDC, an affiliate of Janssen, or shares, in a private placement concurrent with the closing of this offering assuming an initial public offering price of $ 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 shares, in a private placement concurrent with the closing of this offering, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus;

- assumes no exercise of outstanding options after April 9, 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- reverse stock split of our common stock effected on .

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 December 31, 2013 which was 1.3766.

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 and the summary balance sheet data as of December 31, 2013 from our audited 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 summary unaudited pro forma condensed combined balance sheet data gives pro forma effect to the Mind-NRG Acquisition as if it occurred on December 31, 2013.

The summary unaudited pro forma as adjusted condensed combined balance sheet data gives pro forma effect to the Mind-NRG Acquisition as if it occurred on December 31, 2013 as well as (i) the conversion of the 2013 Notes, including accrued interest thereon, into an aggregate of shares of common stock upon the closing of this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, (ii) the repayment of a loan plus all accrued interest thereon payable to certain previous shareholders of Mind-NRG SA, or Mind-NRG, in connection with the closing of this offering, assuming a closing date of , 2014, or the Mind-NRG Debt, (iii) 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, (iv) the purchase of shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $ 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, (v) the purchase of 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 $ 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 (vi) the sale of shares of common stock in this offering at an assumed initial public offering price of $ 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 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, 2012	YEARS ENDED DECEMBER 31, 2013	PRO FORMA FOR YEAR ENDED DECEMBER 31, 2013
	(in thousands, except share and per share data)		
Statement of Operations Data:			
Expenses:			
Research and development	$ 550	$ 708	$ 2,297
General and administrative	1,031	2,467	3,179
Total expenses	1,581	3,175	5,476
Foreign exchange (gains)/losses and other, net	1	29	(7)
Interest expense (income), net	—	58	72
Net loss	$ 1,582	$ 3,262	$ 5,541
Per Share Data			
Net loss per share — basic and diluted	$ 0.13	$ 0.22	$ 0.21
Weighted average shares outstanding — basic and diluted	11,854,198	14,651,363	25,888,659

	DECEMBER 31, 2013 ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
	(in thousands)		
Balance Sheet Data:			
Cash and cash equivalents	$ 1,818	$ 3,518	$
In process research and development	19,000	34,200	
Goodwill	7,918	14,669	
Other current and long-term assets	439	463	
Total assets	29,175	52,850	
Accounts payable, accrued expenses and other liabilities	1,348	2,501	
Convertible promissory notes, net of discount	58	58	
Deferred tax liability	7,589	13,669	
Total liabilities	8,995	16,228	
Total stockholders' equity	20,180	36,622	
Total liabilities and stockholders' equity	$ 29,175	$ 52,850	$

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 as described under "Unaudited Pro Forma Condensed Combined Financial Statements." As of December 31, 2013, we had an accumulated deficit of $17.8 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 December 31, 2013, we had cash and cash equivalents of $1.8 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 II 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 April 9, 2014, we had three 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.

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 % of our outstanding voting stock (assuming no exercise of the underwriters' option to purchase additional shares, no exercise of outstanding options and no 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 and the Janssen Transactions. 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 $ per share, based on an initial public offering price of $ 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 % of the total amount invested by stockholders since our inception, but will own only approximately % 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 shares of common stock. The shares sold in this offering will be freely tradable. The remaining 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 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 9,050,979 shares of common stock subject to options or other equity awards issued or reserved for future issuance under our 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.

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 2013 Equity Incentive Plan, which became effective on December 20, 2013, our management is authorized to grant up to 9,050,979 stock options to our employees, directors and consultants. Unless our board of directors elects not to increase the number of shares available for future grant each year, 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 as they will be in effect following this offering 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 will have the authority to issue up to 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 will 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 % 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; and
- estimates of our expenses, future revenue, capital requirements and our needs for additional financing.

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 shares of our common stock in this offering will be approximately $ million, or approximately $ million if the underwriters exercise their option to purchase additional shares in full, based upon an assumed initial public offering price of $ 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 $ 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 $ 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 and estimated offering expenses payable by us. 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 $ 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 December 31, 2013, we had cash and cash equivalents of $1.8 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:

- to fund MIN-101 through Phase II clinical development;
- to fund MIN-117 through Phase II clinical development;
- to fund MIN-202 through Phase I clinical development;
- to fund MIN-301 through Phase I clinical development;
- to repay the Mind-NRG Debt assumed by us in the Mind-NRG Acquisition;
- €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 Mind-NRG Debt was provided subsequent to December 31, 2013 for working capital purposes by Pentavest S.à.r.l., 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 Mind-NRG Debt was incurred in February 2014 and has an interest rate of 8% per annum that is added to the original principal amount of $0.6 million.

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 December 31, 2013:

- on an actual basis;
- on a pro forma basis to reflect (i) the Mind-NRG Acquisition, whereby we issued 5,185,528 shares of our common stock which had an estimated fair value of approximately $16.5 million to acquire all of the outstanding equity securities of Mind-NRG; (ii) the assumption of the $0.6 million Mind-NRG Debt; and (iii) the repurchase of 1,221,242 shares of common stock in full settlement of $4.7 million of nonrecourse notes in March 2014; 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 shares of common stock upon the closing of this offering at the initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus; (ii) the repayment of the Mind-NRG Debt that is due and payable upon the closing of this offering; (iii) the payment of €0.5 million (or $0.7 million, as converted) to ProteoSys for the ProteoSys License Fee; (iv) the purchase of shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $ 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; (v) the purchase of 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 $ 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 (vi) the sale of shares of common stock in this offering at an assumed initial public offering price of $ 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 DECEMBER 31, 2013		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
		(in thousands)	
Cash and cash equivalents	$ 1,818	$	$
Convertible promissory notes, net of debt discount	58		
Stockholders' equity:			
Common stock, $0.0001 par value; 45,000,000 shares authorized, 21,394,571 issued and outstanding actual; 45,000,000 shares authorized and shares issued and outstanding pro forma; shares authorized and shares issued and outstanding pro forma as adjusted	2		
Additional paid-in capital	38,007		
Accumulated deficit	(17,829)		
Total stockholders' equity	20,180		
Total capitalization	$ 20,238	$	$

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A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) each of cash and cash equivalents, additional paid-in capital, and total capitalization by $, and decrease (increase) total stockholders' equity by $, 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 $, and decrease (increase) total stockholders' equity by $, assuming the assumed initial public offering price of $ 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:

- 2,263,661 shares of common stock issuable upon the exercise of stock options outstanding as of April 9, 2014 with an exercise price of $2.71 per share; and
- 6,787,318 shares of common stock reserved for future issuance under our 2013 Equity Incentive Plan.

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 value of our common stock as of December 31, 2013 was $0.4 million, or $0.02 per share. Historical net tangible book value is the amount of our total tangible assets less our total liabilities. Historical net tangible book value per share is our historical net tangible book value, divided by the number of outstanding shares of common stock.

The pro forma net tangible book value of our common stock as of December 31, 2013 was approximately $1.0 million, or approximately $0.05 per share. Pro forma net tangible book value and pro forma net tangible book value per share give effect to (i) the Mind-NRG Acquisition, whereby we issued 5,185,528 shares of our common stock which had a fair value of approximately $16.5 million to acquire all of the outstanding equity securities of Mind-NRG; (ii) the assumption of the Mind-NRG Debt and (iii) the repurchase of 1,221,242 shares of common stock in full settlement of $4.7 million of nonrecourse notes in March 2014.

Pro forma as adjusted net tangible book value is our pro forma net tangible book value, after giving effect to (i) the conversion of the 2013 Notes, including accrued interest thereon, into an aggregate of shares of common stock upon the closing of this offering at the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus; (ii) the repayment of the Mind-NRG Debt that is due and payable upon the closing of this offering, assuming a closing date of ; (iii) the payment of €0.5 million (or $0.7 million, as converted) to ProteoSys for the ProteoSys License Fee; (iv) the purchase of shares of our common stock by JJDC in a private placement concurrent with the closing of this offering at an assumed price of $ 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; (v) the purchase of 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 $ 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 (vi) the sale of shares of common stock in this offering at an assumed initial public offering price of $ 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 December 31, 2013, our pro forma as adjusted net tangible book value would have been approximately $ million, or approximately $ per share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ 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		$
Historical net tangible book value per share as of December 31, 2013	$ 0.02	
Pro forma increase in net tangible book value per share attributable to the pro forma transactions described above		
Pro forma net tangible book value per share as of December 31, 2013		
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors purchasing shares in this offering		$

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the pro forma as adjusted net tangible book value after this offering by $ per share and the dilution to new investors by $ 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 $ per share and decrease (increase) the dilution to investors participating in this offering by approximately $ 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 $ per share and the dilution to new investors would be $ per share.

The table below summarizes as of December 31, 2013, 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, 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 $ 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
	NUMBER	PERCENT	AMOUNT	PERCENT	PER SHARE
Existing stockholders		%	$	%	$
New investors		%		%	
Total		100.0%	$	100.0%	

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) total consideration paid by new investors by $ and increase (decrease) the percent of total consideration paid by new investors by %, 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 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 $ and increase (decrease) the percent of total consideration paid by new investors by %, 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 percentage of shares of our common stock held by existing stockholders will be reduced to % 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 shares, or % of the total number of shares of our common stock outstanding after this offering.

The discussion and tables above are based on 21,394,568 shares of our common stock outstanding as of December 31, 2013, and exclude the following:

- 2,263,661 shares of common stock issuable upon the exercise of stock options outstanding as of April 9, 2014 with an exercise price of $2.71 per share; and

- 6,787,318 shares of common stock reserved for future issuance under our 2013 Equity Incentive Plan.

To the extent that options are exercised, new options are issued under our 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.

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. 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 impact of the Mind-NRG Acquisition, the Janssen Transactions, or any of the transactions occurring at the closing of this offering. Each of these events occurred or will occur after December 31, 2013. Please see "Summary Historical Financial Data," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements" and the Mind-NRG financial statements included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31, 2012	YEAR ENDED DECEMBER 31, 2013
	(in thousands, except share and per share data)	
Statement of Operations Data:		
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
Per Share Data:		
Net loss per share — basic and diluted	$ 0.13	$ 0.22
Weighted average shares outstanding — basic and diluted	11,854,198	14,651,363

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

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 unaudited pro forma condensed combined balance sheet as of December 31, 2013 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 financial statements); and
- the February 2014 Mind-NRG Acquisition, including the €0.5 million (or $0.7 million, as converted) ProteoSys License Fee liability, (presented as "Pro Forma for Sonkei Merger and Mind-NRG Acquisition" and "Pro Forma for Mind-NRG Acquisition" in the unaudited pro forma statement of operations and balance sheet, respectively).

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 balance sheet gives pro forma effect to the Mind-NRG Acquisition as if it had occurred on December 31, 2013, and does not include the Sonkei balance sheet at December 31, 2013 since it is already reflected in our historical consolidated balance sheet at such date.

The historical financial information has been adjusted to give pro forma effect to events that are directly attributable to the transaction described above, have an ongoing effect on our statements of operations and are factually supportable. Our unaudited pro forma condensed combined financial information and explanatory notes present how our financial statements may have appeared had the businesses actually been combined and had our capital structure reflected the above transactions as of the dates noted above. 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*. Under the acquisition method of accounting, the total purchase price is allocated to the assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. Substantially all of the fair value of assets assumed for the transaction will be attributable to in-process research and development. The excess purchase price over the amounts assigned to tangible and intangible assets acquired and liabilities assumed is recorded as goodwill.

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, or our financial position, had the above transaction been completed as of January 1, 2013 or December 31, 2013, as the case may be.

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 the $0.6 million Mind-NRG Debt assumed by us in the Mind-NRG Acquisition as such working capital borrowings were not outstanding as of December 31, 2013 and are not directly attributable to the acquisitions. Further, the unaudited pro forma condensed combined financial information does not include any other transactions since December 31, 2013 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:						
Net loss per share — basic and diluted	$ 0.22					$ 0.21
Weighted average shares outstanding — basic and diluted	14,651,363					25,888,659

	DECEMBER 31, 2013		
	HISTORICAL MINERVA	ADJUSTMENT FOR MIND-NRG ACQUISITION	PRO FORMA FOR MIND-NRG ACQUISITION
	(in thousands) (unaudited)		
Balance Sheet Data:			
Cash and cash equivalents	$ 1,818	$ 1,700	$ 3,518
Prepaid expenses	1	24	25
In-process research & development	19,000	15,200	34,200
Goodwill	7,918	6,751	14,669
Property and equipment	4	—	4
Other assets	434	—	434
Total Assets	**$ 29,175**	**$ 23,675**	**$ 52,850**
Accounts payable, accrued expenses and other liabilities	$ 1,338	$ 1,153	$ 2,491
Derivative liability	10	—	10
Convertible promissory notes, net of discount	58	—	58
Deferred tax liability	7,589	6,080	13,669
Total Liabilities	**8,995**	**7,233**	**16,228**
Stockholders' Equity			
Common stock	2	1	3
Additional paid-in capital	38,007	16,541	54,548
Deficit accumulated during the development stage	(17,829)	(100)	(17,929)
Total Stockholders' Equity	**20,180**	**16,442**	**36,622**
Total Liabilities and Stockholders' Equity	**$ 29,175**	**$ 23,675**	**$ 52,850**

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 and the condensed consolidated balance sheet data as of December 31, 2013 are derived from our audited 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 8,481,788 shares of common stock. Since the balance sheet of Sonkei is already included in our balance sheet at December 31, 2013, there is no pro forma balance sheet presentation applicable. However, the unaudited pro forma condensed combined statement of operations 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 5,185,528 shares of our common stock. See Note 3. This transaction is reflected in the unaudited pro forma condensed combined financial statements. For further information about the transaction, see Note 13 to our consolidated financial statements included elsewhere in this prospectus.

The historical Mind-NRG balance sheet data as of December 31, 2013 and statement of operations data for the year ended December 31, 2013 are derived from audited financial statements included elsewhere in this prospectus.

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 the $0.6 million Mind-NRG loan we assumed in the Mind-NRG Acquisition, as such working capital borrowings were not outstanding as of December 31, 2013 and are not directly attributable to the acquisition. Further, the unaudited pro forma condensed combined financial information does not include any other transactions since December 31, 2013 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 (see Note 4), 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.

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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

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 have been translated from the historical financial statements from Euros to dollars using average monthly exchange rates for 2013, which was 1.328.

4. Unaudited Pro Forma Condensed Balance Sheet for the Mind-NRG Acquisition at December 31, 2013

Pro forma adjustments for the Mind-NRG Acquisition as of December 31, 2013 consist of the following:

- In connection with the transactions to acquire Mind-NRG, 5,185,528 shares of Minerva common stock was issued to the holders of equity securities in Mind-NRG, such that Mind-NRG is a 100% owned subsidiary. The fair value of the shares issued is approximately $16.5 million. The fair value of the common shares issued and the preliminary allocation of the purchase price were based upon our valuation of our common stock as approved by our board of directors. See further discussion of the fair value determination in "Management's Discussion and Analysis of Financial Condition and Results of Operations — Fair Value of Common Stock." The assets acquired consisted principally of in-process research and development of $15.2 million and goodwill. Other assets and liabilities assumed were recorded at book value which is approximate to fair value as the assets and liabilities assumed were of a short term nature.

- There is no pro forma adjustment required for amortization of intangibles since, based upon our assessment of the assets acquired in the transaction, there were no amortizable intangible assets acquired.

- We recorded a deferred tax liability for the difference in the book and tax basis of the IPR&D, multiplied by the income tax rate.

- The balance sheet data has been translated from Euros to dollars from the historical financial statements using the exchange rates at the end of the period presented which was 1.3766 at December 31, 2013.

- The license payment to ProteoSys of €0.5 million (or $0.7 million, as converted) is considered an assumed liability at the date of the acquisition.

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The following table shows the preliminary purchase price, estimated acquisition-date fair values of the assets and liabilities assumed, and calculation of goodwill for Mind-NRG, as of December 31, 2013, the date of our most recent balance sheet.

Purchase Price Allocation (in thousands)	
Fair value of common stock issued	$ 16,542
Total purchase price	$ 16,542
Net tangible assets acquired	$ 1,724
Liabilities assumed	(1,053)
In-process research and development	15,200
Goodwill	6,751
Deferred tax liability	(6,080)
Total purchase price allocation	$ 16,542

The following table reconciles the historical Mind-NRG balance sheet and the purchase accounting adjustments as if the Mind-NRG Acquisition took place on December 31, 2013. The historical Mind-NRG condensed consolidated balance sheet data are derived from the audited Mind-NRG financial statements included elsewhere in this prospectus.

The purchase accounting adjustment below includes an estimated $100 thousand in professional costs associated with the transaction and is reflected as accrued expenses and other liabilities and an increase in deficit accumulated during the development stage.

	HISTORICAL MIND-NRG	PURCHASE ACCOUNTING ADJUSTMENTS	ADJUSTMENT FOR MIND-NRG ACQUISITION
		(in thousands)	
Cash and cash equivalents	$ 1,700	$	$ 1,700
Prepaid expenses	24		24
In-process research and development		15,200	15,200
Goodwill		6,751	6,751
Total assets	**$ 1,724**	**$ 21,951**	**$ 23,675**
Accounts payable, accrued expenses and other liabilities	$ 365	$ 788	$ 1,153
Deferred tax liability	—	6,080	6,080
Common and preferred stock	419	(418)	1
Additional paid-in capital	5,698	10,843	16,541
Deficit accumulated during the development stage	(4,758)	4,658	(100)
Total stockholders' equity	**1,359**	**15,083**	**16,442**
Total liabilities and stockholders' equity	**$ 1,724**	**$ 21,951**	**$ 23,675**

The purchase price allocation is subject to completion of our analysis of the fair value of the assets and liabilities of Mind-NRG as of the date of the acquisition. The purchase price allocation below is preliminary based on December 31, 2013 financial information and will be adjusted upon 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 based on estimates and assumptions from data currently available.

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 80% of our capital stock at December 31, 2013. 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 approximately $3.3 million and a combined pro forma net loss of approximately $5.5 million after giving effect to the Sonkei merger and the Mind-NRG Acquisition, as if both transactions occurred on January 1, 2013. As of December 31, 2013, we had an accumulated deficit of approximately $17.8 million. 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

We are presenting our results of operations for the periods presented in the accompanying financial statements, all of which were prior to the Mind-NRG Acquisition. This includes the accounts of Sonkei from November 12, 2013 to December 31, 2013 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.

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,	
	2012	2013
	(dollars in thousands)	
MIN-101(1)	$ 550	$ 706
MIN-117(2)	486	472
MIN-301(3)	635	1,218

(1) MIN-101 costs for 2012 and 2013 were derived from our historical audited financial statements.

(2) MIN-117 costs for 2012 were derived from Sonkei's historical audited financial statements. The costs for 2013 were derived from a combination of Sonkei's unaudited 2013 financial statements up to the date of the Sonkei Merger, and our financial statements subsequent to the Sonkei Merger.

(3) The research and development expense for MIN-301 is derived from the audited financial statements of Mind-NRG 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.

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 November 2013. Our general and administrative expense in 2012 and 2013 also includes stock-based compensation expense with respect to option and warrant grants to such consultants.

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, acquiring 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 December 31, 2013, such costs were approximately $1.4 million. Such costs are expected to significantly increase for us for the three month period ended March 31, 2014 and the six month period ending June 30, 2014.

On November 12, 2013, Cyrenaic Pharmaceuticals, Inc., or Cyrenaic, merged with Sonkei, with Cyrenaic being the survivor company, which was renamed Minerva. Each share of Sonkei common stock was converted into 1.340778 shares of Cyrenaic common stock, resulting in the issuance of 8,481,788 shares. Although there were certain common stockholders between 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 1,491,616 shares to the holder with a nonrecourse note (discussed further in Note 8 — Stockholders' Equity to our financial statements appearing elsewhere in this prospectus) in order to replace the holder's stock options in Sonkei. Due to the nonrecourse note, these shares 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 us through the time of a change in control. As a change in control was 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, we will recognize all of the compensation expense for these stock options in our 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 6,990,172 at a valuation of $2.71 per common share for a total purchase price of approximately $18.9 million that does not include the issuance to the consultant. Merger expenses of $14,000 were included in general and administrative expenses for the year ended December 31, 2013.

The fair value of our 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 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 5,185,528 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 preliminary allocation of the purchase price were based upon our valuation of our common stock as approved by our board of directors. Substantially all of the purchase price will be allocated to in-process research and development and goodwill. In connection with the acquisition, we assumed a $0.6 million loan in connection with the Mind-NRG Acquisition. The Mind-NRG loan has an interest rate of 8% per annum that is added to the principal. We are obligated to pay off this loan in connection with this offering. 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 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 excludes approximately 3.2 million shares of unvested common stock held by a consultant that will vest upon the closing of this offering, for which we will incur a charge for stock-based compensation equal to 3.2 million shares multiplied by the fair value per share on the date the shares are issued.

Comparison of the Year 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.

The convertible promissory notes contain a beneficial conversion feature. The beneficial conversion feature of the notes relates to the provision whereby, subsequent to April 30, 2014, investors may elect to convert the notes and accrued interest into shares of our common stock at a conversion price of $1 per common share. 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 December 31, 2013, we had an accumulated deficit of approximately $17.8 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 December 31, 2013, we had $1.8 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 $1.00 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.

In February 2014, we assumed a $0.6 million loan in connection with the Mind-NRG Acquisition. We are obligated to pay off this outstanding loan and all accrued interest in connection with this offering.

Cash Flows

The table below sets forth our significant sources and uses of cash for the periods set forth below. The following table and discussion do not give effect to the impact of the Mind-NRG Acquisition or any of the transactions occurring at the closing of this offering. Each of these events occurred or will occur after December 31, 2013. Please see "Unaudited Pro Forma Condensed Combined Financial Statements" and the Mind-NRG financial statements included elsewhere in this prospectus.

	YEARS ENDED DECEMBER 31, 2012	YEARS ENDED DECEMBER 31, 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 346,154 shares of common stock to Mr. Race for an aggregate purchase price of $34.62. In June 2012, we sold 22,436 shares of common stock to Mr. Race for an aggregate purchase price of $2.24. In December 2013 we sold 85,806 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.

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).

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.

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 double digits. 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.

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 SOK-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 double digits. 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.

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.

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, 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 being 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 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 6,250,000 shares, or the Warrant Shares. The exercise price of the warrant equaled the sum of $1.00, 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 2,875,000 shares of common stock issuable at an exercise price of $1.06 per share. On April 26, 2012, the warrant agreement was cancelled and replaced with a common stock subscription agreement for the purchase of 2,875,000 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	$ 1.10	$ 1.37	$ 1.52
Fair value of warrants per share	$ 0.69	$ 0.63	$ 0.73

On April 26, 2012, in connection with the exercise of the subscription agreement, we issued 2,875,000 shares of common stock in exchange for a nonrecourse note payable in principal amount of $3.1 million (equivalent to approximately $1.06 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.

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 2,875,000 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 2,875,000 shares to the holder discussed above, we sold an additional 600,000 and 1,850,000 shares to certain investors during 2012 and 2013, respectively. We issued 97,737 shares to the holder at a purchase price of $1.00 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 1,491,616 shares of our common stock were issued under the same arrangement. The accounting for the additional share issuance is consistent with the 2,875,000 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 4,464,353 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 1,221,242 shares of common stock with a fair value of $3.86 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 whereby upon an IPO the award will 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, as defined, 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 IPO performance condition, represents a modification of the original terms of the stock options. The effect of these changes is that we have modified the awards and converted approximately 4.5 million stock options with an exercise price of $4.7 million to approximately 3.2 million 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 we will recognize stock-based compensation for the non-vested stock at the time such vesting conditions are deemed probable of occurrence.

Stock Options

We established our stock option plan in the fourth quarter of 2013, which provides for the issuance of 9,050,979 shares of common stock, 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	2,263,661	$ 2.71	$ 2.71

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 December 31, 2013, options to purchase 2,263,661 shares of our common stock were outstanding, 89,884 of which have vested as of December 31, 2013. The intrinsic value of outstanding options as of December 31, 2013, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover of this prospectus is $. This does not include 3,243,111 shares issued subject to a nonrecourse promissory note as described in "Consultant Equity Issuance" above, which are treated as if they were a stock option for financial reporting purposes.

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 2,263,661 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. Further, as described in the "Consultant Equity Issuance" section above, stock-based compensation expense related to the Wint2felden shares will not be recorded until a change of control occurs, and will be recognized at the then fair value of the option.

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.

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 $1.52 per share at April 26, 2012, an increase of $0.15 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 $2.71 per share at September 30, 2013, an increase of $1.19 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 $2.71 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 $3.19 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 $3.86 per share at March 31, 2014, an increase of $0.67 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 ($2.71 per share) on the date of the Sonkei Merger and $3.19 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 $3.19 per share at February 11, 2014, an increase of $0.50 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 2,263,661 shares of our common stock on December 20, 2013 at an exercise price of $2.71 per share, and determined the fair value of our common stock on the date of grant to be $2.71 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.

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 was 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 December 31, 2013, 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 April 9, 2014, we had three 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 December 31, 2013 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 December 31, 2013 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 years ended December 31, 2012 and 2013.

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 second half 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 II clinical trial in the second half of 2014 in Europe. For our Phase II 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 second half of 2014. We also intend to initiate a Phase II 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 80% of our capital stock at December 31, 2013 on an as-converted basis.

Our Pipeline

Program	Primary Indication	Mechanism	Structure	Preclinical	Phase 1	Phase 2	Commercialization Rights
MIN-101	Schizophrenia	5-HT2A Sigma2	Small molecule	Next: Phase 1, followed by Planned Phase IIb in the second half of 2014			Global (ex-Asia)
MIN-117	MDD	5-HT1A, 5-HTT, Alpha-1a,b Dopamine Transporter 5-HT2A	Small molecule	Next: Planned Phase II in the second half of 2014			Global (ex-Asia)
MIN-202	Primary and Secondary Insomnia	Orexin-2 antagonist	Small molecule	Phase Ib started in December 2013			Europe Union (Co-development with Janssen)
MIN-301	Parkinson's	ErbB4 activator	Protein	Next: IND enabling studies, followed by Planned Phase I in the first half of 2015			Global

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 second half 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).

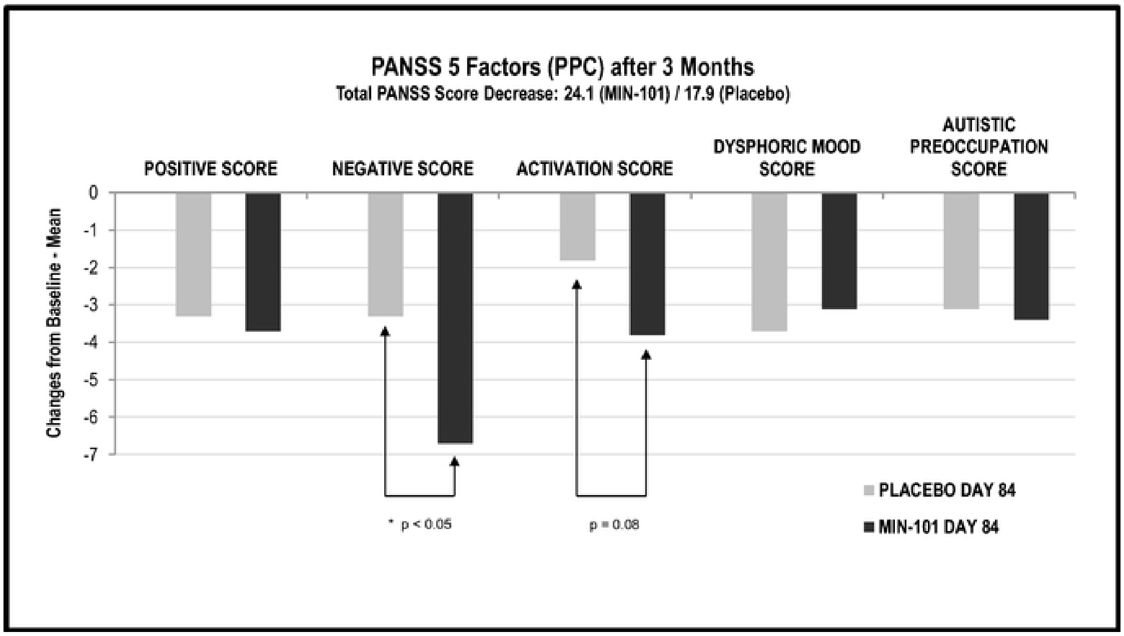
Secondary and exploratory endpoints included the measurement of MIN-101 efficacy versus placebo through the PANSS total and sub scores after three months of treatment, as well as cognition, mood, anxiety and sleep using various psychological scales at various treatment timepoints.

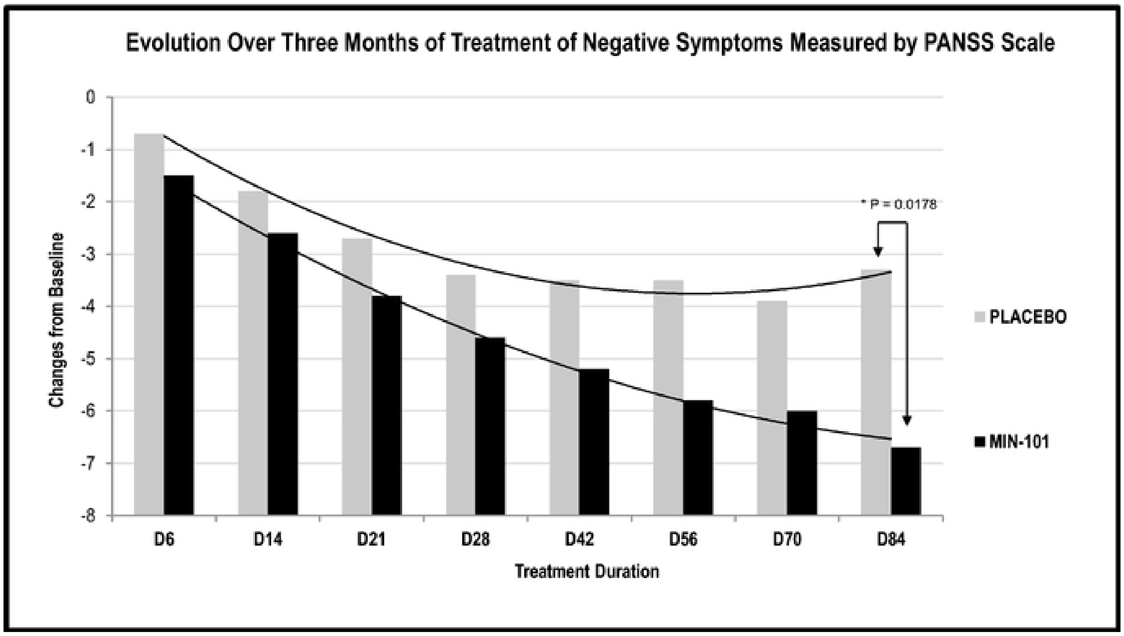
This Phase IIa trial was not powered to show results with statistical significance and this may not be the basis for regulatory approval. Statistical significance means that an effect is unlikely to have occurred by chance. Pre-clinical research and clinical trial results are generally considered statistically 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.

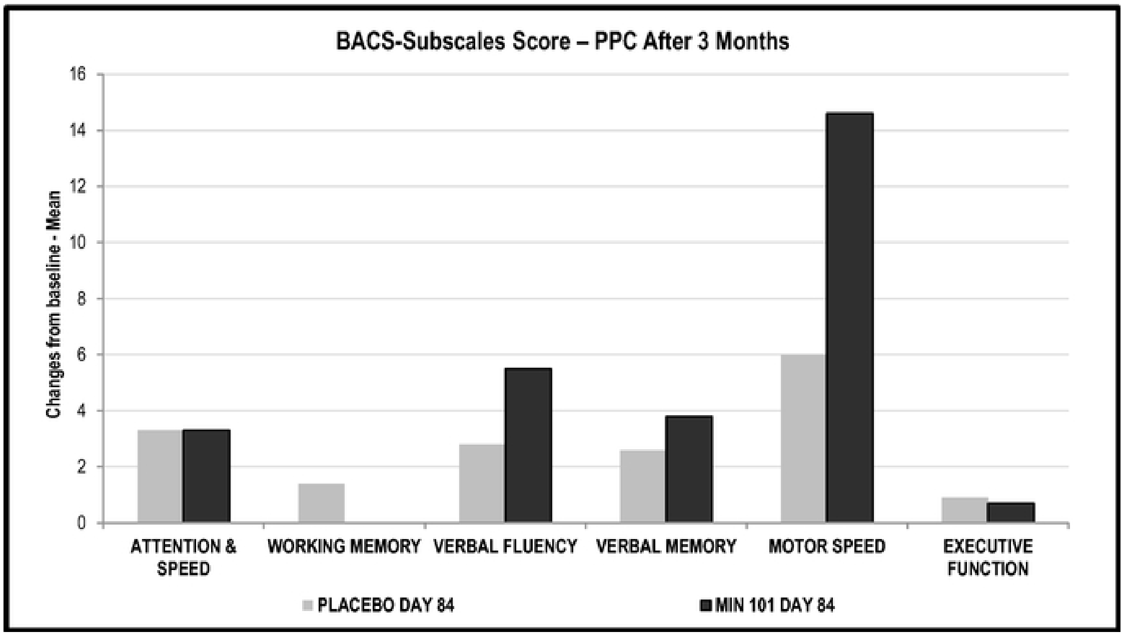
Selected results from the PPC group in the Phase IIa clinical trial of MIN-101 are presented in the two figures below. At this stage of development, the PPC group provides the most complete information, as these subjects received the study medication for the full three months, and therefore were more 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. 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.

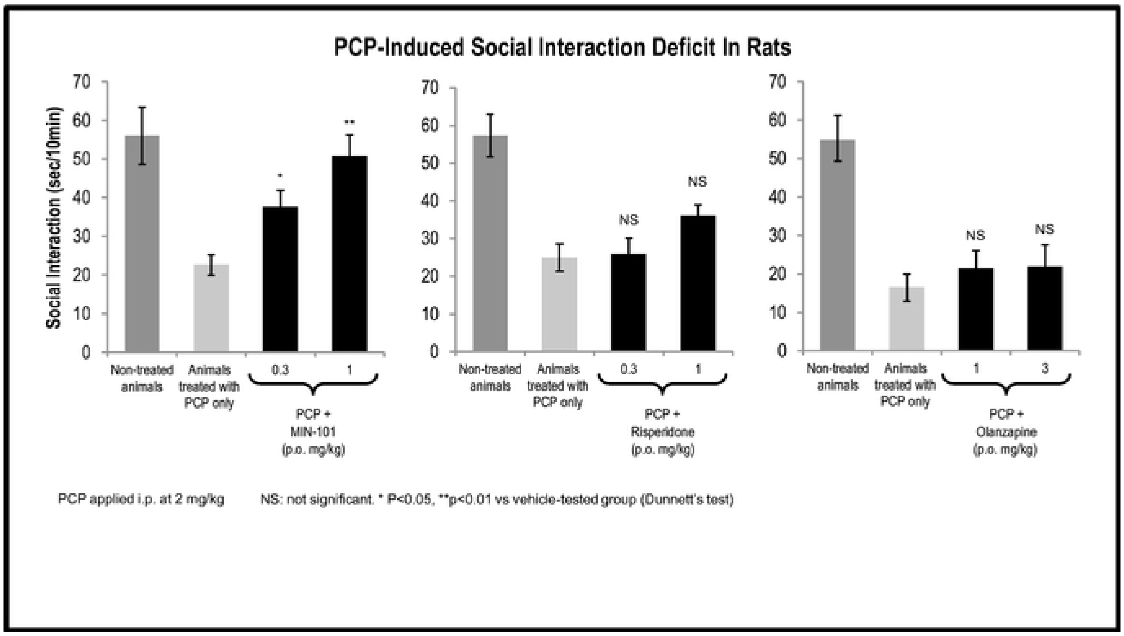
Phase I

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 second half 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 half 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 II 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.

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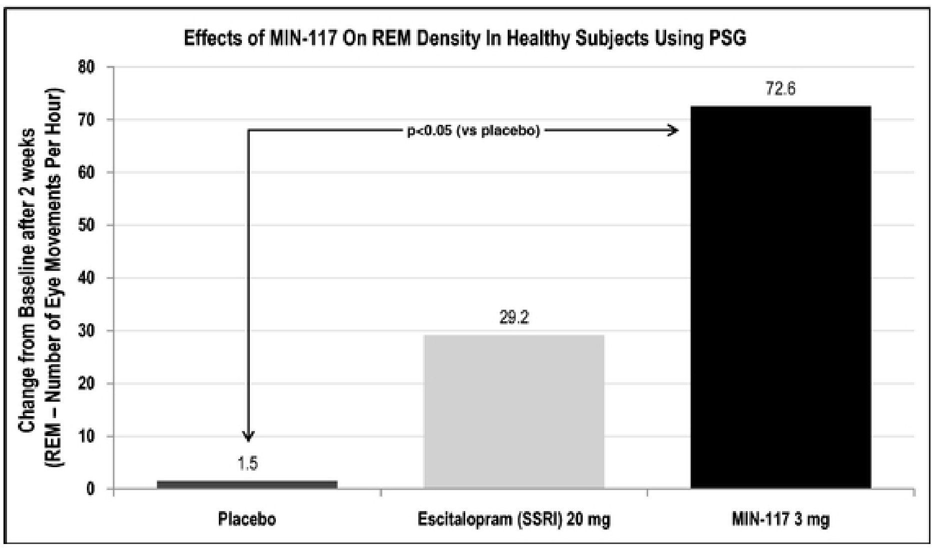
As part of the PD analysis, one study assessed the impact of MIN-117 on sleep as measured by PSG and the Leeds Sleep Evaluation Questionnaire. This study also explored the impact of MIN-117 on mood, as measured by the Profile of Mood Disorders, emotion, as measured by the Emotional Visual Analogue Scale, 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.

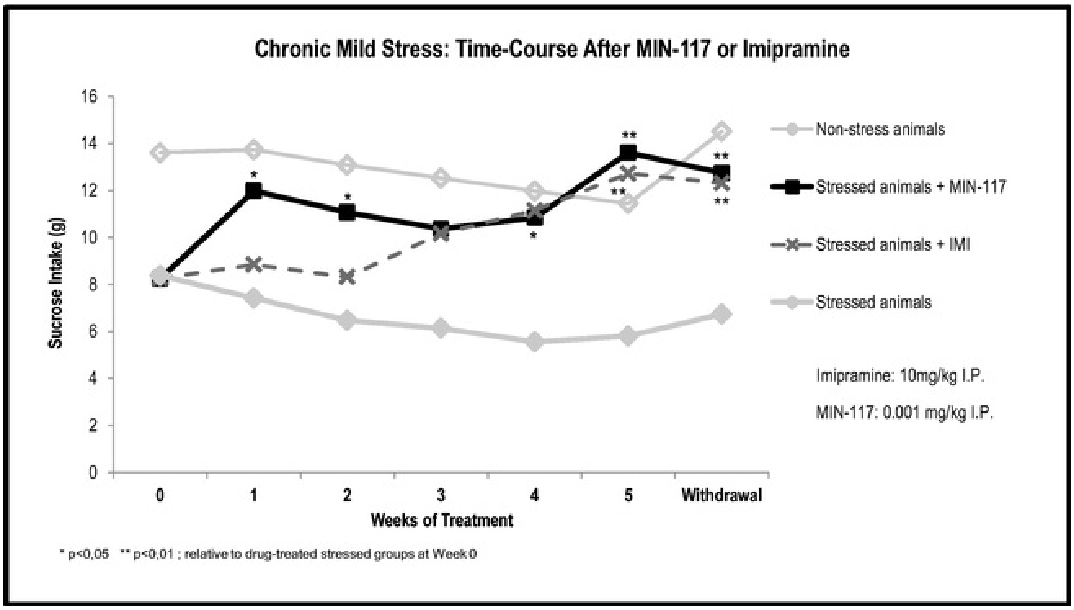


In addition, based upon the Phase I studies, as well as the pre-clinical studies discussed below, we believe that MIN-117 will display a safety and tolerability profile at anticipated therapeutic dose levels that does not include many of the typical side effects experienced by patients taking existing 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

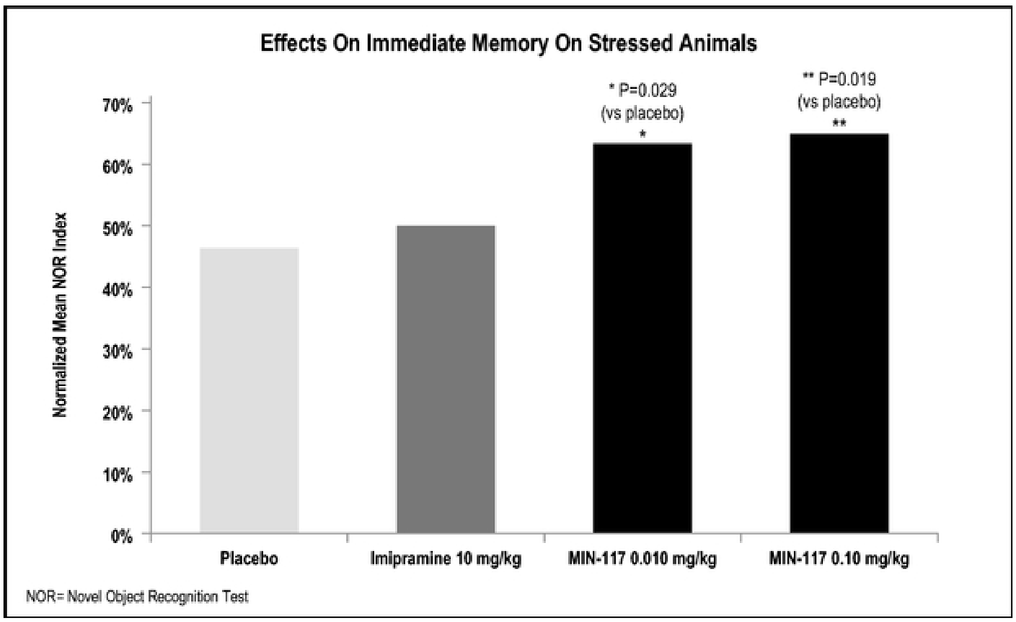
Extensive pre-clinical explorations of MIN-117 were conducted by MTPC. In terms of safety and toxicology, three-month toxicological studies were completed in rodents and non-rodents. These explorations showed the potential for a good safety and tolerability profile for MIN-117 at the intended therapeutic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

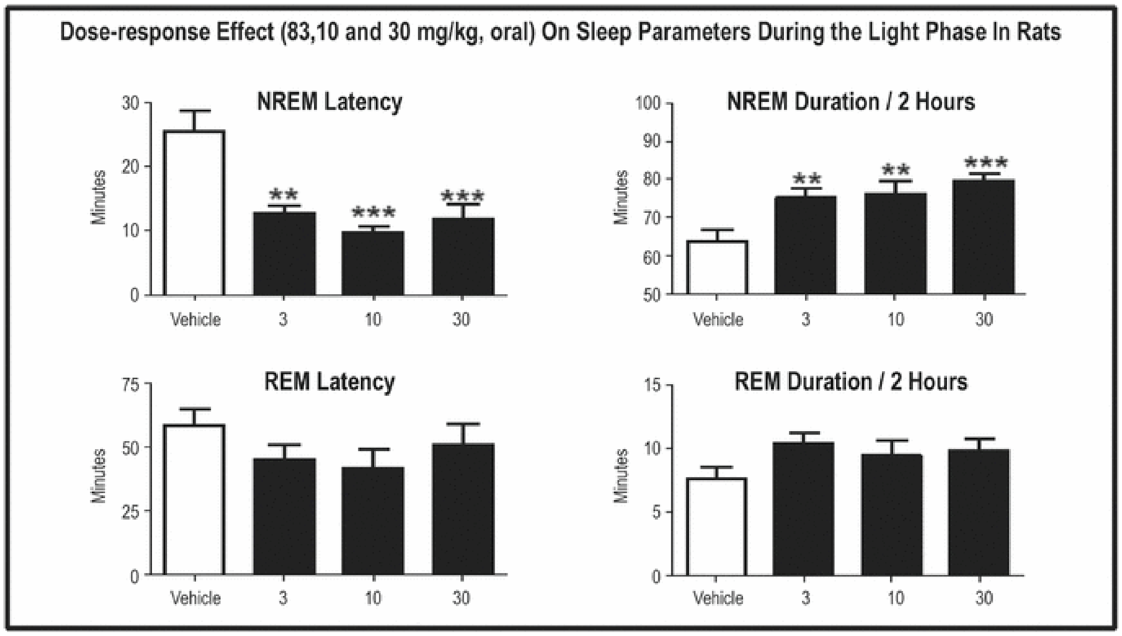
A single ascending dose trial of MIN-202 was carried out by Janssen in young healthy males in 2011. 57 subjects were enrolled in the trial, and received at least one dose of medication, and were included in the PD and safety analyses. 38 actively treated subjects were included in the PK analysis. The 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 second half 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 second half 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.

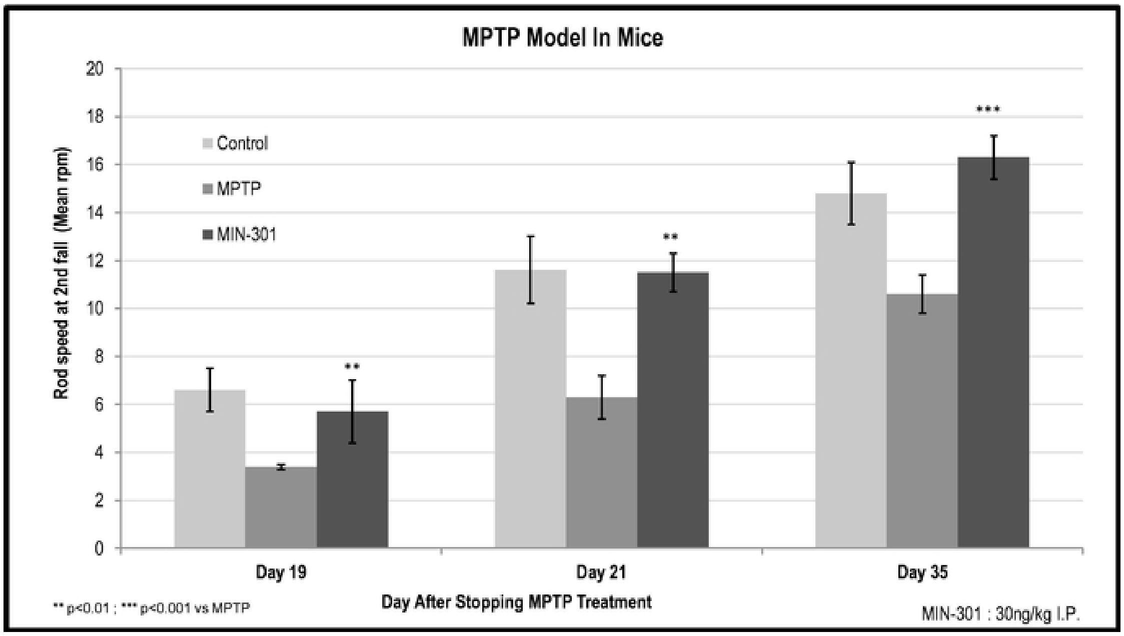
Because MIN-301 offers a novel mechanism of action that targets neurological deficits, we believe that it has the potential, if approved for marketing, to be used not only as an early-stage monotherapy, but also as either a monotherapy or a complementary therapy to existing treatments in later stages 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 during the first half of 2015, subject to our ability to obtain necessary regulatory and ethical approvals in Europe.

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. We paid MTPC an initial license fee of $1.0 million. 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. We are also required to make certain milestone payments upon achievement of one development milestone totaling $500 thousand, and certain commercial milestones, which could total up to $47.5 million. This license agreement has a term of the later of 12 years or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up, non-exclusive, perpetual, irrevocable license.

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 one-year terms by making further 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. MTPC may also terminate the agreement following our material breach or certain insolvency events. In addition, in the event that we sell the rights to the license, MTPC will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low double digits. We made a $500 thousand extension payment in 2010 which was expensed as part of research and development expense.

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 SOK-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. We are also required to make certain payments upon achievement of certain commercial milestones, which could total up to $47.5 million. This license agreement has a term of 10 years or the expiration of our obligation to pay royalties, upon which we will have a fully paid-up non-exclusive, perpetual, irrevocable license.

Under the MIN-117 License Agreement, we have to enroll a patient 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 we fail to achieve this milestone, we may elect to extend the timeline to achieve the milestone by one or two years by making up to two 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 agreement following our material breach or certain insolvency events. In addition, in the event that we sell the rights to the license, MTPC will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by us in the low double digits.

MIN-202 Co-Development and License Agreement with Janssen

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, 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.

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 €500 thousand (or $677 thousand, 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.

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 patents are 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 April 9, 2014, we had three full-time employees. Our Executive Vice President and Chief Financial Officer and our Executive Vice President and Head of Research and Development are currently consultants to the company and will become our employees effective May 1, 2014. In addition, we are or have engaged with a number of consultants and companies 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]	64	Director, Chairman of Audit Committee
Francesco de Rubertis, PhD	44	Director
Michèle Ollier, MD.	55	Director
Lorenzo Pellegrini, PhD	46	Director
Robert R. Seltzer	38	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 consulting services to us since July 2010 and 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). Effective May 1, 2014, Mr. Race will become an employee of the company.

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 consulting services to us since January 2011 and 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 a partner at Index Ventures, a venture capital firm and an affiliate of ours. 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). Effective May 1, 2014, Dr. Luthringer will become an employee of the company.

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 Senior Partner in Index Venture Management LLP, a venture capital firm and affiliate of ours, since July 2009, providing investment advice to 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 and affiliate of ours, whose investments are focused in information technology and life science companies, 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.

Robert R. Seltzer Mr. Seltzer has served as a member of our board of directors since January 2012. Mr. Seltzer is a partner at Care Capital LLC, a life sciences venture capital firm and affiliate of ours, which he joined in July 2005. From 1997 to 2000 and 2004 to 2005 he was a management consultant at the Boston Consulting Group. He serves on the board of directors of NephroGenex, Inc. a publicly traded pharmaceutical company, as well as a number of private biopharmaceutical and drug development companies. Mr. Seltzer received his M.B.A. from The Wharton School of the University of Pennsylvania, a Master in Biotechnology from the University of Pennsylvania, and a B.S. in Molecular Biophysics and Biochemistry from Yale University.

Composition of Board of Directors

Our board of directors is currently comprised of six 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 seven 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, Mr. Seltzer, 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. Mr. Seltzer and Dr. Pellegrini were 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:

- Messrs.   will be Class I directors, whose initial terms will expire at the 2015 annual meeting of stockholders;
- Messrs.   will be Class II directors, whose initial terms will expire at the fiscal 2016 annual meeting of stockholders; and
- Messrs.   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 certificate of incorporation and amended and restated bylaws that will become effective upon the closing of this offering provide that the authorized number of directors may be changed only by resolution of our board of directors. Our amended and restated certificate of incorporation and amended and restated bylaws also provide that our directors may be removed for cause only by the affirmative vote of   % 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

Prior to the completion of this offering, we will adopt 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. Amount 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. We appointed Mr. Race as our executive vice president and chief financial officer in March 2014. Through our Swiss subsidiary, we will employ Mr. Race beginning May 1, 2014 pursuant to the terms of an employment agreement.

(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 85,806 shares of common stock at a purchase price of $0.0001 per share, a discount of $2.7099 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. We appointed Dr. Luthringer as our executive vice president and head of research and development in March 2014. Through our Swiss subsidiary, we will employ Dr. Luthringer beginning May 1, 2014 pursuant to the terms of an employment agreement.

(7) On December 20, 2013, Dr. Luthringer purchased, through a corporation of which he is the sole stockholder, 97,737 shares of common stock at a purchase price of $1.00 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 or consulting agreement with us.

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 2013 Equity Incentive Plan to purchase 1,892,528 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, we have entered into an employment agreement to employ Mr. Race beginning May 1, 2014. Pursuant to the terms of his employment agreement, Mr. Race's initial annual base salary will be $315,000, subject to periodic review and increases at the discretion of the board of directors or a committee thereof. 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 340,000 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 exerciseable on the date of grant. 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. 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. 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. Notwithstanding the foregoing, the company may immediately terminate Mr. Race, and Mr. Race will not be entitled to any payment from the company or any 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 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 Insolvency Act 1986 or the 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 the company.

Mr. Race currently provides business development and other related services to us as a consultant pursuant to a consulting agreement dated September 1, 2011. The consulting agreement provides 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 346,154 shares of our common stock on December 21, 2011. Mr. Race was issued an additional 22,436 and 85,806 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 152,205 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, we have entered into an employment agreement to employ Dr. Luthringer beginning May 1, 2014. Pursuant to the terms of his employment agreement, Dr. Luthringer's initial annual base salary will be 302,273 Swiss francs (CHF) (or $339,594 based on an April 8, 2014 exchange rate of CHF 0.8901:$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 or a committee thereof. Dr. Luthringer's target annual bonus for the 2014 calendar year is CHF 160,000 (or $179,755 based on an April 8, 2014 exchange rate of CHF 0.8901: $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 1,546,906 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. 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. 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 us 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.

Dr. Luthringer currently provides 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 provides 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 2,875,000 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 97,737 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 1,491,616 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 1,221,242 of the shares of common stock from Dr. Luthringer in March 2014 at $3.86 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 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 "—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.	—	1,892,528(1)	$ 2.71	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 upon Dr. Vivaldi's completion of one year of service measured from November 1, 2013, and (ii) the balance of the option shares 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.

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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	—	—	—
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 281,249 shares of common stock of the company.

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 281,249 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. 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. 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.

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. 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 initially reserved 9,050,979 shares of our common stock for issuance under the Plan. 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 2,500,000 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 2,500,000 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 9,050,979 shares.

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, 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 1.340778 shares of our common stock, for a total of 8,481,788 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 5,185,528 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 an affiliate of Index Ventures, 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. The balance on the Mind-NRG Debt will accrue interest at a rate of 8% per annum and shall become due and payable at the earlier to occur of the (1) the closing of this offering, (2) December 1, 2015 or (3) an event of default, as described in the Mind-NRG Debt.

Dr. Luthringer and Michèle Ollier were directors of Mind-NRG immediately prior to our acquisition of Mind-NRG.

Mind-NRG Investment

We have entered into a common stock purchase agreement with certain former shareholders of Mind-NRG, including an affiliate of Index Ventures, 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.

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. The Issued Notes and Assumed Notes will be convertible at a conversion price of $1.00 or €1.00 on April 30, 2014. 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 December 31, 2013, we had $2.0 million of outstanding convertible promissory notes under these arrangements.

Nonrecourse Notes with Dr. Luthringer

Between 2009 and 2012, we issued 2,875,000 warrants to Archimedon, a company owned by Dr. Luthringer, at an exercise price of $1.06 per share. In April 2012, these warrants were cancelled and we issued 2,875,000 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 $1.06 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 1,491,616 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 97,737 shares of common stock to Wint2felden in exchange for a non-recourse note payable of $98 thousand (approximately $1.00 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 1,221,242 of the shares of common stock from Wint2felden at $3.86 per share in full settlement of the nonrecourse notes.

Stock Purchase Agreement

From 2007 through 2013, we sold shares of common stock at $1.00 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 have 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 346,154 shares of common stock to Mr. Race on December 21, 2011. We issued Mr. Race an additional 22,436 and 85,806 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 152,205 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 April 9, 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 29,823,210 shares of common stock outstanding on April 9, 2014. The percentage of ownership indicated after this offering is based on 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 shares in this offering and takes into account (i) the automatic conversion of the 2013 Notes including accrued interest thereon into shares of our common stock, assuming an initial public offering price of $ 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 shares, in a concurrent private placement assuming a price of $ 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 shares, in a concurrent private placement, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus.

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 April 9, 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.

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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 PRIOR TO THE OFFERING	NUMBER OF SHARES BENEFICIALLY OWNED AFTER THE OFFERING	PERCENTAGE OF SHARES BENEFICIALLY OWNED PRIOR TO THE OFFERING	PERCENTAGE OF SHARES BENEFICIALLY OWNED AFTER THE OFFERING
Named Executive Officers and Directors:				
Rogerio Vivaldi Coelho(1)	—		—	
Geoff Race(2)	606,601		2.0	
Remy Luthringer(3)	3,243,111		10.9	
Marc D. Beer(4)	23,436		*	
Francesco de Rubertis(5)	12,969,076		42.2	
Michèle Ollier(5)	12,969,076		42.2	
Lorenzo Pellegrini(6)	12,679,367		41.2	
Robert R. Seltzer(6)	12,679,367		41.2	
All executive officers and directors as a group (9 persons)	29,050,198		91.6	
Other 5% Stockholders:				
Funds affiliated with Care Capital(6)	12,679,367		41.2	
Funds affiliated with Index Ventures(5)	12,969,076		42.2	
Janssen Pharmaceutica, N.V.(7)	—		—	
ProteoSys AG(8)	1,703,276		5.7	

* 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) Does not include options to be granted to Mr. Race on the date the underwriting agreement is signed to purchase (a) 340,000 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.

(3) Consists of 3,243,111 shares beneficially owned by Wint2felden Holding SA, a company wholly owned by Dr. Luthringer. Does not include options to be granted to Dr. Luthringer on the date the underwriting agreement is signed to purchase (a) 1,546,906 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.

(4) Consists of options to purchase 23,436 shares of common stock that are exercisable within 60 days of April 9, 2014. Does not include 70,312 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) 2,237,399 shares of common stock held by Index Ventures III (Jersey) L.P., (b) 4,545,035 shares of common stock held by Index Ventures III (Delaware) L.P., (c) 80,966 shares of common stock held by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P., (d) 138,952 shares of common stock held by Yucca (Jersey) SLP, (e) 3,097,605 shares of common stock held by Index Ventures IV (Jersey) L.P., (f) 294,028 shares of common stock held by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., (g) 1,635,144 shares of common stock held by Pentavest S.à.r.l. issued in connection with the Mind-NRG Acquisition, 471,393 of which are subject to a proxy agreement granting voting rights to Care Capital Investments III, LP, and excludes 181,683 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, (h) an aggregate of 7,519 shares of common stock issuable upon the conversion of $5 thousand and €2 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Yucca (Jersey) SLP at a

conversion price of $1.00 or €1.00 per share, respectively, (i) an aggregate of 217,293 shares of common stock issuable upon the conversion of $210 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Index Ventures III (Jersey) SLP at a conversion price of $1.00 per share, (j) an aggregate of 7,863 shares of common stock issuable upon the conversion of $8 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P. at a conversion price of $1.00 per share, (k) an aggregate of 441,407 shares of common stock issuable upon the conversion of $427 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Index Ventures III (Delaware), L.P. at a conversion price of $1.00, (l) an aggregate of 23,048 shares of common stock issuable upon the conversion of €22 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P. at a conversion price of €1.00 and (m) an aggregate of 242,817 shares of common stock issuable upon the conversion of €235 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Index Ventures IV (Jersey), L.P. at a conversion price of €1.00. 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 shares of our common stock, assuming an initial public offering price of $ per share, the midpoint of the price range listed on the cover page 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 shares of our common stock, assuming an initial public offering price of $ 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 shares of our common stock, assuming an initial public offering price of $ 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 shares of our common stock, assuming an initial public offering price of $ per share, the midpoint of the price range listed on the cover page of this prospectus, (e) the automatic conversion of €22 thousand (or $, 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 shares of our common stock, assuming an initial public offering price of $ per share, the midpoint of the price range listed on the cover page of this prospectus, (f) the automatic conversion of €235 thousand (or $, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Index Ventures IV (Jersey), L.P. into an aggregate of shares of our common stock, assuming an initial public offering price of $ per share, the midpoint of the price range listed on the cover page of this prospectus and (g) shares of common stock to be issued to Pentavest S.à.r.l. in a concurrent private placement, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover of this prospectus. The address of Index Ventures is P.O. Box 641, No. 1 Seaton Place, St. Helier, Jersey JE4 8YJ, Channel Islands. Dr. de Rubertis and Dr. Ollier, each one of our directors, share voting and investment power with respect to the foregoing shares. Each of Dr. de Rubertis and Dr. Ollier disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

(6) The number of shares beneficially owned before this offering consists of (a) 10,223,258 shares of common stock held by Care Capital Investments III, LP (b) 170,727 shares of common stock held by Care Capital Offshore Investments III, LP, (c) 1,345,434 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 Pentavest S.à.r.l., (d) an aggregate of 924,509 shares of common stock issuable upon the conversion of $639 thousand and €255 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Care Capital Investments III LP at a conversion price of $1.00 or €1.00 per share, respectively, and (e) an aggregate of 15,439 shares of common stock issuable upon the conversion of $11 thousand and €4 thousand of outstanding principal plus accrued interest underlying the 2013 Notes held by Care Capital Offshore Investments III LP at a conversion price of $1.00 or €1.00 per share, respectively. The number of shares beneficially owned after this offering includes shares issuable upon (a) the automatic conversion of $639 thousand and €255 thousand (or $, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Care Capital Investments LP into an aggregate of shares of our common stock, assuming an initial public offering price of $ 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 $, as converted) of outstanding principal including accrued interest underlying 2013 Notes held by Care Capital Offshore Investments LP into an aggregate of shares of our common stock, assuming an initial public offering price of $ 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. Mr. Seltzer and Dr. Pellegrini, each one of our directors, share voting and investment power with respect to the foregoing shares. Each of Mr. Seltzer and Dr. Pellegrini disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

(7) The number of shares beneficially owned after this offering includes shares of common stock to be issued to JJDC in a concurrent private placement, assuming a price of $ per share, the midpoint of the price range set forth on the cover of this prospectus.

(8) Consists of 1,703,276 shares issued in connection with the Mind-NRG Acquisition and excludes 189,253 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 of common stock to be issued to ProteoSys AG in a concurrent private placement, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover of this prospectus. The address for ProteoSys AG is Carl-Zeiss-Strasse 51, 55129 Mainz, Germany.

DESCRIPTION OF CAPITAL STOCK

General

Upon the closing of this offering, our amended and restated certificate of incorporation will authorize us to issue up to shares of common stock, $0.0001 par value per share, and shares of preferred stock, $0.0001 par value per share. The following information assumes the filing of our amended and restated certificate of incorporation.

As of April 9, 2014, immediately prior to the closing of this offering, there were outstanding:

- 29,823,210 shares of our common stock held by approximately 16 stockholders; and
- 2,263,661 shares issuable upon exercise of outstanding stock options.

The following description of our capital stock and provisions of our restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the restated certificate of incorporation and the amended and restated bylaws that will be in effect upon completion of this offering. 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. The descriptions of the common stock and preferred stock reflect changes to our capital structure that will occur upon the closing of this offering.

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

Upon the completion of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to 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. Upon completion of this offering, no shares of preferred stock will be 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 $1.00 or €1.00, respectively. Upon completion of this offering, the outstanding principal balance of the notes and accrued but unpaid interest thereon will convert into shares of our common stock in a private placement concurrent with the closing of this offering at an assumed price per share equal to $, 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 shares of our common stock as of December 31, 2013, including for this purpose 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 to be in Effect Upon the Completion of this Offering

Our amended and restated certificate of incorporation to be in effect upon the completion of this offering will provide 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 to be effective upon the completion of this offering will 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, chairman of the board, chief executive officer, or president (in the absence of a chief executive officer) may call a special meeting of stockholders.

Our amended and restated certificate of incorporation will require a 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 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 % 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, each to be effective upon the completion of this offering, will 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 shares of common stock outstanding, assuming (i) no exercise of any options outstanding as of April 9, 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 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.

The holders of shares of outstanding common stock as of the closing of this offering and the holders of 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 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 April 9, 2014, we had outstanding options to purchase 2,263,661 shares of common stock, of which 119,178 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 $. We have also agreed to reimburse the underwriters for certain of their expenses totaling approximately $ 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 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.

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.

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.

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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

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; $.0001 par value; 45,000,000 shares authorized; 12,468,590 and 21,394,571 shares issued and outstanding as of December 31, 2012 and 2013, respectively	1,247	2,140
Additional paid-in capital	14,585,558	38,007,254
Deficit accumulated during the development stage	(14,567,786)	(17,829,791)
Total stockholders' equity	19,019	20,179,603
Total liabilities and stockholders' equity	**$ 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	$ (0.13)	$ (0.22)	$ (2.06)
Weighted average shares outstanding, basic and diluted	11,854,198	14,651,363	8,636,960

See accompanying notes to financial statements

MINERVA NEUROSCIENCES INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Statements of Stockholders' Equity

	Common Stock			Deficit Accumulated During the Development Stage	
	Shares	Amount	Additional Paid-In Capital		Total
Balances at April 23, 2007 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $1.00 per share, net of $22,000 of costs	2,500,000	250	2,477,750	—	2,478,000
Net loss	—	—	—	(1,650,301)	(1,650,301)
Balances at December 31, 2007	**2,500,000**	**250**	**2,477,750**	**(1,650,301)**	**827,699**
Sale of common stock for cash at $1.00 per share	2,000,000	200	1,999,800	—	2,000,000
Net loss				(2,932,791)	(2,932,791)
Balances at December 31, 2008	**4,500,000**	**450**	**4,477,550**	**(4,583,092)**	**(105,092)**
Sale of common stock for cash at $1.00 per share	3,800,000	380	3,799,620	—	3,800,000
Stock-based compensation	—	—	257,989	—	257,989
Net loss	—	—	—	(4,345,001)	(4,345,001)
Balances at December 31, 2009	**8,300,000**	**830**	**8,535,159**	**(8,928,093)**	**(392,104)**
Sale of common stock for cash at $1.00 per share	2,500,000	250	2,499,750	—	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	**10,800,000**	**1,080**	**12,634,920**	**(11,863,117)**	**772,883**
Sale of common stock for cash at $1.00 per share	400,000	40	399,960	—	400,000
Stock-based compensation	—	—	63,000	—	63,000
Net loss	—	—	—	(1,122,714)	(1,122,714)
Balances at December 31, 2011	**11,200,000**	**1,120**	**13,097,880**	**(12,985,831)**	**113,169**
Sale of common stock for cash at $1.00 per share	900,000	90	899,910	—	900,000
Issuance of common stock to a consultant	368,590	37	533,018	—	533,055
Stock-based compensation	—	—	54,750	—	54,750
Net loss	—	—	—	(1,581,955)	(1,581,955)
Balances at December 31, 2012	**12,468,590**	**1,247**	**14,585,558**	**(14,567,786)**	**19,019**
Sale of common stock for cash at $1.00 per share	1,850,003	185	1,849,815	—	1,850,000
Issuance of shares for business acquisition	6,990,172	699	18,942,667	—	18,943,366
Beneficial conversion feature — convertible debt	—	—	1,973,500	—	1,973,500
Issuance of common stock to a consultant	85,806	9	232,525	—	232,534
Stock-based compensation	—	—	423,189	—	423,189
Net loss	—	—	—	(3,262,005)	(3,262,005)
Balances at December 31, 2013	**21,394,571**	**$ 2,140**	**$ 38,007,254**	**$ (17,829,791)**	**$ 20,179,603**

See accompanying notes to financial statements

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MINERVA NEUROSCIENCES, INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Statements of Cash Flows

	Year Ended December 31, 2012	Year Ended December 31, 2013	Period from April 23, 2007 (date of incorporation) to December 31, 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

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.

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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

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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

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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.

$1/€1 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.

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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 1.340778 shares of Cyrenaic common stock, resulting in the issuance of 8,481,788 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 1,491,616 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 6,990,172 at a valuation of $2.71 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.

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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

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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	$ (0.20)	$ (0.19)

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.

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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,
	2012	2013	2013
Net loss	$ (1,581,955)	$ (3,262,005)	$ (17,829,791)
Weighted-average shares of common stock outstanding	11,854,198	14,651,363	8,636,960
Net loss per share of common stock — basic and diluted	$ (0.13)	$ (0.22)	$ (2.06)

The following securities outstanding at December 31, 2012 and 2013 have been excluded from the calculation of weighted 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	2,875,000	4,464,353
Common stock options	—	2,263,661

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 Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sub-licensees

NOTE 6 — LICENSE AGREEMENT (CONTINUED)

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 an extension payment of $0.5 million. The number of extension payments which may be made is unlimited.

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NOTE 6 — LICENSE AGREEMENT (CONTINUED)

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.

iii) *$1/€1 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 $1 per common share.

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NOTE 7 — CONVERTIBLE PROMISSORY NOTES (CONTINUED)

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.

$1/€1 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.

NOTE 8 — 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.

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NOTE 8 — STOCKHOLDERS' EQUITY (CONTINUED)

From April 23, 2007 (date of incorporation) through December 31, 2013, the Company sold 13,950,000 shares of common stock at $1 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 10,000,000 shares of common stock for a price of $1 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 6,250,000 shares (the "Warrant Shares"). The exercise price of the warrant equaled the sum of $1.00 ("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 2,875,000 shares of Company common stock issuable at an exercise price of $1.06 per share. On April 26, 2012, the warrant agreement was cancelled and replaced with a common stock subscription agreement for the purchase of 2,875,000 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

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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	1,212,500
Warrant grant on April 13, 2009 pursuant to anti-dilution clause	662,500
Warrant grant on December 23, 2009 pursuant to anti-dilution clause	200,000
Warrant grant on March 15, 2010 pursuant to anti-dilution clause	375,000
Warrant grant on December 13, 2010 pursuant to anti-dilution clause	250,000
Warrant grant on October 26, 2011 pursuant to anti-dilution clause	100,000
Warrants outstanding at December 31, 2011	2,800,000
Warrant grant on April 25, 2012 pursuant to anti-dilution clause	75,000
Warrants outstanding at April 25, 2012	2,875,000
Warrant cancellation on April 26, 2012	(2,875,000)
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.

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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	$ 1.10	$ 1.37	$ 1.52
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	$ 0.69	$ 0 .63	$ 0.73
Warrant Shares Issued	2,700,000	100,000	75,000
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 2,875,000 shares of its common stock in exchange for a nonrecourse note of $3,058,026 (or approximately $1.06 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

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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 97,737 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 2,875,000 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

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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	2,875,000
Outstanding December 31, 2012	2,875,000
Assumed in Sonkei merger	1,491,616
Issued	97,737
Outstanding December 31, 2013	4,464,353

Common Stock Issued to Consultant

In January 2012, the Company sold 346,154 shares of common stock to a consultant at $0.0001 par value for an aggregate purchase price of $34.62. In June 2012, the Company sold 22,436 shares of common stock at $0.0001 par value to the same consultant for an aggregate purchase price of $2.24. On December 20, 2013, the Company sold another 85,806 shares of common stock at $0.0001 par value 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 9,050,979 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

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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	2,263,661	$ 2.71
Outstanding December 31, 2013	2,263,661	$ 2.71
Exercisable December 31, 2013	89,884	$ 2.71

Included in the table are stock options to purchase 70,312 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 $2.71 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 $2.34 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.

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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

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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 1,892,528 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 $2.71 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

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NOTE 12 — RELATED PARTY TRANSACTIONS (CONTINUED)

expense recognized in operating results in connection with services provided was $60,000, $65,000 and $385,000, respectively.

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 available for issuance.

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 5,185,528 shares of Minerva common stock with an estimated fair value of $3.19 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

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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	$ 0.19	$ 0.21

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NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

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.

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.

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NOTE 13 — SUBSEQUENT EVENTS (CONTINUED)

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 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.

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 1,221,242 shares of common stock with a fair value of $3.86 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 4.5 million stock options with an exercise price of $4.7 million to approximately 3.2 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 are $655,000 plus an annual bonus target of 50% of annual salary 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-month' notice and contain severance provisions. In addition, the employment agreements provide for the grant of 1) 1,886,906 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 an IPO and 2) stock options to purchase a 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.

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, 2011	YEAR ENDED DECEMBER 31, 2012	PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31, 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 SHARES	COMMON STOCK AMOUNT	ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
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, 2011	YEAR ENDED DECEMBER 31, 2012	PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31, 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.

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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,
	2011	2012	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, 2012	NINE MONTHS ENDED SEPTEMBER 30, 2013	PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30, 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 SHARES	COMMON STOCK AMOUNT	ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
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, 2012	NINE MONTHS ENDED SEPTEMBER 30, 2013	PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30, 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 2013 and for the period August 29, 2008 (date of incorporation) to September 30, 2013. The results of

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)

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.

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*

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)

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.

- 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

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)

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 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

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)

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.

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

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)

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.

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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,
	2012	2013	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.

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.

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Shares

MINERVA NEUROSCIENCES, INC.

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	*
Legal fees and expenses	*
Accounting fees and expenses	*
Printing and engraving expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous fees and expenses	*
Total	$ *

* To be filed by amendment.

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, team members, 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, team members, 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:

Common Stock Issuances

Since January 1, 2011, we sold an aggregate of 3,150,000 shares of common stock to six accredited investors at a purchase price of $1.00 per share for total proceeds of $3,150,000.

In February and April 2012, we issued in exchange for services an aggregate of 368,590 shares of common stock to one of our consultants for an aggregate purchase price at par value for total proceeds of $36.85.

In April 2012, we issued 2,875,000 shares of common stock to an accredited investor in exchange for a note payable of approximately $3.1 million (or approximately $1.06 per share). In December 2013, we issued 97,737 shares of common stock to the same investor in exchange for a note payable of $97,737 (or approximately $1.00 per share).

In December 2013, we issued in exchange for services 85,806 shares of common stock to one of our consultants for an aggregate purchase price at par value for total proceeds of $8.58.

Sonkei Securities Issuances

Common Stock Issuances

In March 2012, Sonkei Pharmaceuticals, Inc. issued 1,112,500 shares of common stock to an accredited investor in exchange for a note payable of €1,112,500 (or approximately €1.006 per share).

In January 2012, Sonkei Pharmaceuticals, Inc. issued in exchange for services 113,520 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 €518,518 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 2,263,661 shares of our common stock under our equity compensation plans at an exercise price of $2.71 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 175,000 shares of our common stock to an accredited investor at an exercise price of $1.06 per share.

Shares Issued in Connection with Acquisitions

Since January 1, 2011, we issued an aggregate of 13,667,316 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*	Form of Amended and Restated Certificate of Incorporation of the Registrant to be in effect upon the closing of this offering
3.2*	Form of Bylaws of the Registrant to be in effect upon the closing of this offering
3.3*	Amended and Restated Certificate of Incorporation of the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. currently in effect
3.4*	Certificate of Merger Merging Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
3.5*	Bylaws of the Registrant (f/k/a Cyrenaic Pharmaceuticals, Inc.) currently in effect
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

Exhibit No.	Description of Exhibit
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
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 the 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 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 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 12, 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

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Exhibit No.	Description of Exhibit
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
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*	2013 Equity Incentive Plan of the Registrant
10.25	Letter Agreement with Jan van Heek and the Registrant, dated as of December 11, 2013
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 (included on page II-7)
99.1	Consent of Director Nominee

* To be filed by amendment

\# Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment.

† Indicates a management contract or compensatory plan

(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.

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 April 9, 2014.

MINERVA NEUROSCIENCES, INC.

By: /s/ ROGERIO VIVALDI COELHO

Rogerio Vivaldi Coelho
President, Chief Executive Officer and Director

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Rogerio Vivaldi and Geoff Race, and each one of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place, and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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)	April 9, 2014
/s/ GEOFF RACE Geoff Race	Chief Financial Officer, Treasurer (Principal Financial and Accounting Officer)	April 9, 2014
/s/ MARC BEER Marc Beer	Director	April 9, 2014
/s/ FRANCESCO DE RUBERTIS Francesco de Rubertis	Director	April 9, 2014

Signature	Title	Date
/s/ MICHÈLE OLLIER Michèle Ollier	Director	April 9, 2014
/s/ LORENZO PELLEGRINI Lorenzo Pellegrini	Director	April 9, 2014
/s/ ROBERT SELTZER Robert Seltzer	Director	April 9, 2014

EXHIBIT INDEX

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3.3*	Amended and Restated Certificate of Incorporation of the Registrant f/k/a Cyrenaic Pharmaceuticals, Inc. currently in effect
3.4*	Certificate of Merger Merging Sonkei Pharmaceuticals, Inc. with and into Cyrenaic Pharmaceuticals, Inc., dated as of November 12, 2013
3.5*	Bylaws of the Registrant (f/k/a Cyrenaic Pharmaceuticals, Inc.) currently in effect
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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
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10.1*	Form of the Indemnification Agreement between the Registrant and each of its directors and executive officers
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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
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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

Exhibit No.	Description of Exhibit
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 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*	2013 Equity Incentive Plan of the Registrant
10.25	Letter Agreement between Jan van Heek and the Registrant, dated as of December 11, 2013
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 (included on page II-7)
99.1	Consent of Director Nominee

* To be filed by amendment

\# Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment.

† Indicates a management contract or compensatory plan

Exhibit 4.7

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$426,995.40 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of INDEX VENTURES III (DELAWARE), L.P. ("Purchaser"), the principal sum of Four Hundred Twenty-Six Thousand Nine Hundred Ninety-Five Dollars and Forty Cents ($426,995.40) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an “Event of Default”):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days’ prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys’ fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser’s rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.8

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$10,676.90 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of CARE CAPITAL OFFSHORE INVESTMENTS III LP ("Purchaser"), the principal sum of Ten Thousand Six Hundred Seventy-Six Dollars and Ninety Cents ($10,676.90) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By:	/s/ Daniel J. Cabo Jr.
Name:	Daniel J. Cabo Jr.
Title:	Treasurer

Exhibit 4.9

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$210,198.30 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of INDEX VENTURES III (JERSEY), L.P. ("Purchaser"), the principal sum of Two Hundred Ten Thousand One Hundred Ninety-Eight Dollars and Thirty Cents ($210,198.30) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.10

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$7,606.30 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY), L.P. ("Purchaser"), the principal sum of Seven Thousand Six Hundred Six Dollars and Thirty Cents ($7,606.30) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.11

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

€234,888.88 **November 6, 2013**

For value received, Sonkei Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of INDEX VENTURES IV (JERSEY), L.P ("Purchaser"), the principal sum of Two Hundred Thirty-Four Thousand Eight Hundred Eighty-Eight Euro and Eighty-Eight Cents (€234,888.88) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one euro (€1) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

2.7 Merger; Consolidation. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the common stock of the Company is converted into or exchanged for securities, cash or other property, then, following any such reorganization, recapitalization, reclassification, consolidation or merger, this Note shall thereafter be convertible in lieu of the common stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of common stock of the Company issuable upon conversion of this Note immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company) shall be made in the application of the provisions in this Section 2 with respect to the rights and interests thereafter of the holders of the Company common stock, to the end that the provisions set forth in this Section 2 shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of this Note.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived

to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By:	/s/ Daniel J. Cabo Jr.
Name:	Daniel J. Cabo Jr.
Title:	Treasurer

Exhibit 4.12

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

€4,258.59 **November 6, 2013**

For value received, Sonkei Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of CARE CAPITAL OFFSHORE INVESTMENTS III LP ("Purchaser"), the principal sum of Four Thousand Two Hundred Fifty-Eight Euro and Fifty-Nine Cents (€4,258.59) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one euro (€1) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

2.7 Merger; Consolidation. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the common stock of the Company is converted into or exchanged for securities, cash or other property, then, following any such reorganization, recapitalization, reclassification, consolidation or merger, this Note shall thereafter be convertible in lieu of the common stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of common stock of the Company issuable upon conversion of this Note immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company) shall be made in the application of the provisions in this Section 2 with respect to the rights and interests thereafter of the holders of the Company common stock, to the end that the provisions set forth in this Section 2 shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of this Note.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an “Event of Default”):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days’ prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys’ fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived

to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By:	/s/ Daniel J. Cabo Jr.
Name:	Daniel J. Cabo Jr.
Title:	Treasurer

Exhibit 4.13

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

€255,000.66 **November 6, 2013**

For value received, Sonkei Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of CARE CAPITAL INVESTMENTS III LP ("Purchaser"), the principal sum of Two Hundred Fifty-Five Thousand Euro and Sixty-Six Cents (€255,000.66) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one euro (€1) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

2.7 Merger; Consolidation. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the common stock of the Company is converted into or exchanged for securities, cash or other property, then, following any such reorganization, recapitalization, reclassification, consolidation or merger, this Note shall thereafter be convertible in lieu of the common stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of common stock of the Company issuable upon conversion of this Note immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company) shall be made in the application of the provisions in this Section 2 with respect to the rights and interests thereafter of the holders of the Company common stock, to the end that the provisions set forth in this Section 2 shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of this Note.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived

to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies. Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.14

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

€22,296.30 **November 6, 2013**

For value received, Sonkei Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of INDEX VENTURES IV PARALLEL ENTREPRENEUR FUND (JERSEY), L.P. ("Purchaser"), the principal sum of Twenty-Two Thousand Two Hundred Ninety-Six Euro and Thirty Cents (€22,296.30) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one euro (€1) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

2.7 Merger; Consolidation. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the common stock of the Company is converted into or exchanged for securities, cash or other property, then, following any such reorganization, recapitalization, reclassification, consolidation or merger, this Note shall thereafter be convertible in lieu of the common stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of common stock of the Company issuable upon conversion of this Note immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company) shall be made in the application of the provisions in this Section 2 with respect to the rights and interests thereafter of the holders of the Company common stock, to the end that the provisions set forth in this Section 2 shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of this Note.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived

to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies. Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.15

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$5,200.00 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of YUCCA (JERSEY) SLP ("Purchaser"), the principal sum of Five Thousand Two Hundred Dollars ($5,200.00) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. <u>Payment; Maturity; Default Interest</u>

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. <u>Conversion</u>

2.1 <u>Conversion upon Qualified Financing</u>. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an “Event of Default”):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days’ prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys’ fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser’s rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.16

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

€2,074.07 **November 6, 2013**

For value received, Sonkei Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of YUCCA (JERSEY) SLP ("Purchaser"), the principal sum of Two Thousand Seventy-Four Euro and Seven Cents (€2,074.07) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. <u>Payment; Maturity; Default Interest</u>

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. <u>Conversion</u>

2.1 <u>Conversion upon Qualified Financing</u>. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one euro (€1) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

2.7 Merger; Consolidation. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the common stock of the

Company is converted into or exchanged for securities, cash or other property, then, following any such reorganization, recapitalization, reclassification, consolidation or merger, this Note shall thereafter be convertible in lieu of the common stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of common stock of the Company issuable upon conversion of this Note immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company) shall be made in the application of the provisions in this Section 2 with respect to the rights and interests thereafter of the holders of the Company common stock, to the end that the provisions set forth in this Section 2 shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of this Note.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an "Event of Default"):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days' prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys' fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies. Purchaser's rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.17

EXECUTION VERSION

THIS CONVERTIBLE PROMISSORY NOTE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT") OR THE SECURITIES LAWS OF ANY STATE. NO SALE OR DISPOSITION MAY BE EFFECTED EXCEPT IN COMPLIANCE WITH RULE 144 UNDER THE ACT OR AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN APPLICABLE EXEMPTION THEREFROM.

CONVERTIBLE PROMISSORY NOTE

$639,323.10 **November 6, 2013**

For value received, Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("Company") hereby promises to pay to the order of CARE CAPITAL INVESTMENTS III LP ("Purchaser"), the principal sum of Six Hundred Thirty-Nine Thousand Three Hundred Twenty-Three Dollars and Ten Cents ($639,323.10) with interest on the outstanding principal amount at the rate of eight percent (8%) per annum, compounded annually based on a 365-day year. Interest shall commence with the date hereof and shall continue on the outstanding principal until paid in full.

1. Payment; Maturity; Default Interest

1.1 This convertible promissory note (the "Note") is one in a series of Notes issued pursuant to the terms of that certain Convertible Note Purchase Agreement (the "Purchase Agreement"), dated as of November 6, 2013, by and between the Company and the purchasers listed on Exhibit A attached thereto. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Purchase Agreement.

1.2 At any time upon or after June 30, 2014 (the "Maturity Date"), if this Note has not been paid in full or converted in accordance with the terms of Sections 2.1, 2.2 or 2.3, the Requisite Purchasers may demand payment of the entire outstanding principal balance of this Note and all unpaid accrued interest thereon (a "Payment Demand"). All payments of interest and principal shall be in lawful money of the United States of America. All payments shall be applied first to accrued interest, and thereafter to principal. If any payments on this Note become due on a Saturday, Sunday or a public holiday under the laws of the State of Delaware, such payment shall be made on the next succeeding business day and such extension of time shall be included in computing interest in connection with such payment.

1.3 Upon the occurrence and during the continuance of any Event of Default, the principal balance of this Note shall bear interest at the rate of eleven percent (11%) per annum, including after the commencement of, and during the pendency of, any bankruptcy or other insolvency proceeding.

2. Conversion

2.1 Conversion upon Qualified Financing. If the Company issues and sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the Qualified Financing (as defined herein) and this Note has not been paid in full, then the outstanding principal balance of this Note and accrued but unpaid 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 eighty percent (80%). For purposes of this Note the "Qualified

Financing" shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions after the date hereof, with aggregate gross proceeds to the Company of at least five million dollars ($5,000,000), excluding conversion of the Notes issued under the Purchase Agreement, which sale or sales shall take place on or before the Maturity Date; provided, however, that an IPO (as defined in Section 2.2 below) shall not be deemed a Qualified Financing. Upon conversion of the Note pursuant to this Section 2.1, the Purchaser shall enter into the definitive agreements that the Investors enter into with the Company in connection with the Qualified Financing, pursuant to which Purchaser shall receive the same rights as a "Major Investor" (or similar term as defined in such financing documents, as applicable) in that Purchaser shall have (i) information rights, (ii) inspection rights and (iii) the right of first offer to purchase up to Purchaser's pro rata share (as determined in such financing documents) of any Qualified Stock the Company may sell or issue following the Qualified Financing.

2.2 Conversion upon an IPO. The outstanding principal under this Note, together with all then accrued and unpaid interest thereon, shall automatically be converted into shares of Company common stock upon the closing of an underwritten initial public offering of Company common stock pursuant to a registration statement under the Securities Act of 1933, as amended (an "IPO"), at a conversion price equal to the price per share of the common stock issued in the IPO.

2.3 Conversion upon Election of Holder. At any time following April 30, 2014 and prior to the repayment in full or conversion of this Note (pursuant to Section 2.1), at the election of Purchaser by providing written notice to the Company, all outstanding principal under this Note, together with all then accrued and unpaid interest thereon shall convert into common stock of the Company at a conversion price equal to one dollar ($1.00) per share of common stock.

2.4 Fraction Shares. No fractional shares of Company's capital stock will be issued upon conversion of this Note. In lieu of any fractional share to which Purchaser would otherwise be entitled, Company will pay to Purchaser in cash the amount of the unconverted principal and interest balance of this Note that would otherwise be converted into such fractional share.

2.5 Effect of Conversion. Upon conversion of this Note pursuant to this Section 2, Purchaser shall surrender (a) this Note, duly endorsed, or (b) an affidavit in lieu of the Note in a form reasonably acceptable to the Company, at the principal offices of Company. Upon conversion of this Note pursuant to this Section 2, this Note will be deemed converted on the date of the first closing of the Qualified Financing in which the aggregate gross proceeds received by the Company exceeds five million dollars ($5,000,000) (if converted pursuant to Section 2.1), the date that is immediately prior to an IPO (if converted pursuant to Section 2.2) or the date of election to convert (if converted pursuant to Section 2.3). Before Purchaser shall be entitled to convert this Note, the Purchaser shall execute and deliver to the Company a purchase agreement reasonably acceptable to the Company and the Requisite Purchasers containing customary representations and warranties and transfer restrictions. At its expense, the Company will, as soon as practicable thereafter, issue and deliver to Purchaser, at Purchaser's address set forth in the Purchase Agreement or such other address requested by Purchaser, a certificate or certificates for the number of shares to which Purchaser is entitled upon such conversion (bearing such legends as are required by the Purchase Agreement, any other agreement entered into in connection with the any such conversion or applicable state and federal securities laws), including a check payable to Purchaser for any cash amounts payable as a result of any fractional shares as described herein.

2.6 Representations. The representations and warranties and rights and obligations of transfer and assignment of Purchaser that are set forth in Section 3 of the Purchase Agreement are hereby made a part of this Note and incorporated herein by this reference.

3. Default; Remedies

3.1 This Note shall become immediately due and payable upon the occurrence of any of the following (each, an “Event of Default”):

(a) the Company commences any proceeding in bankruptcy or for dissolution, liquidation, winding-up, composition or other relief under state or federal bankruptcy laws or assignment for benefit of creditors;

(b) any proceeding referenced in (a) is commenced against the Company, or a receiver or trustee is appointed for the Company or a substantial part of its property, and such proceeding or appointment is not dismissed or discharged within 60 days after its commencement;

(c) the Company materially breaches of any covenant, obligation, commitment, condition or agreement contained in the Purchase Agreement or this Note;

(d) any payment of principal and interest is not made when due; and

(e) any representation or warranty made by the Company in the Purchase Agreement shall be untrue in any material respect when made.

3.2 Upon the occurrence and during the continuance of any Event of Default, all unpaid principal on this Note, accrued and unpaid interest thereon and all other amounts owing hereunder shall, at the option of the Purchaser, and, upon the occurrence of any Event of Default pursuant to paragraphs (a) or (b) above, automatically, be immediately due, payable and collectible by Purchaser pursuant to applicable law. Purchaser shall have all rights and may exercise all remedies available to it under law, successively or concurrently.

4. Payment of Principal and Accrued Interest. The Company may not pay the principal or accrued interest on this Note on or prior to the Maturity Date without the prior written consent of the Requisite Purchasers following five (5) days’ prior written notice.

5. Waiver; Payment of Fees and Expenses. The Company waives presentment and demand for payment, notice of dishonor, protest and notice of protest of this Note, and shall pay all costs of collection when incurred, including, without limitation, reasonable attorneys’ fees, costs and other expenses. The right to plead any and all statutes of limitations as a defense to any demands hereunder is hereby waived to the full extent permitted by law. No delay by Purchaser shall constitute a waiver, election or acquiescence by it.

6. Cumulative Remedies**.** Purchaser’s rights and remedies under this Note shall be cumulative. Purchaser shall have all other rights and remedies not inconsistent herewith as provided by law or in equity. No exercise by Purchaser of one right or remedy shall be deemed an election, and no waiver by Purchaser of any Event of Default shall be deemed a continuing waiver of such Event of Default or the waiver of any other Event of Default.

7. Miscellaneous

7.1 Governing Law. The terms of this Note shall be construed in accordance with the laws of the State of Delaware, as applied to contracts entered into by Delaware residents within the State of Delaware, and to be performed entirely within the State of Delaware.

7.2 Successors and Assigns; Assignment. The terms and conditions of this Note shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. The Company

may not assign this Note or delegate any of its obligations hereunder without the written consent of the Purchaser. Purchaser may assign this Note and its rights hereunder at any time without consent of Company, subject to compliance with Section 4 of the Purchase Agreement.

7.3 Titles and Subtitles. The titles and subtitles used in this Note are used for convenience only and are not to be considered in construing or interpreting the Note.

7.4 Notices. All notices required or permitted hereunder shall be in writing and shall be given in the manner and to the addresses set forth in the Purchase Agreement.

7.5 Amendment; Modification; Waiver. No term of this Note may be amended, modified or waived without the written consent of the Company and the Requisite Purchasers.

7.6 Counterparts. This Note 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.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Convertible Promissory Note as of the day and year first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

Exhibit 4.18

REGISTRATION RIGHTS AGREEMENT

This **REGISTRATION RIGHTS AGREEMENT** (the "***Agreement***") is made and entered into as of February 13, 2014 (the "***Effective Date***") by and between Minerva Neurosciences, Inc., a Delaware corporation (the "***Company***") and Johnson & Johnson Development Corporation, a New Jersey corporation (the "***Investor***").

RECITALS

WHEREAS, the Company and the Investor are parties to that certain Common Stock Purchase Agreement, dated as of even date hereof (the "***Purchase Agreement***"), pursuant to which the Investor is purchasing shares (the "***Common Shares***") of the common stock, par value $0.0001 per share, of the Company (the "***Common Stock***"); and

WHEREAS, in connection with the consummation of the transactions contemplated by the Purchase Agreement, the parties desire to enter into this Agreement in order to grant certain registration rights to the Investor as set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Certain Definitions.

As used in this Agreement, the following terms shall have the following meanings:

"***Business Day***" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

"***Commission***" means the U.S. Securities and Exchange Commission.

"***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"***IPO***" means an underwritten initial public offering of the Common Stock pursuant to an effective Registration Statement filed under the Securities Act, other than pursuant to a Registration Statement on Form S-4, Form S-8 or any similar or successor form.

"***Person***" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"***Prospectus***" means (i) the prospectus included in any Registration Statement, as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by such Registration Statement and by all other amendments and supplements to the prospectus, including post-effective amendments and all material incorporated by reference in such prospectus, and (ii) any "free writing prospectus" as defined in Rule 405 under the Securities Act.

"***Register***," "***registered***" and "***registration***" refer to a registration made by preparing and filing a Registration Statement or similar document in compliance with the Securities Act and the declaration or ordering of effectiveness of such Registration Statement or document.

"***Registrable Securities***" means the Common Shares, provided, that, a security shall cease to be a Registrable Security upon (A) sale pursuant to a Registration Statement or Rule 144, or (B) such security becoming eligible for sale without restriction by the Investor pursuant to Rule 144.

"***Registration Statement***" means any registration statement of the Company filed under the Securities Act that covers the resale of any of the Registrable Securities pursuant to the provisions of this Agreement, amendments and supplements to such Registration Statement, including post-effective amendments, all exhibits and all material incorporated by reference in such Registration Statement.

"***Rule 144***" means Rule 144 promulgated under the Securities Act or any successor rule thereto.

"***Securities Act***" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

2. Registration.

(a) Registration Statement. At any time after 180 days following the closing of the IPO, the Investor may request registration under the Securities Act of the Registrable Securities. Upon receipt of such request, the Company shall promptly (but in no event later than 45 days following receipt thereof) prepare and file with the Commission one Registration Statement on Form S-3 (or, if Form S-3 is not then available to the Company, on Form S-1 or on such form of registration statement as is then available to effect a registration for resale of the Registrable Securities), covering the resale of the Registrable Securities.

(b) Expenses. The Company will pay all expenses associated with effecting the registration of the Registrable Securities, including filing and printing fees, the Company's counsel and accounting fees and expenses, costs associated with clearing the Registrable Securities for sale under applicable state securities laws, listing fees, fees and expenses of one counsel to the Investor and the Investor's reasonable expenses in connection with the registration, but excluding discounts, commissions, fees of underwriters, selling brokers, dealer managers or similar securities industry professionals with respect to the Registrable Securities being sold.

(c) Effectiveness.

(i) The Company shall use its commercially reasonable efforts to have the Registration Statement declared effective as soon as practicable. The Company shall notify the Investor by facsimile or e-mail as promptly as practicable, and in any event, within twenty-four (24) hours, after any Registration Statement is declared effective and shall simultaneously provide the Investor with copies of any related Prospectus to be used in connection with the sale or other disposition of the securities covered thereby.

(ii) For not more than twenty (20) consecutive days or for a total of not more than thirty (30) days in any twelve (12) month period, the Company may suspend the use of any Prospectus included in any Registration Statement contemplated by this Section in the event that the Company determines in good faith that such suspension is necessary to (A) delay the disclosure of material non-public information concerning the Company, the disclosure of which at the time would be, in the good faith opinion of the Company, materially detrimental to the Company and its stockholders or (B) amend or supplement the affected Registration Statement or the related Prospectus so that such Registration Statement or 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, in the case of the Prospectus in light of the circumstances under which they were made, not misleading (an "***Allowed Delay***"); provided, that the Company shall promptly (a) notify the Investor in writing of the commencement of an Allowed Delay, but shall not (without the prior written consent of the Investor) disclose to the Investor any material non-public information giving rise to an Allowed Delay, (b) advise the Investor in writing to cease all sales under the Registration Statement until the end of the Allowed Delay and (c) use its commercially reasonable efforts to terminate an Allowed Delay as promptly as practicable.

(d) Rule 415; Cutback If at any time the Commission takes the position that the offering of some or all of the Registrable Securities in a Registration Statement is not eligible to be made on a delayed or continuous basis under the provisions of Rule 415 promulgated under the Securities Act ("***Rule 415***") or requires the Investor to be named as an "underwriter", the Company shall use its commercially reasonable efforts to persuade the Commission that the offering contemplated by the Registration Statement is a valid secondary offering and not an offering "by or on behalf of the issuer" as defined in Rule 415 and that the Investor is not an "underwriter," including by using its commercially reasonable efforts to file amendments to the Registration Statement as required by the Commission, covering the maximum number of Registrable Securities permitted to be registered by the Commission. The Investor shall have the right to participate or have its counsel participate in any meetings or discussions with the Commission regarding the Commission's position and to comment or have their counsel comment on any written submission made to the Commission with respect thereto. No such written submission shall be made to the Commission to which the Investor's counsel reasonably objects. In the event that, despite the Company's reasonable efforts and compliance with the terms of this Section 2(d), the Commission refuses to alter its position, the Company shall first reduce or eliminate any securities to be included by any Person other than the Investor on such Registration Statement and, if any subsequent reduction is necessary, (i) remove from the Registration Statement such portion of the Registrable Securities as the Commission may require (the "***Cut Back Shares***") and/or (ii) agree to such restrictions and limitations on the registration and resale of the Registrable Securities as the Commission may require to assure the Company's compliance with the requirements of Rule 415 (collectively, the "***Commission Restrictions***"); provided, however, that the Company shall not agree to name the Investor as an "underwriter" in such Registration Statement without the prior written consent of the Investor. From and after such date as the Company is able to effect the registration of such Cut Back Shares in accordance with any Commission Restrictions (such date, the "***Restriction Termination Date***" of such Cut Back Shares), all of the provisions of this Section 2 shall again be applicable to such Cut Back Shares.

3. Company Obligations. The Company will use its commercially reasonable efforts to effect the registration of the Registrable Securities in accordance with the terms hereof, and pursuant thereto the Company will, as expeditiously as possible:

(a) use its commercially reasonable efforts to cause such Registration Statement to become effective and to remain continuously effective for a period that will terminate upon the earlier of (i) the date on which all Registrable Securities covered by such Registration Statement as amended from time to time, have been sold, and (ii) the date on which all Registrable Securities covered by such Registration Statement may be sold without restriction pursuant to Rule 144 (the "***Effectiveness Period***") and advise the Investor in writing when the Effectiveness Period has expired;

(b) prepare and file with the Commission such amendments and post-effective amendments to the Registration Statement and the Prospectus as may be necessary to keep the Registration Statement effective for the Effectiveness Period and to comply with the provisions of the Securities Act and the Exchange Act with respect to the distribution of all of the Registrable Securities covered thereby;

(c) provide copies to and permit counsel designated by the Investor to review each Registration Statement and all amendments and supplements thereto no fewer than seven (7) days prior to their filing with the Commission and not file any document to which such counsel reasonably objects;

(d) furnish to the Investor and its legal counsel (i) promptly after the same is prepared and publicly distributed, filed with the Commission, or received by the Company, one (1) copy of any Registration Statement and any amendment thereto, each preliminary prospectus and Prospectus and each amendment or supplement thereto, and each letter written by or on behalf of the Company to the Commission or the staff of the Commission, and each item of correspondence from the Commission or the staff of the Commission, in each case relating to such Registration Statement (other than any portion of any thereof which contains information for which the Company has sought confidential treatment), and (ii) such number of copies of a Prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents as the Investor may reasonably request in order to facilitate the disposition of the Registrable Securities that are covered by the related Registration Statement;

(e) use its commercially reasonable efforts to (i) prevent the issuance of any stop order or other suspension of effectiveness and, (ii) if such order is issued, obtain the withdrawal of any such order at the earliest possible moment;

(f) in connection with any registration of Registrable Securities, use its reasonable efforts to register or qualify or cooperate with the Investor and its counsel in connection with the registration or qualification of such Registrable Securities for offer and sale under the securities or blue sky laws of such jurisdictions requested by the Investor and do any and all other commercially reasonable acts or things necessary or advisable to enable the distribution in such jurisdictions of the Registrable Securities covered by the Registration Statement; provided, however, that the Company shall not be required in connection therewith or as a condition thereto to (i) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3(f), (ii) subject itself to general taxation in any jurisdiction where it would not otherwise be so subject but for this Section 3(f), or (iii) file a general consent to service of process in any such jurisdiction;

(g) use its commercially reasonable efforts to cause all Registrable Securities covered by a Registration Statement to be listed on each securities exchange, interdealer quotation system or other market on which similar securities issued by the Company are then listed;

(h) immediately notify the Investor, at any time prior to the end of the Effectiveness Period, upon discovery that, or upon the happening of any event as a result of which, the Prospectus includes an untrue statement of a material fact or omits to state any 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, file with the Commission and furnish to such holder a supplement to or an amendment of such Prospectus as may be necessary so that 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) otherwise use its commercially reasonable efforts to comply with all applicable rules and regulations of the Commission under the Securities Act and the Exchange Act, including, without limitation, Rule 172 promulgated under the Securities Act ("***Rule 172***"), file any final Prospectus, including any supplement or amendment thereof, with the Commission pursuant to Rule 424 under the Securities Act, promptly inform the Investor in writing if, at any time during the Effectiveness Period, the Company does not satisfy the conditions specified in Rule 172 and, as a result thereof, the Investor is required to deliver a Prospectus in connection with any disposition of Registrable Securities and take such other actions as may be reasonably necessary to facilitate the registration of the Registrable Securities hereunder; and make available to its security holders, as soon as reasonably practicable, but not later than the Availability Date (as defined below), an earnings statement covering a period of at least twelve (12) months, beginning after the effective date of each Registration Statement, which earnings statement shall satisfy the provisions of Section 11(a) of the Securities Act, including Rule 158 promulgated thereunder (for the purpose of this subsection 3(i), "***Availability Date***" means the 45th day following the end of the fourth fiscal quarter that includes the effective date of such Registration Statement, except that, if such fourth fiscal quarter is the last quarter of the Company's fiscal year, "***Availability Date***" means the 90th day after the end of such fourth fiscal quarter); and

(j) With a view to making available to the Investor the benefits of Rule 144 (or its successor rule) and any other rule or regulation of the Commission that may at any time permit the Investor to sell shares of Common Stock to the public without registration, the Company covenants and agrees to: (i) make and keep public information available, as those terms are understood and defined in Rule 144, until the earlier of (A) six months after such date as all of the Registrable Securities may be sold without restriction by the holders thereof pursuant to Rule 144 or any other rule of similar effect or (B) such date as all of the Registrable Securities shall have been resold; (ii) file with the Commission in a timely manner all reports and other documents required of the Company under the Exchange Act; and (iii) furnish to the Investor upon request, as long as the Investor owns any Registrable Securities, (A) a written statement by the Company that it has complied with the reporting requirements of the Exchange Act in all material respects, (B) a copy of the Company's most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q, and (C) such other information as may be reasonably requested in order to avail the Investor of any rule or regulation of the Commission that permits the selling of any such Registrable Securities without registration.

4. Due Diligence Review; Information.

(a) The Company shall make available, during normal business hours, for inspection and review by the Investor, advisors to and representatives of the Investor (who may or may not be affiliated with the Investor and who are acceptable to the Company), all financial and other records, all filings with the Commission, and all other corporate documents and properties of the Company as may be reasonably necessary for the purpose of such review, and cause the Company's officers, directors and employees, within a reasonable time period, to supply all such information reasonably requested by the Investor or any such representative, advisor or underwriter in connection with such Registration Statement (including, without limitation, in response to all questions and other inquiries reasonably made or submitted by any of them), prior to and from time to time after the filing and effectiveness of the Registration Statement for the sole purpose of enabling the Investor and such representatives, advisors and underwriters and their respective accountants and attorneys to conduct initial and ongoing due diligence with respect to the Company and the accuracy of such Registration Statement.

(b) The Company shall not disclose material nonpublic information to the Investor, or to advisors to or representatives of the Investor, unless prior to disclosure of such information the Company identifies such information as being material nonpublic information and provides the Investor and such advisors and representatives with the opportunity to accept or refuse to accept such material nonpublic information for review and the Investor, wishing to obtain such information, enters into an appropriate confidentiality agreement with the Company with respect thereto.

5. Obligations of the Investor.

(a) At least 10 Business Days prior to the first anticipated filing date of a Registration Statement for any registration under this Agreement, the Company will notify the Investor of the information the Company requires from the Investor, if any, which shall be completed and delivered to the Company promptly upon request and, in any event, within 3 Business Days prior to the applicable anticipated filing date. The Investor acknowledges and agrees that the information described in this Section 5(a) will be used by the Company in the

preparation of the Registration Statement and hereby consents to the inclusion of such information in the Registration Statement.

(b) The Investor, by its acceptance of the Registrable Securities agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of a Registration Statement hereunder.

(c) The Investor agrees that, upon receipt of any notice from the Company of either (i) the commencement of an Allowed Delay pursuant to Section 2(c)(ii) or (ii) the happening of an event pursuant to Section 3(h) hereof, the Investor will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities, until the Investor is advised by the Company that such dispositions may again be made.

6. Indemnification.

(a) Indemnification by the Company. The Company will indemnify and hold harmless the Investor and its officers, directors, members, employees and agents, successors and assigns, and each other person, if any, who controls the Investor within the meaning of the Securities Act, against any losses, claims, damages or liabilities, to which they 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 or omission or alleged omission of any material fact contained in any Registration Statement, any preliminary Prospectus or final Prospectus, 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) the omission or alleged omission to state in a Blue Sky Application 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 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 included in any such Registration Statement in any state where the Company or its agents has affirmatively undertaken or agreed in writing that the Company will undertake such registration or qualification on the Investor's behalf and will reimburse the Investor, and each such officer, director or member and each such controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case 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 information furnished by the Investor or any such controlling person in writing specifically for use in such Registration Statement or Prospectus.

(b) Indemnification by the Investor. The Investor will indemnify and hold harmless, to the fullest extent permitted by law, the Company, its directors, officers, employees, stockholders and each person who controls the Company (within the meaning of the Securities Act) against any losses, claims, damages, liabilities and expense (including reasonable attorney fees) resulting from any untrue statement of a material fact or any omission of a material fact required to be stated in the Registration Statement or Prospectus or preliminary Prospectus or amendment or supplement thereto or necessary to make the statements therein not misleading, to the extent, but only to the extent that such untrue statement or omission is contained in any information furnished in writing by the Investor to the Company specifically for inclusion in such Registration Statement or Prospectus or amendment or supplement thereto. In no event shall the indemnification of the Investor be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such holder in connection with any claim relating to this Section 6 and the amount of any damages such holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. Any person entitled to indemnification hereunder shall (i) give prompt notice to the indemnifying party of any claim with respect to which it seeks indemnification and (ii) permit such indemnifying party to assume the defense of such claim with counsel reasonably satisfactory to the indemnified party; provided that any person entitled to indemnification hereunder shall have the right to employ separate counsel and to participate in the defense of such claim, but the fees and expenses of such counsel shall be at the expense of such person unless (a) the indemnifying party has agreed to pay such fees or expenses, or (b) the indemnifying party shall have failed to assume the defense of such claim and employ counsel reasonably satisfactory to such person or (c) in the reasonable judgment of any such person, based upon written advice of its counsel, a conflict of interest exists between such person and the indemnifying party with respect to such claims (in which case, if the person notifies the indemnifying party in writing that such person elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of such claim on behalf of such person); and provided, further, that the failure of any indemnified party to give notice as provided herein shall not relieve the indemnifying party of its obligations hereunder, except to the extent that such failure to give notice shall materially adversely affect the indemnifying party in the defense of any such claim or litigation. It is understood that the indemnifying party shall not, in connection with any proceeding in the same jurisdiction, be liable for fees or expenses of more than one separate firm of attorneys at any time for all such indemnified parties. No indemnifying party will, except with the consent of the indemnified party, consent to entry of any judgment or enter into any settlement that 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 of such claim or litigation.

(d) Contribution. If for any reason the indemnification provided for in the preceding paragraphs (a) and (b) is unavailable to an indemnified party or insufficient to hold it harmless, other than as expressly specified therein, then the indemnifying party shall contribute to the amount paid or payable by the indemnified party as a result of such loss, claim, damage or liability in such proportion as is appropriate to reflect the relative fault of the indemnified party and the indemnifying party, as well as any other relevant equitable considerations. 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 not guilty of such fraudulent misrepresentation.

In no event shall the contribution obligation of a holder of Registrable Securities be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such holder in connection with any claim relating to this Section 6 and the amount of any damages such holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such contribution obligation.

7. Termination. This Agreement shall terminate and be of no further force or effect upon the earlier of (i) the date when there shall no longer be any Registrable Securities outstanding and (ii) the one year anniversary of the Effective Date.

8. Miscellaneous.

(a) Amendments and Waivers. This Agreement may be amended only by a writing signed by the Company and the Investor. The Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company shall have obtained the written consent to such amendment, action or omission to act, of the Investor.

(b) Notices. All notices and other communications provided for or permitted hereunder shall be made as set forth in Section 6.5 of the Purchase Agreement.

(c) Assignments and Transfers . This Agreement may not be assigned by the Company or the Investor (whether by operation of law or otherwise) without the prior written consent of the other party; provided, however, that in the event that the Company is a party to a merger, consolidation, share exchange or similar business combination transaction in which the Common Stock is converted into the equity securities of another Person, from and after the effective time of such transaction, such Person shall, by virtue of such transaction, be deemed to have assumed the obligations of the Company hereunder, the term “Company” shall be deemed to refer to such Person and the term “Registrable Securities” shall be deemed to include the securities received by the Investor in connection with such transaction unless such securities are otherwise freely tradable by the Investor after giving effect to such transaction.

(d) Benefits of the Agreement. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective permitted successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(e) Counterparts; Faxes. This Agreement may be executed in two counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed via facsimile, which shall be deemed an original.

(f) Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

(g) Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof but shall be interpreted as if it were written so as to be enforceable to the maximum extent permitted by applicable law, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. To the extent permitted by applicable law, the parties hereby waive any provision of law which renders any provisions hereof prohibited or unenforceable in any respect.

(h) Further Assurances. The parties shall execute and deliver all such further instruments and documents and take all such other actions as may reasonably be required to carry out the transactions contemplated hereby and to evidence the fulfillment of the agreements herein contained.

(i) Entire Agreement. This Agreement is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter.

(j) Governing Law; Consent to Jurisdiction; Waiver of Jury Trial. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New Jersey without regard to the choice of law principles thereof. Each of the parties hereto irrevocably submits to the exclusive jurisdiction of the United States District Court sitting in Newark, New Jersey and the courts of the State of New Jersey, for the purpose of any suit, action, proceeding or judgment relating to or arising out of this Agreement and the transactions contemplated hereby. Service of process in connection with any such suit, action or proceeding may be served on each party hereto anywhere in the world by the same methods as are specified for the giving of notices under this Agreement. Each of the parties hereto irrevocably consents to the jurisdiction of any such court in any such suit, action or proceeding and to the laying of venue in such court. Each party hereto irrevocably waives any objection to the laying of venue of any such suit, action or proceeding brought in such courts and irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. **EACH OF THE PARTIES HERETO WAIVES ANY RIGHT TO REQUEST A TRIAL BY JURY IN ANY LITIGATION WITH RESPECT TO THIS AGREEMENT AND REPRESENTS THAT COUNSEL HAS BEEN CONSULTED SPECIFICALLY AS TO THIS WAIVER.**

(k) No Inconsistent Agreements. Neither the Company nor any of its subsidiaries has entered, as of the date hereof, nor shall the Company or any of its subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Investor in this Agreement or otherwise conflicts with the provisions hereof. Neither the Company nor any of its subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full.

IN WITNESS WHEREOF, the parties have executed this Agreement or caused their duly authorized officers to execute this Agreement as of the date first above written.

MINERVA NEUROSCIENCES, INC.

By /s/Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO

JOHNSON & JOHNSON DEVELOPMENT CORPORATION

By: ______________________
Name:
Title:

[Signature Page to Registration Rights Agreement]

IN WITNESS WHEREOF, the parties have executed this Agreement or caused their duly authorized officers to execute this Agreement as of the date first above written.

MINERVA NEUROSCIENCES, INC.

By
Name:
Title:

JOHNSON & JOHNSON DEVELOPMENT CORPORATION

By: /s/ Zeev Zehavi
Name: Zeev Zehavi
Title: Vice President

[Signature Page to Registration Rights Agreement]

Exhibit 10.11

EXECUTION VERSION

AGREEMENT AND PLAN OF MERGER

OF

SONKEI PHARMACEUTICALS, INC.
(a Delaware corporation)

WITH AND INTO

CYRENAIC PHARMACEUTICALS, INC.
(a Delaware corporation)

THIS AGREEMENT AND PLAN OF MERGER (the "**Agreement**"), dated as of November 12, 2013, by and between Sonkei Pharmaceuticals, Inc., a Delaware corporation ("**Sonkei**"), and Cyrenaic Pharmaceuticals, Inc., a Delaware corporation ("**Cyrenaic**").

WHEREAS, the respective boards of directors of Cyrenaic and Sonkei have each approved and adopted this Agreement and the transactions contemplated by this Agreement, in each case after making a determination that this Agreement and such transactions are advisable and fair to, and in the best interests of, such corporation and its stockholders; and

WHEREAS, pursuant to the transactions contemplated by this Agreement and on the terms and subject to the conditions set forth herein, Sonkei, in accordance with the Delaware General Corporation Law ("**DGCL**"), will merge with and into Cyrenaic, with Cyrenaic continuing as the surviving corporation (the "**Merger**").

1. Parties to Merger.

(a) Sonkei is a corporation duly organized and in good standing under the laws of the State of Delaware. The authorized capital stock of Sonkei is 22,000,000 shares of common stock, par value $0.0001 per share ("**Sonkei Common Stock**"), of which 6,326,020 shares are issued and outstanding as of the date hereof. All issued and outstanding shares of Sonkei Common Stock have been duly authorized and validly issued, are fully paid and nonassessable, and were issued in compliance with all applicable federal and state securities Laws.

(b) Cyrenaic is a corporation duly organized and in good standing under the laws of the State of Delaware.

2. Merger. At the Effective Time (as defined in Section 3 hereof), Sonkei shall be merged with and into Cyrenaic, with Cyrenaic continuing as the surviving corporation (the

"**Surviving Corporation**"). The legal existence of Cyrenaic shall continue unimpaired and unaffected by the Merger and the separate existence of Sonkei shall cease.

3. Filing and Effective Time. The Certificate of Merger to be filed with the Secretary of State of Delaware (the "**Secretary of State**"), and such other documents and instruments as are required by, and complying in all respects with, DGCL, shall be delivered to the Secretary of State and the Merger shall become effective immediately at the time of such filing (the "**Effective Time**").

4. Effect of Merger. At the Effective Time, the Merger shall have the effects specified in the DGCL, this Agreement and the Certificate of Merger. Without limiting the foregoing, all the properties, rights, privileges, immunities, powers and franchises of Sonkei shall vest in Cyrenaic, as the Surviving Corporation, and all debts, liabilities, obligations and duties of Sonkei shall become the debts, liabilities, obligations and duties of Cyrenaic, as the Surviving Corporation.

5. Certificate of Incorporation. At the Effective Time, the Certificate of Incorporation of Cyrenaic shall be amended so that Article I shall read: "The name of the corporation is Minerva Neurosciences, Inc. (the "Corporation")". As so amended, the Certificate of Incorporation of Cyrenaic shall be and thereafter remain the Certificate of Incorporation of the Surviving Corporation, until amended in accordance with applicable law.

6. Bylaws. At the Effective Time, the Bylaws of Cyrenaic shall be and thereafter remain the Bylaws of the Surviving Corporation until altered, amended or repealed in accordance with the Certificate of Incorporation and the Bylaws of the Surviving Corporation and applicable law.

7. Directors and Officers. At the Effective Time, the present directors and officers of Cyrenaic shall be and remain the directors and officers of the Surviving Corporation and shall hold office until the earlier of their respective death, resignation or removal or their respective successors shall be elected and qualified.

8. Capital Stock. At the Effective Time, by virtue of the Merger and without any further action on the part of Sonkei, Cyrenaic or any stockholder of Sonkei (each, a "**Stockholder**"):

(a) each share of Sonkei Common Stock issued and outstanding immediately prior to the Effective Time shall be automatically converted into the right to receive 1.340778 shares of common stock of Cyrenaic, par value $0.0001 per share ("**Cyrenaic Common Stock**"); and

(b) each share of capital stock of Sonkei held in Sonkei's treasury immediately prior to the Effective Time shall be cancelled and retired and shall cease to exist, and no cash, securities or other property shall be payable in respect thereof.

9. No Fractional Shares. Notwithstanding any other provision of this Agreement, including Section 8, no fractional shares of Cyrenaic Common Stock will be issued and any Stockholder entitled hereunder to receive a fractional share of Cyrenaic Common Stock (after aggregating all fractional shares of Cyrenaic Common Stock that would otherwise be received by such Stockholder), but for this Section 9, will be entitled to receive a cash payment in lieu of such fractional share of Cyrenaic Common Stock in an amount equal to such fraction multiplied by the fair market value, immediately prior to the Effective Time, of a share of Cyrenaic Common Stock.

10. Exchange of Certificates.

(a) At the Effective Time, Sonkei shall cause each Stockholder to surrender to Cyrenaic all of such Stockholder's outstanding shares of Sonkei Common Stock (collectively, "**Certificates**"). Upon surrender of the Certificates to Cyrenaic, each Stockholder shall be entitled to receive, in exchange therefor, certificates representing that number of whole shares of Cyrenaic Common Stock which such Stockholder has the right to receive in respect of the Certificate surrendered pursuant to Section 8. Each Certificate so surrendered shall be forthwith cancelled. Until so surrendered and exchanged, each such Certificate shall, after the Effective Time, be deemed to represent only the right to receive shares of Cyrenaic Common Stock pursuant to Section 8, and until such surrender or exchange, no such shares of Cyrenaic Common Stock shall be delivered to the holder of such outstanding Certificate in respect thereof.

(b) As soon as practicable after the Effective Time, Cyrenaic shall cause to be delivered to each Stockholder (i) certificates representing those shares of Cyrenaic Common Stock issuable to such Stockholder and (ii) a check for any amounts payable to such Stockholder pursuant to Section 9, if applicable.

11. Further Assurances. If at any time the Surviving Corporation, or its successors or assigns, shall consider or be advised that any further assignments or assurances in law or any other acts are necessary or desirable to carry out the purposes of this Agreement, Sonkei and its proper officers and members shall be deemed to have granted to the Surviving Corporation an irrevocable power of attorney to execute and deliver all such proper deeds, assignments and assurances in law and to do all acts necessary or proper to vest, perfect or confirm title to and possession of such rights, properties or assets in the Surviving Corporation and otherwise to carry out the purposes of this Agreement, and the officers and members of the Surviving Corporation are fully authorized in the name of Sonkei or otherwise to take any and all such action.

12. Entire Agreement. This Agreement together with the Certificate of Merger constitutes the sole and entire agreement of the parties to this Agreement with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings,

representations and warranties and agreements, both written and oral, with respect to such subject matter.

13. Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns

14. Headings. The headings in this Agreement are for reference only and shall not affect the interpretation of this Agreement.

15. Amendment or Termination. This Agreement may be amended or terminated at any time on or before the Effective Time by either party hereto.

16. Severability. Any provision of this Agreement which is invalid or unenforceable in any jurisdiction shall be ineffective to the extent of such invalidity or unenforceability without invalidating or rendering unenforceable the remaining provisions hereof, and any such invalidity or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

17. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Delaware, without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than those of the State of Delaware.

18. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which together shall be considered one and the same agreement. The parties agree that a facsimile may be executed as an original.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first written above.

SONKEI PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo Jr.
Name: Daniel J. Cabo Jr.
Title: Treasurer

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD
Title: President and CEO

[Signature Page to Agreement and Plan of Merger]

Exhibit 10.12

DATED 6th SEPTEMBER 2010

ProteoSys AG

and

Mind-NRG SA

and

Pentavest S.à.r.l

Bird & Bird LLP
15 Fetter Lane
London EC4A 1JP

Tel: 020 7415 6000
www.twobirds.com
Ref: ECP/SJS/INDVM.0006

THIS AGREEMENT dated 6th September 2010 is made between:

PARTIES

(1) ProteoSys AG incorporated and registered in Germany whose registered office is at Carl-Zeiss Str. 51, 55129 Mainz, D-55129, Germany(“**ProteoSys**”); and

(2) Mind-NRG SA incorporated and registered in Switzerland whose registered office is at 2 rue de Jargonnant, 1207 Geneva, Switzerland (“**Mind-NRG**”); and

(3) Pentavest S.à.r.l. incorporated and registered in Luxembourg whose registered office is at 41 boulevard du Prince Henri, L-1724 Luxembourg (“**Pentavest**”).

Recitals:

(A) ProteoSys has agreed to assign to Mind-NRG the Intellectual Property in Neuregulin 1 and its different isoforms and derivative products on the terms and conditions set out below.

(B) Mind-NRG is a company which was established for the purpose of owning and further marketing the Intellectual Property in Neuregulin and its different isoforms and derivative products and developing Neuregulin in at least one major indication.

(C) Pentavest will be the lead investor in Mind-NRG

WHEREBY IT IS AGREED as follows:

1. **INTERPRETATION**

1.1 The definitions and rules of interpretation in this clause apply in this agreement.

“Affiliates” means in relation to a Party, any entity or person that Controls, is Controlled by, or is under common Control with that Party.

“Background IP” means any background Know-how, any patented and unpatented information, materials, and data, whether or not patentable, which is owned or controlled by ProteoSys at the Execution Date and which is reasonably required for the development, manufacture, use or sale of the Product.

“Business Day” means a day other than a Saturday, Sunday or public holiday in Switzerland when banks in Zurich are open for business;

“Control” means direct or indirect beneficial ownership of 50 per cent or more (or, outside a Party’s home territory, such lesser percentage as is the maximum permitted level of foreign investment) of the share capital, stock, or other participating interest carrying the right to vote or to distribution of profits of that Party, as the case may be.

“Development” means a development plan for the Product as set out at **Schedule A** to this Agreement.

“Execution Date” means the date set out at the head of this Agreement.

“Field” means Neurologic and Psychiatric disorders and all other therapeutic prophylactic and diagnostic indications.

“IND” means the authorisation rendered by either the FDA with regard to an Investigational New Drug Application of any other authorisation or permit rendered by any other competent authority in the European Union or any other country as designated by Mind-NRG to carry out clinical investigation in phase I for the Product.

“Intellectual Property” means any and all patents, utility models, copyright, database rights, rights in respect of confidential information, rights under data exclusivity laws, property rights in biological or chemical materials, Know-how, extension of the terms of any such rights (including supplementary protection certificates), applications for and the right to apply for any of the foregoing registered property and rights, and similar or analogous rights anywhere in the Territory.

“Joint Steering Committee” (“JSC”) means a committee established in accordance with clause 7 and with the powers and obligations set out therein.

"Know-how" means unpatented technical information (including without limitation information relating to inventions, discoveries, concepts, methodologies, models, research, development and testing procedures; the results of experiments, test, and trials; manufacturing processes, techniques, and specifications; and quality control data, analyses, reports, and submissions) that is not in the public domain.

"Master Services Agreement" means an agreement dated entered into by ProteoSys and Mind-NRG.

"New Product IP" means Intellectual Property created during the course of the collaboration between ProteoSys and Mind-NRG and claiming or relating to the Product or to the Product IP.

"Parties" means ProteoSys and Mind-NRG. 'Party' shall mean any one of them.

"Patents" means the patents and patent applications identified in **Schedule B** together with any other patents in those patent families as well as any other applications, divisionals, continuations or continuations in part which are within the ownership or control of ProteoSys.

"Product" means Neurogulin 1 and its different isoforms and derivative products including fragments such as NRG 1β, extra cellular domain as described in the patents identified in Schedule B

"Product IP" means any patented and unpatented information, materials and data (including all preclinical and clinical data) whether or not patentable and any other Intellectual Property which is owned or controlled by ProteoSys at the Execution Date and which relates specifically to the Product.

"Project" the development and exploitation of Neuregulin in at least one major indication, the Intellectual Property in Neuregulin and its different isoforms and derivative products;

"Quarter" means a period of three months commencing on 1 January, 1 April, 1 July or 1 October; and 'Quarterly' shall be construed accordingly.

"Territory" means worldwide.

2. **ASSIGNMENT**

2.1 In consideration of the payment by Mind-NRG of the sums set out at clause 3, ProteoSys, with full title guarantee hereby assigns and transfers to Mind-NRG all of its right, title and interest in the Product and the Product IP, which assignment and transfer is hereby accepted by Mind-NRG.

2.2 The assignment effected by this clause 2 shall include, without limitation the assignment and transfer of:

2.2.1 all patents and other Intellectual Property that may be granted pursuant to any application listed in Schedule B or otherwise, as well as all patents or other Intellectual Property that may derive priority from or have equivalent claims to or be based upon the Intellectual Property set out in Schedule B in any part of the Territory (including supplementary protection certificates, divisions, continuations, continuations in part, reissues, re-examinations, and extensions) or any other registered Intellectual Property comprising the Product IP;

2.2.2 the right to apply for and obtain any item of Intellectual Property referred to in clause 2.2.1 above; and

2.2.3 any other unregistered Intellectual Property specifically relating to the Product;

2.2.4 the entire right, title and interest in and to the existing and / or future copyright and rights in the nature of copyright in the works comprising the Product IP throughout the world for the full term of the copyright in them and all renewals or extensions of such rights;

2.2.5 all rights in respect of any Know-how specifically relating to the Product;

2.2.6 all rights of action, powers, and benefits arising from ownership of the Product IP including without limitation the right to sue for damages and other legal and equitable remedies in respect of all causes of action arising before, on or after the Execution Date.

2.3 ProteoSys grants to Mind-NRG a sole license to use the Background IP for research purposes in relation to the Product in the Field within the Territory. ProteoSys shall not grant any other licenses to any third party to use the specific Background IP in the Field within the Territory. Mind-NRG may grant sub-licences to use the Background IP in the Field with the prior written consent of ProteoSys, such consent not to be unreasonably withheld or delayed. The licence granted by ProteoSys to use the Background IP under this clause 2.3 is non-transferable save for on a sale of Mind-NRG or of all or substantially all of the assets of Mind-NRG.

2.4 Any New Product IP will be owned by Mind-NRG.

2.5 ProteoSys shall execute such documents and at Mind-NRG's expense shall give such assistance to Mind-NRG as Mind-NRG may reasonably require (but not including any further scientific work to support any patent applications save as stated in this Agreement):

2.5.1 to secure the vesting in Mind-NRG of all Product IP;

2.5.2 to uphold Mind-NRG's rights in the Product IP;

2.5.3 to defeat any challenge to the validity of, and resolve any questions concerning any of the registered rights comprising the Product IP including those set out at Schedule B;

2.5.4 to enable Mind-NRG or its nominee to enjoy the full benefit of the Product IP assigned in this Agreement and to enjoy the exclusive benefit of any extension or further grant of any registered rights comprising the Product IP vested in Mind-NRG by virtue of this Agreement;

2.6 To the extent that the assigned Product IP includes any Know-how protected under the laws governing confidential information, references to the assignment of such Know-how shall include the following obligations on ProteoSys:

2.6.1 ProteoSys shall transfer to Mind-NRG such rights as it may have in law to prevent the unauthorised use or disclosure of such Know-how;

2.6.2 to the extent that such rights cannot be or are not transferred by virtue of the provisions of clause 2.2.6, ProteoSys will agree to be joined in any action (whether as a claimant or otherwise) brought by Mind-NRG or its assignee against any third party that is alleged to infringe such rights, subject to Mind-NRG's effectively indemnifying it against any damages, costs and expenses incurred in relation to any such action;

2.6.3 ProteoSys will neither use nor disclose any such Know-how without the prior written consent of Mind-NRG, but these obligations of non-use and non-disclosure shall cease upon the know-how becoming publicly known (other than as a result of breach of this clause by ProteoSys);

2.6.4 ProteoSys warrants and represents that it is not aware of any disclosure of any such Know-how to any third party before the date of this Agreement, except under written obligations of confidentiality.

2.6.5 ProteoSys shall:

2.6.5.1 inform Mind-NRG of all technical information concerning the assigned Product IP;

2.6.5.2 supply Mind-NRG with any documents or drawings relevant to the assigned Product IP

2.6.5.3 grant a royalty free license to Mind-NRG to use such documents referred to at clause 2.6.5.2 above.

2.7 To the extent that the Product IP includes works subject to copyright, ProteoSys shall use reasonable endeavours to procure that the relevant author irrevocably and unconditionally waives all of his or her moral rights arising from any such works in so far as he or she may lawfully do so.

3. **CONSIDERATION**

3.1 In consideration for the assignment of Product IP at clause 2, Mind-NRG shall pay to ProteoSys the sum of €33,333.33 per month for a period beginning on the Execution Date and ending 15 months thereafter during the term of this Agreement and shall make milestone payments based on the first achievement of certain milestones as set out below:

Milestone	**Amount**
IND approval granted	€500,000; to be paid 14 days after granting the approval
First dosing of a patient in a Phase IIa clinical trial	€700,000; to be paid 14 days after treatment with the Product of the first patient enrolled in the study

3.2 Further Mind-NRG shall pay to ProteoSys all legal expenses incurred with regard to this agreement, the Master Services Agreement and all other relating agreements up to a maximum amount of €10,000.

3.3 All figures stated in this Clause 2.6.3 to be payable by Mind-NRG to ProteoSys are exclusive of value added tax ("VAT") which shall be payable by Mind-NRG and ProteoSys shall deliver to Mind-NRG upon request a proper VAT invoice for the amount (if any) of VAT chargeable.

4. **EXCLUSIVITY**

4.1 Save as provided hereto, ProteoSys agrees that it or its Affiliates, or any subcontractor, consultant or agent acting under the instructions of ProteoSys will not develop or commercialise the Product.

4.2 ProteoSys shall use its best endeavours to enforce clause 4.1 against:

4.2.1 any party named in clause 4.1;

4.2.2 any employee during the course of its employment and to the extent that it is able against any employee following termination of their employment.

5. **RECORDAL OF ASSIGNMENT**

5.1 Mind-NRG shall, at its own cost, promptly record the assignment granted to it in clause 2.1 in the relevant registries in the Territory.

5.2 ProteoSys shall execute a confirmatory assignment in the form set out at **Schedule C** at Mind-NRG's cost, to enable Mind-NRG to comply with clause 5.1.

6. **RELEASE FROM OBLIGATIONS RELATING TO THIRD PARTIES**

6.1 ProteoSys shall assign to Mind-NRG all its right, title, interest and benefit in and to the agreement with Biomeva (Heidelberg) attached to this Agreement at Schedule D. Biomeva has indicated its consent to the assignment under this clause 6.1 by letter attached to this Agreement at Schedule D.

6.2 Subject to the assignment at clause 6.1 Mind-NRG agrees to perform all ProteoSys's obligations under the Biomeva Agreement at Schedule D.

6.3 Mind-NRG shall release and hold harmless ProteoSys from all obligations relating from a development and manufacturing agreement entered in with Biomeva (Heidelberg) as attached hereto in Schedule D. For the avoidance of doubt such release shall include the liability in the sum of €60,000, where incurred prior to execution of this Agreement, in the performance of the Biomeva agreement in purchasing materials for the production of the first 1g batch of Neuregulin 1.

7. **JOINT STEERING COMMITTEE**

7.1 The JSC shall consist of two representatives of Pentavest, two representatives of ProteoSys, the Chief Medical officer of Mind-NRG and one representative of any other future Major Investor in Mind-NRG notified by each Party to the other from time to time. Within 30 days of the Execution Date, each Party shall notify the other Party of the names of its first members of the JSC.

7.2 The JSC shall:

7.2.1 receive regular reports from Mind-NRG and monitor the conduct, nature, progress in the Development Plan, and results of the Product development;

7.2.2 discuss, analyse and evaluate all scientific, medical and technical matters and shall report to the board of directors of Mind-NRG any conclusions and recommendations in relation to the ongoing research strategy and objectives of the Project;

7.2.3 put forward proposals to the board of directors of Mind-NRG in relation to the obligations and objectives of the Parties in connection with the commercialisation of the New Product IP and / or Products including making any modifications to the Development Plan from time to time. The board of directors shall have the exclusive right to take any and all decisions in relation to the future operation of the Project including strategic and commercial decisions.

7.2.4 to meet Quarterly or at such intervals as it considers appropriate to undertake its obligations or within 14 days of a request for a JSC meeting by Mind-NRG. Such meetings may be by video or telephone conference as agreed by the JSC; and

7.2.5 perform any other function specified in this Agreement.

8. **SUPERVISION AND MONITORING**

8.1 The board of directors of Mind-NRG shall have the overall competence to decide upon the performance of the Project in particular putting it on hold or cancelling it in total.

8.2 The supervision and monitoring of the work to be performed by ProteoSys following any relevant Statement of Work as agreed with Mind-NRG following the Master Services Agreement shall be carried out by the board of directors of Mind-NRG.

9. **WARRANTIES**

9.1 ProteoSys warrants as follows:

9.1.1 complete and accurate particulars of all registered Product IP (including applications for such rights) are set out in Schedule B.

9.1.2 ProteoSys is the registered proprietor of the Patents and is the sole legal and beneficial owner of all of the other Product IP assigned and holds them free from all encumbrances and all other rights exercisable by third parties.

9.1.3 no Intellectual Property rights other than the Product IP and Background IP are required in order to continue the research in developing the Product.

9.1.4 The Product IP rights are valid, subsisting and enforceable, and nothing has been done or not been done as a result of which any of them has ceased or might cease to be valid, subsisting or enforceable. In particular:

9.1.4.1 all application and renewal fees and other steps required for the maintenance or protection of such rights have been paid on time or taken;

9.1.4.2 all confidential information (including know-how and trade secrets) owned or used in connection with the Product IP has been kept confidential and has not been disclosed to third Parties (other than Parties who have signed written confidentiality undertakings in respect of such information);

9.1.4.3 there are and have been no claims, challenges, disputes or proceedings, pending or threatened, in relation to the ownership, validity or use of the Product IP rights.

9.1.5 There has been no infringement by any third party of any Product IP, nor any third party breach of confidence, passing off or actionable act of unfair competition in relation to the Product IP and no such infringement, breach of confidence, passing off or actionable act of unfair competition is current or anticipated.

9.1.6 ProteoSys has not received any notification that the activities involved in developing the Product:

9.1.6.1 infringe the Intellectual Property rights of any third party;

9.1.6.2 constitute and are likely to constitute any breach of confidence, passing off or actionable act of unfair competition; and

9.1.6.3 have given and do give rise to any obligation to pay any royalty, fee, compensation or any other sum whatsoever.

10. **TERMINATION**

10.1 This Agreement shall come into force on the Execution Date and shall remain in force unless terminated in accordance with clauses 10.2 or 10.3.

10.2 Mind-NRG shall have the right to terminate this Agreement at any time for any reason by providing one month's notice to ProteoSys.

10.3 ProteoSys shall have the right to terminate this Agreement immediately if:

10.3.1 Mind-NRG is Late with any payment due to ProteoSys under this agreement for more than 60 days and fails to pay despite a reminder from Proteosys within a further delay of 35 days.

10.3.2 Mind-NRG admits inability to pay its debts;

10.3.3 ProteoSys is notified in writing by the board of directors of Mind-NRG that the Project is declared inactive (ie that it is not going to actively pursue the Project); or

10.3.4 the board of directors of Mind-NRG does not respond within 60 days of receiving a written request from ProteoSys to confirm that the Project is active or there has been no further financial investment in Mind-NRG for a justified reason for a period of 9 months after the receipt of the notice of request for confirmation. ProteoSys shall be entitled to make such requests for confirmation no more than twice per year.

10.4 Any termination of this Agreement shall be made in writing in order to be legally effective.

11. **EFFECT OF TERMINATION**

11.1 On expiry or termination of this agreement for any reason and subject to any express provisions set out elsewhere in this agreement:

11.1.1 all rights, title and interest to the Product, the Product IP and the Know-how will be assigned back to ProteoSys for no consideration;

11.1.2 the sole license granted to Mind-NRG to use the Background IP will terminate; and

11.1.3 Mind-NRG will grant to ProteoSys a royalty free, irrevocable, perpetual, worldwide non-exclusive license to use the New Product IP.

12. **FURTHER ASSURANCE**

12.1 Each Party shall, and shall use all reasonable endeavours to procure that any and all such documents are executed and all such acts are performed as are required for the purpose of giving full effect to this Agreement.

13. **WAIVER**

13.1 No failure or delay by a Party to exercise any right or remedy provided under this agreement or by law shall constitute a waiver of that or any other right or remedy, nor shall it preclude or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall preclude or restrict the further exercise of that or any other right or remedy.

14. **ENTIRE AGREEMENT**

14.1 This agreement and the documents referred to in it constitute the whole agreement between the Parties and supersede any previous agreement between the Parties relating to its subject matter.

14.2 Each of the Parties acknowledges that, in entering into this Agreement, it has not relied on, and shall have no right or remedy in respect of, any statement, representation, assurance or warranty (whether negligently or innocently made) other than as expressly set out in this agreement.

14.3 Nothing in this clause shall limit or exclude any liability for fraud.

15. **VARIATION**

No variation of this agreement shall be effective unless it is in writing and signed by the Parties (or their authorised representatives).

16. **SEVERANCE**

16.1 If any court or competent authority finds that any provision of this agreement (or part of any provision) is invalid, illegal or unenforceable, that provision or part-provision shall, to the extent required, be deemed to be deleted, and the validity and enforceability of the other provisions of this agreement shall not be affected.

16.2 If any invalid, unenforceable or illegal provision of this agreement would be valid, enforceable and legal if some part of it were deleted, the Parties shall negotiate in good faith to amend such provision such that, as amended, it is legal, valid and enforceable, and, to the greatest extent possible, achieves the Parties' original commercial intention.

17. **COUNTERPARTS**

17.1 This agreement may be executed in any number of counterparts, each of which when executed and delivered shall constitute an original of this agreement, but all the counterparts shall together constitute the same agreement. No counterpart shall be effective until each Party has executed at least one counterpart.

18. **THIRD PARTY RIGHTS**

No person other than a Party to this agreement, and their respective successors and permitted assigns, shall have any rights to enforce any term of this agreement.

19. **NO PARTNERSHIP OR AGENCY**

Nothing in this agreement is intended to, or shall be deemed to, establish any partnership or joint venture between the Parties, constitute either Party the agent of the other Party, nor authorise either Party to make or enter into any commitments for or on behalf of the other Party.

20. **NOTICES**

20.1 Any notice required to be given under this agreement shall be in writing and shall be delivered personally, or sent by pre-paid first-class post or recorded delivery or by commercial courier, to each Party required to receive the notice at its address as set out below:

20.1.1 ProteoSys: Helmut Matthies at Carl-Zeiss-Straße 51, 55129 Mainz, Germany

20.1.2 Mind-NRG: to both Michèle Ollier at 2 rue de Jargonnant, 1207 Geneva, Switzerland and to Jacques Bonvin at Tavernier Tschanz, 11-bis rue Toepffer, C11-1206 Genève

20.1.3 Pentavest: Eric Vanderkerken at 41 boulevard du Prince Henri, L-1724 Luxembourg

or as otherwise specified by the relevant Party by notice in writing to each other Party.

20.2 Any notice shall be deemed to have been duly received:

20.2.1 if delivered personally, when left at the address and for the contact referred to in this clause;

20.2.2 if sent by pre-paid first-class post or recorded delivery, at 9.00 am on the second Business Day after posting; or

20.2.3 if delivered by commercial courier, on the date and at the time that the courier's delivery receipt is signed.

20.3 A notice required to be given under this agreement shall not be validly given if sent by e-mail.

20.4 The provisions of this clause 20 shall not apply to the service of any proceedings or other documents in any legal action.

21. **GOVERNING LAW AND JURISDICTION**

21.1 This agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England and Wales.

21.2 The Parties irrevocably agree that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with this agreement or its subject matter or formation (including non-contractual disputes or claims).

AS WITNESS the hands of the Parties hereto or their duly authorised agents the day and year first above written.

Signed as a deed on behalf of

PROTEOSYS AG, a company incorporated in Germany by Helmut Matthies, being a person who, in accordance with the laws of that territory, is acting under the authority of the company

/s/ Helmut Matthies

Authorized signatory

Mind-NRG SA, a company incorporated in Switzerland by Michèle Ollier, being a person who, in accordance with the laws of that territory, is acting under the authority of the company

/s/ Michele Ollier

Authorized signatory

Pentavest S.à.r.l., a company incorporated in Luxembourg by Jean Steffen, being a person who, in accordance with the laws of that territory, is acting under the authority of the company

/s/ Jean Steffen

Authorized signatory

SCHEDULE A

Development Plan

ProteoSys will carry out preclinical development work as detailed under the Master Services Agreement to be entered into with Mind-NRG after the Seed Financing, however subject to modification.

SCHEDULE B

Name	Publication Number	Serial Number	Country	Priority / Filing Date	Status
Use of Neuregulin-β as an indicator and/or target	WO/2001/058947	PCT/EP01/01424	International	11-Feb-00 09-Feb-01	
Use of Neuregulin-β as an indicator and/or target	WO/2001/058948		International	11-Feb-00 09-Feb-01	
Use of Neuregulin-β as an indicator and/or target	CA23999452	2 3999 452	CA	11-Feb-00 09-Feb-01	Pending
Use of Neuregulin-β as an indicator and/or target	EP 1 252 186	01927660.9	EP regional, (designating AT, BE, CH, DE, ES, FR, GB, IE, IT	11-Feb-00 09-Feb-01	Granted 11.01.2006
Use of Neuregulin-β as an indicator and/or target	ES2252216T3		ES	11-Feb-00 09-Feb-01	Granted
Use of Neuregulin-β as an indicator and/or target	US 7538197B2	10/203.450	US	11-Feb-00 09-Feb-01	Granted 26.05.2009
Use of Neuregulin-β as an indicator and/or target	AU0154634		AU	11-Feb-00 09-Feb-01	

Name	Publication Number	Serial Number	Country	Priority / Filing Date	Status
Neuregulin-β isoforms associated withi neuronal processes	WO/2003/014156	PCT/EP02/08778	International	6-Aug-01	
Neuregulin-β isoforms associated withi neuronal processes	WO/2003/014256	02794563.3	EP regional	21-Dec-01	Pending
Neuregulin-β isoforms associated withi neuronal processes	WO/2003/014156	10/485870	US	6-Aug-02	Pending
Neuregulin-β isoforms associated withi neuronal processes	EP 1 417 230		EP regional	6-Aug-01 6-Aug-02	
Active soluble post-translationally modified Neuregulin isoforms	WO/2009/062750	PCT/EP08/009715 Not yet allocated	International EP regional, AU, BR, CA, CN, JP, MX, RU, US	 16-Nov-07 17-Nov-08	 National phase initiated on 16-May-10

Name	Publication Number	Serial Number	Country	Priority / Filing Date	Status
Diagnostic method for detecting patients with neurodegenerative diseases		61/146752 PCT/EP2010/050	US provisional International	23-Jan-09 21-Jan-10	Pending
Brain-permeable neurotrophic factor		Not yet allocated	US provisional		Application submitted May 2010

SCHEDULE C — CONFIRMATORY ASSIGNMENT

DATED   2010

ProteoSys AG

and

Mind-NRG SA

THIS AGREEMENT dated of 2010 is made between:

PARTIES

(1) ProteoSys AG incorporated and registered in Germany whose registered office is at Carl-Zeiss-Straile 51, 55129 Mainz, Germany ("**ProteoSys**"); and

(2) Mind-NRG SA incorporated and registered in Switzerland whose registered office is at 2 rue de Jargonnant, 1207 Geneva, Switzerland ("**Mind-NRG**").

ASSIGNMENT

1. ProteoSys hereby assigns and transfers to Mind-NRG all of its right, title and interest in and to [insert relevant IP right]

2. This agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England and Wales.

3. The Parties irrevocably agree that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with this agreement or its subject matter or formation (including non-contractual disputes or claims)

Signed as a deed on behalf of

PROTEOSYS AG, a company incorporated in Germany by Helmut Matthies, being a person who, in accordance with the laws of that territory, is acting under the authority of the company

Authorised signatory

Mind-NRG SA, a company incorporated in Switzerland by [Michèle Oilier], being a person who, in accordance with the laws of that territory, is acting under the authority of the company

Authorised signatory

CONTRACT DEVELOPMENT AND MANUFACTURING AGREEMENT

THIS AGREEMENT is made as of April 28th 2009 (the "Effective Date")

BETWEEN:

ProteoSys AG, a corporation duly incorporated under the laws of the Federal Republic of Germany having its principal place of business at Carl-Zeiss-Straße 51, D-55129 Mainz, Germany

("ProteoSys")

AND:

BIOMEVA GmbH, a corporation duly incorporated under the laws of Federal Republic of Germany having its principal place of business at Czernyring 22, 69115 Heidelberg, Germany

("BIOMEVA")

WHEREAS:

(A) ProteoSys is interested in a production process for the external domain of neuregulin 1 beta as well as In the manufacture of clinical grade material thereof.

(B) BIOMEVA has both technical Know-How and manufacturing capacity for manufacture Of biopharmaceuticals.

NOW THEREFORE, in furtherance of and in consideration of the premises and the mutual covenants, terms and conditions contained herein and for other good and valuable consideration, the receipt and adequacy of which are acknowledged, the Parties hereby agree as follows:

PART 1
DEFINITIONS AND INTERPRETATION

Definitions

1.1 In this Agreement, except as otherwise expressly provided or as the context otherwise requires:

(a) "Affiliate(s)" means any entity that directly or indirectly owns, is owned by or is under common ownership with, a Party to this Agreement, where "Own" or

"Ownership" means direct or indirect possession of at least fifty percent (50%) of the outstanding voting securities of a corporation or a comparable ownership in any other type of entity, provided, however, that if the law of the jurisdiction in which such entity operates does not allow fifty percent (50%) or greater ownership by a Party to this Agreement, such ownership interest shall be the direct or indirect ownership by a Party of the maximum amount permitted by the law of such jurisdiction of outstanding voting securities of such entity.

(b) "GMP" means good manufacturing practices as determined by, and promulgated as guidance by the International Conference on Harmonization (ICH).

(c) "Commercially Reasonable Efforts" means efforts and resources commonly used in the pharmaceutical industry, taking into consideration safety and efficacy, cost of development, availability of funds to carry out operations, the relative competitive positions of parties as a result of alternattve products, proprietary positions, the likelihood of regulatory approval and all other relevant factors that go into making reasonable, informed business decisions.

(d) "Confidential Information" has the meaning as set out in Section 5.1.

(e) "Effective Date" means the date this Agreement is made of and indicated on the first page.

(f) "ICH" means International Conference on Harmonization.

(g) "IMPD" means Investigational Medicinal Product Dossier.

(h) "Know-How" means any and all technical, scientific and other Know-How and information, Trade Secrets, knowledge, technology, means, methods, processes, practices, formulae, Instructions, skills, techniques, procedures, experiences, Ideas, technical assistance, designs, drawings, assembly procedures, computer programs, apparatuses, specifications, data, results and other material, including clinical data, patient data, improvements and/or Technical Information.

(i) "Master Cell Bank" or "MCB" and "Working Cell Bank" or "WCB" means a collection of ampoules containing copies of NRG-1 beta Production Clone.

(j) "Notice" has the meaning as set out in Section 10.1.

(k) "NRG-1 beta" means the external domain of neuregulin 1 beta (reference product from R&D Systems, catalog number 377-HB/CF) as encoded by the NRG-1 beta Production Clone in bulk purified form.

(l) "NRG-1 beta Production Clone" has the meaning as set out in Section 2.1(c).

(m) "Party" or "Parties" refers to either ProteoSys or BIOMEVA or both as required by the context.

(n) "Product Specifications" means the minimum passing specifications for NRG-1 beta in bulk purified form as described in Annex B.

(o) "Purchase Order" means a Notice, whereby ProteoSys orders BIOMEVA to initiate the next project step.

(p) "Reasonable Efforts" as used herein, means a lower standard than that of Commercially Reasonable Efforts, but it implies that Parties will try to do what is necessary to comply with the provisions of this Agreement where such a standard is called for and In no way act in an unreasonable fashion.

(q) "Recipient(s)" has the meaning as set out In Section CI

(r) "Scope of Work" has the meaning as described in Part 2.

(s) "Technical Information" means any and all information relevant for the technology platform as used to manufacture NRG-1 beta.

(t) "Term" has the meaning as set out in Section 8.1.

(u) "Trade Secrets" means that secret compilation (the secrecy of which is guarded by BIOMEVA) of Information that BIOMEVA has to develop both cell culture and downstream purification processes for the manufacture of NRG-1 beta. But for the grant of a license to use the Trade Secrets, it would take an immense amount of time, effort and money for others to innocently acquire the information that gives BIOMEVA an advantage over competitors who do not possess the Trade Secrets.

Interpretation

1.2 In this Agreement, except as otherwise expressly provided or as the context otherwise requires,

(a) "this Agreement" means this agreement as from time to time supplemented or amended by one or more agreements entered into pursuant to the applicable provisions of this Agreement,

(b) a reference to a "Part" is to a Part of this Agreement, and the word "Section" followed by a number or some combination of numbers and letters refers to the section, paragraph, subparagraph, clause or subclause of this Agreement so designated,

(c) headings are solely for convenience of reference and are not intended to be complete or accurate descriptions of content or to be guides to interpretation of this Agreement or any part of it,

(d) an accounting term not otherwise defined herein has the meaning assigned to it, and every calculation to be made hereunder is to be made, in accordance with accounting principles generally accepted in Germany applied on a consistent basis,

(e) a reference to currency means European Union Euro (€),

(f) a reference to a statute includes all regulations made thereunder, all amendments to the statute or regulations in force from time to time, and every statute or regulation that supplements or supersedes such statute or regulations unless otherwise Indicated,

(g) a reference to an entity includes any successor to that entity, whether by merger, acquisition, or any other means by which the entity may be succeeded by another

(h) a word importing the masculine gender includes the feminine and neuter, a word in the singular includes the plural, a word importing a corporate entity includes an individual, and vice versa, and

(i) a reference to "approval", "authorization" or "consent" means written approval, authorization or consent.

PART 2
SCOPE OF WORK

2.1 NRG-1 beta Production Clone and Process Development

(a) Subject to the terms of this Agreement, ProteoSys shall provide to BIOMEVA the sequence Information coding for the fragment of NRG-1 beta. BIOMEVA shall start the clone development process only after having received from ProteoSys the sequence information to Its reasonable satisfaction. The sequence will be optimized for usage in *E. coli* and synthesized by a suitably certified, external laboratory. ProteoSys will bear such external costs.

(b) BIOMEVA shall suitably establish two to three different host/induction systems using *E. coli* with the obtained genetic constructs and select the most suitable expression system based or first experiments in small scale fermentation.

(c) BIOMEVA shall then establish a MCB of NRG-1 beta Production Clone and organize the qualification of this MCB in its own laboratories and in addition - if necessary for some specific characterization methods - by a suitably certified, external laboratory. Additionally to the payments as set forth in Annex A, ProteaSys will bear the costs for such a qualification that accrue by BIOMEVA and such a suitably certified, external laboratory, provided, however that BIOMEVA received ProteoSys's consent prior to accepting the external laboratory's offer for services.

(d) Based on the results of the evaluation of clones, ProteoSys will decide if BIOMEVA should proceed to the process development (go/no go decision). The project will be on hold until the decision by ProteoSys is made. The timelines as defined in Annex C will be extended for the duration between the day Proteosys received the results of the evaluation of clones from BIOMEVA and the day BIOMEVA received ProteoSys' Purchase Order for the process development. BIOMEVA shall develop both fermentation and downstream purification processes suitable for the manufacture of NRG-1 beta under GMP conditions in clinical grade quality.

(e) BIOMEVA shall store a part of the MCB at Its own facility for a three (3) year period starting from the first day of storage of this MCB at BIOMEVA. At completion of the three (3) year period BIOMEVA will return the MCB to ProteoSys or to a facility nominated by ProteoSys. The storage of the other part of the MC8 remains the responsibility of ProteoSys on PrateaSys expense. BIOMEVA will also make available any and all NRG-1 beta Production Clone documentation needed for regulatory filings to any regulatory body to which ProteoSys may apply for clinical use and/or registration of NRG-1 beta.

2.2 BIOMEVA to manufacture NRG-1 beta for ProteoSys

(a) Based on the results of the process development, ProteoSys will decide if BIOMEVA should proceed to the manufacturing of preclinical and clinical material (go/no go decision). The project will be on hold until the decision by ProteoSys is made and has placed a Purchase Order with BIOMEVA. The timelines as defined In Annex C will be extended for the duration between the day ProteoSys received the results of the evaluation of clones from BIOMEVA and the day BIOMEVA received ProteoSys's Purchase Order for the production.

(b) BIOMEVA will perform its services under this Agreement diligently using its professional, state-of-the-art skill and care. BIOMEVA shall perform the services under this Agreement according to GMP, where applicable, and subject to terms and conditions as set out under this Agreement.

(c) BIOMEVA will throughout the performance of its services under this Agreement keep ProteoSys reasonably informed of the progress of the services. Such information will include brief monthly status updates delivered by e-mail.

(d) During the Term of this Agreement, BIOMEVA shall manufacture 1 g of NRG-1 beta in GMP-like quality for toxicology studies and provide an adequate documentation. Furthermore, BIOMEVA shall manufacture 20 g of NRG-1 beta in BIOMEVA's certified facilities In accordance with Part 2 of this Agreement. BIOMEVA shall manufacture NRG-1 beta under GMP Conditions and bear the costs of batch releases as well as tests and assays to be undertaken in accordance with the Product Specifications.

(e) ProteoSys has provided a qualified method for the determination of the potency of NRG-1 beta, Annex B.

(f) Additionally, BIOMEVA will perform a stability study at storage temperature of 2-8°C as well as accelerate stability testing at 25°C and 37°C.

2.3 BIOMEVA to provide documentation to ProteoSys

BIOMEVA will provide ProteoSys with all necessary documentation in its custody and control regarding the manufacturing of NRG-1 beta required by regulatory authorities In the section “Quality Data” of an Investigational Medicinal Product Dossier (“IMPD”) documentation for the clinical experiences In human application or any other data beyond the GMP-specifications. In the event that this documentation contains information proprietary to BIOMEVA, such information shall be transmitted at ProteoSys’ request to relevant regulatory authorities for submission as a “closed part” of a submission for registration and approval. Costs for provision of this documentation i.e. “dosed part” are to be borne by BIOMEVA.

2.4 BIOMEVA to transfer manufacturing technology

At the request of ProteoSys, BIOMEVA will transfer the technology for the manufacturing of NRG-1 beta to a third party designated by ProteoSys. Upon completion, ProteoSys will pay the applicable technology transfer fee as defined in Annex A to BIOMEVA. This payment is due in case BIOMEVA submits an offer to manufacture the required quantity and quality of NRG-1 beta at a competitive level.

If the technology transfer is requested following project step 8 as set out in Annex A, BIOMEVA is entitled to the full transfer fee as defined in Annex A. However, if a technology transfer is requested after BIOMEVA has received an additional purchase order for the production of significant volumes, i.e. at least 20 g or more, of NRG-1 beta, the technology transfer fee will be at cost.

PART 3
PRICING AND PAYMENT

3.1 Fees and milestone payments are set out in Annex A. ProteoSys will pay BIOMEVA for individual milestones undertaken according to the schedule set forth in Annex A, within thirty (30) days of having been informed by BIOMEVA that the milestone has been met, and ProteoSys has informed BIOMEVA in writing that the milestone is acceptable, and acknowledges that it satisfies the cnteria stated in the Agreement. The delivery of NRG-1 beta will be accompanied by a pharmaceutical certificate of analysis, quality assurance and quality control documents and batch certificates. ProteoSys shall have the right to audit records and inspect the work and determine completion to its satisfaction prior to its acceptance of the milestone being met. Payment will be by bank transfer to accounts specified by BIOMEVA. The according milestone will be considered to be accepted by ProteoSys within thirty (30) days of having been informed by BIOMEVA that the milestone has been met In the case that ProteaSys does not inform BIOMEVA In writing that ProteoSys is taking actions to verify if the according milestone is acceptable and/or does not inform BIOMEVA that the according milestone is not acceptable.

3.2 All prices listed in Annex A are exdusive of value added tax (VAT), or any other taxes and duties now existing or hereinafter imposed by national authorities or those of any political subdivision thereof upon the sale of NRG-1 beta by BIOMEVA to ProteoSys, which are to be paid by ProteoSys, along with costs of transportation and insurance to cover the risk of loss.

(a) If ProteoSys fails to pay an uncontested invoice within forty five (45) days after receipt despite a written reminder by BIOMEVA, the respective invoice will bear interest at the rate of 1% per month commencing as on the 31st day after ProteoSys receiving the according invoice. ProteoSys' payment obligation under this Part 3 shall survive any termination or expiration of this Agreement. In case of early termination, however, the payment obligation shall survive only for services performed prior to termination or expiration.

PART 4
SHIPPING, STORAGE, AND INSPECTION

Shipping

4.1 BIOMEVA will ensure that all NRG-1 beta will be packaged for shipment in accordance with recognized standards for the maintenance of the cold chain from BIOMEVA's manufacturing facility to a ProtoSys-designed facility, through a mutually agreed upon courier service. BIOMEVA will equip the shipment with a temperature recording unit that must be sent back to BIOMEVA upon arrival by ProteoSys to ensure the cold chain documentation. All costs to packaging and shipment will be borne by ProteoSys.

Storage and Inspection

4.2 BIOMEVA will at its own cost store NRG-1 beta for ProteoSys a maximum of one year starting after successful completion of the manufacturing process of 20 g of clinical grade material in appropriate cold storage. Within this year, ProteoSys will organize the shipment of NRG-1 beta, meaning that it will supply BIOMEVA with all data necessary for proper shipment to a location for long term storage indicated by ProteoSys.

4.3 ProteoSys or its designated consignee will promptly store all NRG-1 beta immediately upon receipt in appropriate cold storage and will, as soon as practicable after receipt of NRG-1 beta, inspect the shipment.

Testing of NRG-L beta, Audit of BIOMEVA's Manufacturing Facility

4.4 ProteoSys may arrange for NRG-1 beta to be tested by a mutually agreed-upon independent third party to determine whether the specific activity or purity of NRG-1 beta is within manufacturing specifications as provided in the Product Specifications. Additionally to the test sample drawn from NRG-1 beta shipment a retention sample from the same NRG-1 beta lot must be tested in the same test setting. ProteoSys will promptly notify BIOMEVA of such test results once received. All costs to additional testing, packaging and shipment will be done by ProteoSys.

4.5 If the testing conducted under Section 4.4 determines that both samples of NRG-1 beta fail to meet the standards of binding activity or purity required under the terms of the Product Specifications, ProteoSys will be entitled to receive, at the option of ProteoSys, a refund of the payments for the relevant project steps, i.e. 5 & 6 or 7 & 8 of Annex A or, within 30 days at the latest, a replacement shipment of NRG-1 beta that fully complies with the Product Specifications within 90 days. If the results of BIOMEVA's retention sample indicate that NRG-1 beta does meet the standards set out in the Product Specifications, BIOMEVA and ProteoSys will use good faith efforts to resolve the discrepancy and make a determination as to the suitability of the shipment for use in elaboration into a finished drug product.

4.6 ProteoSys, on behalf of itself and/or its Affiliates and/or its customers may arrange for GMP compliance audits to be conducted at BIOMEVA's manufacturing facilities. ProteoSys will give BIOMEVA not less than thirty (30) business days' notice prior to conduct of such audits, unless BIOMEVA agrees to a lesser period of time. ProteoSys will not conduct or permit its Affiliates or customers to conduct 'no-notice' audits of BIOMEVA's manufacturing facilities. The auditor(s) have to enter into a confidentiality agreement with ProteoSys and BIOMEVA and have to submit the draft report and final report both to ProteoSys and to BIOMEVA.

4.7 In respect of GMP services, BIOMEVA shall reasonably permit a governmental or regulatory authority body to enter those areas of BIOMEVA's premises concerned with the services for the sole purpose of observing and inspecting the performance of the GMP services and those records of BIOMEVA specific to the GMP services where such entry is reasonably necessary or mandatory In order for ProteoSys to maintain, approve, apply for or amend its regulatory application or approval in respect of the NRG-1 beta. Such inspections are subject to (i) the individuals representing such government or regulatory authority body obeying and adhering to the rules and regulations in place at BIOMEVA concerning health and safety, GMP and ProteoSys confidentiality.

PART 5
REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE PARTIES

5.1 The Parties each represent and wan-ant that, as of the Effective Date

(a) Neither the execution nor the delivery of this Agreement nor the consummation of the transactions contemplated hereby nor compliance with nor fulfillment of the terms and provisions of this Agreement will conflict with or result in a breach of the terms, conditions, covenants or provisions of, or constitute a default of, or violate any material statute, code, rule, regulation or other laws, judgment, order, award, decree or other restriction by contract or by action of law, by which either Party is bound.

(b) Both Parties have full power and authority to do and perform all acts and things required to be done by it under this Agreement. This Agreement constitutes the valid and binding obligation of the Parties, enforceable in accordance with its terms.

(c) Each Party represents that it is duly incorporated under the laws of the Federal Republic of Germany.

(d) Each Party represents that the signatories hereto are duly authorized to execute this Agreement on behalf of their respective corporations.

5.2 BIOMEVA hereby warrants to ProteoSys that:

(a) it has the necessary permits (including permit for work in a GMP environment), facilities and technically qualified employees that may be reasonably anticipated to be required for provision of the services under this Agreement;

(b) it will diligently perform the services In accordance with its obligations under Part 2;

(c) it will deliver the NRG-1 beta according to the Product Specifications and within the timelines set forth in Annex C, provided however that the timelines can be adapted well in advance by mutual consent if necessary for technical reasons or due to reasons not caused by BIOMEVA; and

(d) it will use best efforts to keep the MCB, the beta and the NRG-1 beta Production Clone safe and secure for the duration defined in this Agreement.

5.3 BIOMEVA hereby represents, warrants, and covenants that until the expiry of the last of the ProteoSys's patents relating to NRG-beta 1 (including but not limited to patents no. EP 1 252 186, PCT/EP01/01424, and PCT/EP08/009715), it will not manufacture and/or supply NRG-beta 1 to any person or entity other than ProteoSys.

PART 6
CONFIDENTIALITY AND NON DISCLOSURE

Confidentiality and Non-Dlsclasure

6.1 Definition

For purposes of this Agreement, "Confidential Information" will include, but not be limited to, inventions, discoveries, Technical Information, Trade Secrets, Know-How, provisional patents, patent applications, computer software code, designs, algorithms, and structures; product information; medical, biomedical, research, testing and development information; pricing; lists of customers and clients and other related information; financial data and information; business plans and processes; marketing and advertising material, and any other information in any media or format of each Party that it shares with the other Party or advises the other Party that the information is to be kept confidential. Certain materials may be affixed with a legend indicating their confidential nature. The absence of any such legend on any Item containing or relating to Confidential Information, however, will not give rise to any inference that the information contained therein or derived therefrom is not Confidential Information.

6.2 Limited Disclosure

The Parties each recognize that the other Party's Confidential Information constitutes highly valuable and proprietary Confidential Information. Both Parties agree that during the Term of the Agreement and for three (3) years thereafter, it will keep confidential, and will cause its officers, directors, employees, consultants, agents, independent contractors, Affiliates, sub-licensees, assignees and any other persons or entitles to whom Confidential Information is disclosed (the foregoing are sometimes referred to hereinafter collectively and individually, respectively, as "Recipients" and "Recipient") to keep confidential and not disclose or publish any Confidential Information of the other Party. Neither Party nor arty Recipients shall use Confidential Information of the other Party for any purpose whatsoever other than to exercise any rights granted to it or reserved by it under this Agreement.

6.3 Limited Disclosure

The Parties each agree that any disclosure of the other Party's Confidential Information to any Recipient shall be made only if and to the extent necessary to carry out a Recipient's rights and responsibilities under this Agreement (including but not limited to the officers, employees, agent contractor, sub-licensee, agent or legal advisor of Recipient), shall be limited to the maximum extent possible consistent with such rights and responsibilities and shall only be made to persons who are bound by enforceable confidentiality obligations to maintain the confidentiality thereof and not to use such Confidential Information except as expressly permitted by this Agreement. The Parties each further agree not to disclose or transfer the other Party's Confidential Information to any third parties under any circumstance without the prior written approval from the other Party (such approval not to be unreasonably withheld), except as otherwise required by iaw, and except as otherwise expressly permitted by this Agreement. Each Party shall take such action, and shall cause its respective Recipients to take such action, to preserve the confidentiality of each other's Confidential Information as it would customarily take to preserve the confidentiality of its own Confidential Information, and in no event, less than reasonable care. Each Party, upon the request of the other Party, will return all the Confidential Information disclosed or transferred to it by the other Party pursuant to this Agreement, including all copies and extracts of documents and all manifestations in whatever form, within sixty (60) days of the request or, if earlier, the termination or expiration of this Agreement, provided, however, that a Party may retain Confidential Information of the other Party relating to any right which survives such termination and one copy of all other Confidential Information may be retained for archival purposes.

6.4 Each Party may disclose Information to the extent such disclosure is reasonably necessary in

(a) filing and prosecuting patent applications and maintaining patents; or

(b) filing, prosecuting or defending litigation; or

(c) complying with applicable laws, regulations or court orders;

provided, however, that if a Party is required to make any such disclosure of the other Party's Confidential information, it shall give reasonable advance notice to the other Party of such disclosure requirement and shall use Commercially Reasonable Efforts to assist such other Party in efforts to secure confidential treatment of such information required to be disclosed.

6.5 Specific aspects or details of Confidential Information shall not be deemed to be within the public domain or in the possession of a Party merely because the Confidential Information is embraced by more general information in the public domain or in the possession of such Party. Further, any combination of Confidential Information shall not be considered in the public domain or in the possession of a Party merely because individual elements of such Confidential Information are in the public domain or in the possession of such Party.

6.6 Exclusion

Confidential Information does not include any information or Know-How which:

(a) is already public or become available to the public through no breach of this Agreement by either Party, or

(b) was in the receiving Party's possession prior to receipt from the disclosing Party, or

(c) is lawfully received independently from a third party who is free to disclose such information to either Party, or

(d) is independently developed by, or on behalf of, either Party, or

(e) is required to be disclosed by a government agency or court of law. In such a case, the requested Party shall give the other Party notice immediately upon receipt of such a request to enable it to take such action as it may deem appropriate to protect the confidentiality of the information, including but not limited to seeking injunctive relief.

6.7 Publicity

Neither Party may publicly disclose the existence or general terms of this Agreement without the prior written consent of the other Party, provided, however, that either Party may make such a disclosure

(a) to the extent required by law or by the requirements of any nationally recognized securities exchange, quotation system or over-the-counter market on which such Party has its securities listed or traded or

(b) to any investors, prospective investors, lenders and other potential financing sources who are obligated to keep such Information confidential.

In this regard, the Parties will use Commercially Reasonable Efforts to obtain a written nondisclosure agreement, but it is understood that certain potential financing sources may refuse to sign such agreements (the "Non-Signers"), in which event, the Parties shall give notice to each other in advance of disclosure contemplated to a Non-Signer and will coordinate with each other the contemplated disclosure and in ail other situations (i.e. other than with Non-Signers), the disclosing Party shall make Reasonable Efforts to provide the other Party with notice beforehand and to coordinate with the other Party with respect to the wording and timing of any such disclosure. The Parties, upon the execution of this Agreement, will mutually agree to a press release with respect to the Agreement for publication. Once such press release or any other written statement is approved for disclosure by both Parties, either Party may make subsequent public disclosure of the contents of such statement without the further approval of the other Party. Notwithstanding the foregoing, nothing in this Part 6 is intended to prohibit or inhibit either Party from communications with an Affiliate and any disclosure requirements incumbent upon either Party by applicable law or regulation, Including but not limited to security laws and/or regulations.

PART 7
INVENTIONS

All rights to the NRG-beta 1 and to any Improvements or further developments of the NRG-beta 1, any Know-How related to the NRG-beta 1, as well as any inventions, discoveries, innovations, improvements, works of authorship and know-how developed under this Agreement specifically related to NRG-beta 1 are the exclusive property of ProteoSys on a worldwide basis. BIOMEVA herewith transfers and assigns any right and title It might have to such improvements, developments, know-how, inventions, discoveries or works of authorship to ProteoSys and ProteoSys herewith accepts such assignment. ProteoSys will name those employees and consultants of BIOMEVA as Inventors on patent applications who have substantially contributed to the according invention. However, ProteoSys has no obligation whatsoever to compensate such inventors far their contribution.

PART 8
TERM AND TERMINATION

Term

8.1 This Agreement will be in effect from the Effective Date and remain in force until the shipment of NRG-1 beta to the location designated by ProteoSys and payment of the last Installment according Annex A unless otherwise terminated In accordance with the terms hereof (the "Term").

Termination by Either Party

8.2 Either Party may terminate this Agreement immediately upon written notice if the other Party

(a) is in breach or violates any of the terms and conditions of or fails to perform any of its obligations under this Agreement and, after receiving notice from the other Party, does not cure such default within thirty (30) days, or

(b) becomes insolvent, bankrupt, makes an assignment for the benefit of its creditors or has a receiver, receiver/manager, trustee or liquidator appointed in respect of its business or its assets.

Termination by ProteoSys

8.3 Notwithstanding any other provision of this Agreement, ProteoSys may terminate this Agreement immediately upon written notice to BIOMEVA, if BIOMEVA is in breach of this Agreement or has failed to satisfy any material provision of the current Scope of Work described in Part 2, including a failure to meet any minimum Product Specifications.

8.4 ProteoSys may terminate this agreement with 39 days prior notice if it establishes that continuing to pursue its plans for the commercialization of NRG-1 beta is no longer commercially reasonable or feasible for ProteoSys. Within three years after such termination, ProteoSys shall not enter into a manufacturing agreement regarding NRG-1 beta without giving BIOMEVA the right to continue the project under the same terms as in this Agreement.

8.5 In the unlikely event that ProteoSys terminates the production of 20 g of NRG-1 beta (project step 7) after having placed a purchase order for it with BIOMEVA, a cancellation fee will be applicable as defined in Annex A.

Termination by BIOMEVA

8.6 Notwithstanding any other provision of this Agreement, BIOMEVA may terminate this Agreement immediately upon written notice to ProteoSys, if ProteoSys fails to meet the payments as listed in Annex A of this Agreement despite BIOMEVA gave ProteoSys a thirty (30) day period to cure any of the foregoing breach.

Effect of Expiration and Termination

8.7 Expiration or termination of the Agreement shall not relieve the Parties of any obligations accruing prior to such expiration or termination.

8.8 Upon termination of this Agreement by ProteoSys pursuant to Part 8 and/or upon termination of this Agreement by any Party pursuant to Section 10.3 (Force Mafture), prior to the achievement of certain milestones in Annex A, ProteoSys is not obliged to pay for the unfulfilled milestones.

PART 9
LIABILITIES AND INDEMNIFICATION

Limitation of Liability

9.1 Neither Party shall be liable the other Party or any of its Affiliates for any incidental, or consequential damages resulting from exercise of the use of NRG-1 beta. The maximum amount of any liability of BIOMEVA to ProteoSys will be the total sum of the payments listed in the right column in Annex A of this Agreement. Nothing in this Section 9.1 shall restrict the Parties' obligations under Section 9.3 and 9.4.

9.2 If BIOMEVA is unable to complete projects steps as set out in Annex A, BIOMEVA will provide the required data, information and already produced or purchased material for further process development and production of NRG-1 beta under GMP conditions. In this case, BIOMEVA will ensure a seamless transfer to a third party as requested by ProteoSys. BIOMEVA will bear all its own costs related to this technology transfer.

Indemnification

9.3 ProteoSys will indemnify, hold harmless, and defend BIOMEVA and its Affiliates, its officers, employees, and agents against any and all claims, suits, losses, damage, costs, fees, and expenses resulting from or arising out of the use of the purchased NRG-1 beta and the sale of the purchased NRG-1 beta (after it has been elaborated into finished drug form), unless such claims, suits, losses, damage, costs, fees, and expenses are due to BIOMEVA's intentional or negligent breach of this Agreement. This indemnification will include, but will not be limited to, any product liability.

9.4 BIOMEVA will Indemnify, hold harmless, and defend ProteoSys and its Affiliates, its officers, employees, arid agents against any and all claims, suits, losses, damage, costs, fees, and expenses resulting from NRG-1 beta not in accordance with the Product Specifications and GMP caused by BIOMEVA, unless such claims, suits, losses, damage, costs, fees, and expenses are not caused by BIOMEVA. This indemnification will include, but will not be limited to, any product liability and is limited to 5 million Euro in total.

9.5 BIOMEVA makes no representation or warranty express or implied as to whether or not commercializing NRG-1 beta Including but not limited to making, using, selling, offering to sell, importing and/or exporting NRG-1 beta manufactured by BIOMEVA technology hereunder, infringes any intellectual property and/or if patents are involved, that they are valid and that there is freedom to operate or that the process and/or NRG-1 beta manufactured is fit for a particular purpose.

Notice of Claim

9.6 BIOMEVA and ProteoSys will promptly notify each other in writing of any claim or suit brought against either Party in respect of which either Party intends to invoke the provisions of this Part 9. Both Parties will keep each other informed on a current basis of its defense of any claims pursuant to this Part 9 and will not take any action that is harmful to the other Party.

PART 10
GENERAL PROVISIONS

Entire Agreement

10.1 This Agreement constitutes the entire agreement between the Parties and supersedes every previous agreement, communication, negotiation, representation or understanding, whether oral or written, expressed or implied, between the Parties with respect to the subject matter of this Agreement save and except the "Gehelmhaltungsvereinbarung" between the Parties from 22nd of February 2008.

10.2 No director, officer, employee or agent of any Party has any authority to make any representation or commitment not contained this Agreement and each Party has executed this Agreement without reliance upon any such representation or commitment.

Force Majeure

10.3 No party shall be liable to the other party in damages or otherwise by reason of any failure or delay in performance of this Agreement if such delay or failure is due to any event beyond the control of the parties, including, without limitation, fire, explosion, weather, disease, war, acts of terrorism, insurrection, or riots, provided, however, that the party who is unable to perform resumes performance as soon as possible following the end of the event causing delay or failure. Any deadline or time for performance specified in this Agreement which falls due during or subsequent to the occurrence of any of the events referred to above shall be automatically extended for a period of time equal to the period of delay caused by any such event.

Severability

10.4 If any provision of this Agreement is at any time unenforceable or invalid for any reason it will be severable from the remainder of this Agreement and this Agreement will be construed as though such provision was not contained herein and the remainder will continue in full force and effect and be construed as if this Agreement had been executed without the invalid or unenforceable provision and the Parties will substitute another provision, if necessary, that is enforceable and is as dose in meaning and content as the unenforceable provision without being unenforceable.

Amendments

10.5 This Agreement may not be amended except in wilting signed by both Parties.

Assignment

10.6 ProteoSys will be entitled to assign this Agreement, provided that it gave BIOMEVA at least 30 days prior written notice. Notwithstanding the foregoing, ProteoSys may assign this Agreement to an Affiliate, provided it remains primarily liable under this Agreement.

Governing Law and Arbitration

10.7 This Agreement shall be governed by and construed according to and the laws of Germany.

10.8 In the event that a Party to this Agreement perceives the existence of a dispute with the other Party concerning any right or duty provided for herein, the President, Chief Executive Officer or designee with authority to resolve the dispute completely, of each of the Parties will, as soon as practicable, confer in an attempt to resolve the dispute.

10.9 Any and all claims, disputes or controversies arising under, out of, or in connection with this Agreement, which have not been resolved between the Parties as described in Section 10.8 above, shall be exclusively and finally resolved in accordance with the rules, then in effect, of the German Institution of Arbitration e.V. (DIS). The Parties shall share equally the cost of the arbitrators. Unless agreed in writing otherwise, the dispute shall be resolved by a board of three (3) arbitrators. If the Arbitration is brought by ProteoSys, it shall take place in Heidelberg, Germany, and if brought by BIOMEVA, it shall take place in Frankfurt a.M., Germany. Such independent arbitration shall be conducted by arbitrator(s) of sufficient education, scientific experience, and reputation to address such issues. Unless agreed in writing otherwise, the board shall be composed of one arbitrator selected by ProteoSys, one selected by BIOMEVA and one selected by ProteoSys and BIOMEVA. If ProteoSys and BIOMEVA cannot agree upon the third arbitrator within Fourteen (14) days after the notice of arbitration, the third arbitrator shall be selected by the German Institution of Arbitration in accordance with its rules. The decision of such panel shall be final and binding upon the Parties and enforceable in any court of competent jurisdiction. The arbitral proceedings shall be conducted in German, but documents In English must not be translated.

10.10 To be effective, a notice, request, demand or direction (each for the purposes of this provision a "Notice) to be given pursuant to this Agreement by one Party to another Party must be in writing and must be

(a) delivered by hand or by mail, or

(b) received by fax transmission or other similar form of written communication by electronic means,

in each case addressed as applicable as follows:

If to ProteoSys at:	Carl-Zeiss-Straße 51 D-55129 Mainz, Germany

Attention: Helmut Matthies
Fax: +49 (0)6131 50192-11
Email: helmut.matthies@proteosys.com

If to BIOMEVA at Czernyring 22
D-69115 Heidelberg
Attention: Dr. Thomas Pultar
Fax: +99 (0) 6221 90260
Email: thomas.pultar@biomeva.com

or to such other address or fax number as is specified by the addressee by notice to the other Party.

10.11 If a notice is delivered or sent by fax or e-mail in accordance with this section, it shall only be deemed received if actually received before 5:30 p.m., otherwise it will be deemed to have been received on the next business day.

No Partnership

10.12 Nothing in this Agreement will constitute, by any means, a partnership or joint venture or similar legal relationship and/or entity existing between the Parties. The relationship of the Parties established by this Agreement is that of independent contractors. Nothing contained in this Agreement shall be construed to create arty other relationship such that one Party shall have the power to direct or control the day-to-day activities of the other Party or have any right, power or authority to bind the other or assume, create or incur any expense, liability or obligation, expressed or implied, on behalf of the other Party. All financial obligations associated with each Party's business are the sole responsibility of that Party. It is mutually agreed and understood that neither Party to this Agreement is authorized to act as an agent for the other Party by virtue of this Agreement.

Successors and Assigns

10.13 This Agreement will ensure to the benefit of and be binding upon the respective successors and permitted assigns of the Parties.

Further Assurances

10.14 Each Party will, at such Party's own expense and without expense to the other Party, execute and deliver such further agreements and other documents and do such further acts and things as the other Party reasonably requests to evidence, carry out or give full force and effect to the Intent of this Agreement.

Counterparts

10.15 This Agreement may be executed in any number of counterparts with the same effect as if both Parties to this Agreement had signed the same document, and all counterparts will be construed together and constitute one and the same instrument.

Survival

10.16 Unless otherwise expressly stated in this Agreement, Part 6 (Confidentiality), Part 8 (Term and Termination), Part 9 (Liabilities and Indemnification), Part 10 (General Provisions), and Part 5 (Representations and Warranties) shall survive the termination or expiration of this Agreement.

IN WITNESS WHEREOF this Agreement was executed by the Parties as of the day and year first above written.

For ProteoSys:	**for BIOMEVA:**
/s/ 28/04/09	/s/ 28/04/09
(signature/date)	(signature/date)
/s/ CEO	Dr. Th. Pultar Managing Director
(name/position)	(name/position)

Exhibit 10.13

EXECUTION VERSION

SHARE PURCHASE AGREEMENT

dated as of February 11, 2014

among

MINERVA NEUROSCIENCES, INC.,

MIND-NRG SA

and

THE PARTIES SET FORTH ON SCHEDULE A

Relating to the Purchase and Sale

of 100% of the capital stock of

MIND-NRG SA

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SHARE PURCHASE AGREEMENT

This SHARE PURCHASE AGREEMENT, is made and entered into as of February 11, 2014 (the "**Agreement**"), by and among MINERVA NEUROSCIENCES, INC., a Delaware corporation ("**Buyer**"), Mind-NRG SA, a Swiss corporation (*société anonyme/Aktiengesellschaft*) (the "**Company**"), and the parties set forth on Schedule A hereto (the "**Shareholders**").

WITNESSETH

WHEREAS, the Shareholders collectively own 100% of the issued and outstanding Company Shares (as defined below) of capital stock of the Company;

WHEREAS, each Shareholder is the record and beneficial owner of the number of Company Shares (as defined below) set forth opposite each such Shareholder's name on Schedule A hereto;

WHEREAS, the Shareholders desire to sell all of the Company Shares to Buyer, and Buyer desires to purchase all of the Company Shares from the Shareholders, upon the terms and subject to the conditions set forth in this Agreement;

WHEREAS, a portion of the consideration specified herein to be paid pursuant to this Agreement shall be retained by Buyer for release contingent upon certain events and conditions;

WHEREAS, the parties intend the transactions contemplated by this Agreement to be treated as a transfer of property in exchange for newly issued stock of Buyer in accordance with Section 368(a)(1)(B) of the Internal Revenue Code of 1986, as amended (the "**Code**");

WHEREAS, as a condition and material inducement to the willingness of Buyer to enter into this Agreement, prior to the Closing (as defined below), the Company and ProteoSys AG, a company organized under the Laws of Germany ("**ProteoSys**"), shall have entered into an amendment of that certain Assignment Agreement, by and among the Company, ProteoSys and Pentavest S.à.r.l, a company organized under the Laws of Luxembourg ("**Pentavest**"), dated as of August 20, 2010 and as amended on November 15, 2010 (the "**ProteoSys Agreement**"), to, among other things, limit the financial obligations of the Company under the ProteoSys Agreement to €500,000, secured by a payment guarantee of €500,000 by Buyer (the "**ProteoSys Amendment**"); and

WHEREAS, as a condition of the Closing, Buyer and certain of the Shareholders shall enter into the certain Common Stock Purchase Agreement, dated as of the date hereof (the "**Buyer SPA**"), substantially in the form attached hereto as Exhibit A.

NOW, THEREFORE, in consideration of the foregoing premises and the respective representations, warranties, covenants and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

ARTICLE 1.
DEFINITIONS

1.1 Definitions. Except as otherwise explicitly provided herein, when used in this Agreement, the following terms shall have the meanings assigned to them in this ARTICLE 1, or in the applicable Section of this Agreement to which reference is made in this ARTICLE 1.

"**Actions**" shall have the meaning set forth in Section 4.11.

"**Affiliate**" means, with respect to any specified Person, any other Person directly or indirectly Controlling, Controlled by or under common Control with such specified Person.

"**Agreement**" shall have the meaning set forth in the Preamble.

"**Ancillary Agreements**" means (i) the Joinder; (ii) the Lockup Agreement; (iii) the Buyer SPA; (iv) the Board Observer Agreement; (v) the ProteoSys Amendment; (vi) the Proxy Agreement; and (vii) any other agreements, instruments and documents delivered pursuant to this Agreement or the other Ancillary Agreements.

"**Applicable Survival Period**" shall have the meaning set forth in Section 8.1.

"**Board Observer Agreement**" means the agreement, by and among Buyer and the Shareholders, substantially in the form attached hereto as Exhibit B.

"**Books and Records**" means of the minutes of meetings of the board of directors, minutes of the general meeting, stock books, stock ledgers, books of account, manuals, general, financial, warranty and shipping records, invoices, members, customer and supplier lists, correspondence, engineering, maintenance and operating records, advertising and promotional materials, credit records of customers and other documents, records and files, in each case related to the business of the Company, including books and records relating to, and tangible embodiments of, Company Intellectual Property.

"**Business Day**" means a day other than a Saturday, Sunday or other day on which banks located in New York City are authorized or required by Law to close.

"**Buyer**" shall have the meaning set forth in the Preamble.

"**Buyer Common Stock**" means the common stock of Buyer, par value $0.0001.

"**Buyer Contract**" shall have the meaning set forth in Section 5.13.

"**Buyer Financial Statements**" shall have the meaning set forth in Section 5.8(a).

"**Buyer Indemnitees**" shall have the meaning set forth in Section 8.3(a).

"**Buyer IPO**" means the closing of a firm commitment underwritten initial public offering pursuant to an effective registration statement filed under the Securities Act, covering the offer and sale of the Buyer Common Stock.

"**Buyer SPA**" shall have the meaning set forth in the recitals.

"**Buyer's Policies**" shall have the meaning set forth in Section 5.16.

"**Claim**" shall have the meaning set forth in Section 8.8(a).

"**Claim Amount**" shall have the meaning set forth in Section 8.8(a).

"**Claim Notice**" shall have the meaning set forth in Section 8.8(a).

"**Closing**" shall have the meaning set forth in Section 2.2.

"**Closing Date**" shall have the meaning set forth in Section 2.2.

"**Code**" shall have the meaning set forth in the recitals.

"**Company**" shall have the meaning set forth in the Preamble.

"**Company Contracts**" shall have the meaning set forth in Section 4.10(a).

"**Company Intellectual Property**" means, collectively, the Owned Intellectual Property and the Licensed Intellectual Property.

"**Company Material Adverse Effect**" means any material adverse change to the current Company business taken as a whole or the results of operations, assets or financial condition of the Company, as determined from the perspective of a reasonable Person in Buyers's position; provided, however, that none of the following shall be deemed, either alone or in combination, to constitute, and none of the following shall be taken into account in determining whether there has occurred or would reasonably be expected to occur, a Company Material Adverse Effect: (i) any failure by the Company to meet internal or other estimates, predictions, projections or forecasts of revenue, net income or any other measure of financial performance; (ii) any adverse effect (including any claim, litigation, reduction in revenues or income, or disruption of business relationships) arising from or attributable or relating to conditions affecting any of the industries in which the Company operates or participates, or the economy or financial markets in any location where the Company has material operations or sales; (iii) changes in applicable law, accounting rules or principles; and (iv) changes, effects or results arising from actions required or permitted by the Agreement.

"**Company Shares**" means, collectively, Ordinary Shares, Non-Voting Shares and Preferred Shares to be transferred pursuant to this Agreement.

"**Consideration**" has the meaning set forth in Section 2.1.

"**Contract**" means any agreement, contract, license, lease, commitment, arrangement or understanding, written or oral, including any invoice, sales order or purchase order.

"**Control**" means, when used with respect to any Person, the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by Contract or otherwise and the terms "**Controlling**" and "**Controlled**" shall have meanings correlative to the foregoing.

"**Distribution Compliance Period**" shall have the meaning set forth in Section 3.8(b).

"**Exchange Act**" means the Securities Exchange Act of 1934, as the same may be amended from time to time.

"**Existing Stockholders**" means the holders of Buyer Common Stock as of immediately prior to the Closing.

"**Financial Statements**" shall have the meaning set forth in Section 4.4(a).

"**Governmental Entity**" means any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, department, agency, commission, instrumentality, official, organization, unit, body or Entity and any court or other tribunal); or (d) body exercising, or entitled to exercise, any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power of any nature.

"**Holdback Shares**" shall have the meaning set forth in Section 2.4.

"Holdback Shares Indemnity Value" shall have the meaning set forth in Section 8.2.

"**Indebtedness**" means any of the following: (a) any indebtedness, whether or not contingent, for borrowed money; (b) any obligations evidenced by bonds, debentures, notes or other similar instruments; (c) any obligations to pay the deferred purchase price of property or services; (d) any obligations as lessee under leases that have been, or should be, recorded as capitalized leases; (e) any indebtedness created or arising under any conditional sale or other title retention agreement with respect to acquired property; (f) any obligations, contingent or otherwise, under or with respect to acceptance credit, letters of credit or similar facilities; (g) any obligation with respect to interest rate and currency cap, collar, hedging or swap Contracts; (h) any obligation secured by a Lien; (i) a guarantee of the obligations of any other Person; (j) any guaranty of any of the foregoing; (k) any accrued interest, fees and charges in respect of any of the foregoing and (l) any prepayment premiums and penalties, and any other fees, expenses, indemnities and other amounts payable as a result of the prepayment or discharge of any of the foregoing.

"**Indemnified Party**" shall have the meaning set forth in Section 8.7(a).

"**Indemnifying Party**" shall have the meaning set forth in Section 8.7(a).

“**Intellectual Property**” means all (a) patents (including utility and design patents), patent applications, patent disclosures and all related extensions, continuations, continuations-in-part, divisions, reissues, and reexaminations, utility models, certificates of invention and design patents, and all extensions thereto (“**Patents**”), (b) trademarks, service marks, trade dress, brand names, certification marks, logos, together with the goodwill associated with any of the foregoing, in each case whether registered or unregistered, and all applications and registrations therefor (“**Trademarks**”), (c) domain names, URLs and any other addresses for use on the Internet or any other computer network or communication system, (d) copyrights and registrations and applications therefor, together with all renewals, extensions, translations, adaptations, derivations and combinations therefor, works of authorship, publications, documentation, website content, rights in fonts and typefaces, and database rights, (e) rights of publicity, rights of privacy, royal warrants and moral rights, (f) know-how, trade secrets, confidential and proprietary information, concepts, ideas, knowledge, rights in research and development, financial, marketing and business data, algorithms, formulae, inventions, processes, techniques, technical data, designs, drawings (including engineering and auto-cad drawings), specifications, databases, in each case whether or not known to the public, whether patentable or not and whether or not reduced to practice (“**Know-How**”), (g) computer programs, proprietary software, including any and all software implementations of algorithms, models and methodologies, (h) other intellectual property or similar corresponding or equivalent right to any of the foregoing or other proprietary or Contract right relating to any of the foregoing (including remedies against infringements thereof and rights of protection of interest therein under the laws of all jurisdictions) and (i) copies and tangible embodiments thereof, in each case whether or not the same are in existence as of the date of this Agreement or developed after such date and in any jurisdiction throughout the world.

“**Intellectual Property Contracts**” means all Contracts relating to Intellectual Property (including any licenses, sublicenses or other agreements under which the Company is licensee or licensor of any Intellectual Property).

“**Interim Financial Statements**” shall have the meaning set forth in Section 4.4(a).

“**Investor Agreements**” means (i) the Shareholders Agreement, by and among the Company, Pentavest and ProteoSys, dated as of September 6, 2010, (ii) the Investment Agreement, by and between ProteoSys and Pentavest, dated August 20, 2010, (iii) the Shareholders Agreement, by and among the Company and the Shareholders, dated as of July 12, 2013, and (iv) the Investment Agreement, by and among the Company and certain of the Shareholders, dated as of July 12, 2013.

“**Joinder**” means the Joinder Agreement, substantially in the form attached hereto as Exhibit C.

“**Knowledge of the Buyer**”, or any similar phrase, means with respect to any fact or matter, the actual knowledge of Rogerio Vivaldi Coelho, MD, MBA, Remy Luthringer and Geoff Race.

“**Knowledge of the Company**”, or any similar phrase, means with respect to any fact or matter, the actual knowledge of each Bertrand Damour, Remy Luthringer and David Lowe.

“**Law**” means any statute, law (including common law), constitution, treaty, charter, ordinance, code, Order, rule, regulation and any other binding requirement or determination of any Governmental Entity.

“**Liabilities**” means any direct or indirect liabilities, obligations, expenses, Indebtedness, claims, losses, damages, deficiencies, guarantees, endorsements or commitments of any nature whatsoever, asserted or unasserted, known or unknown, absolute or contingent, accrued or unaccrued, due or to become due, liquidated or unliquidated, matured or unmatured or otherwise.

“**Licensed Intellectual Property**” means all Intellectual Property that any Person other than the Company owns and that the Company is permitted to use in the operation of its business, whether or not currently used by the Company.

“**Lien**” means, with respect to any property or asset (including the Company Shares), any lien (statutory or otherwise), mortgage, pledge, charge, security interest, hypothecation, community property interest, equitable interest, servitude, option, right (including rights of first refusal), restriction (including restrictions on voting, transfer or other attribute of ownership), lease, license, other rights of occupancy, adverse claim, reversion, reverter, preferential arrangement or any other encumbrance in respect of such property or asset.

“**Lockup Agreement**” means the Lockup Agreement, substantially in the form attached hereto as Exhibit D

“**Losses**” shall have the meaning set forth in Section 8.3(a).

“**Net Working Capital**” means (i) the aggregate amount of current assets, including all cash and marketable securities, less (ii) the aggregate amount of current liabilities, excluding (A) any amounts owed under the ProteoSys Amendment and (B) any amounts payable in connection with loans made by any of the Shareholders to or for the benefit of the Company.

“**Non-Voting Shares**” means the ordinary registered non-voting shares in the Company, within the meaning of Articles 656a et. seq. of the Swiss Federal Code of Obligations, as amended from time to time.

“**Notice**” shall have the meaning set forth in Section 9.1.

“**Objection Notice**” shall have the meaning set forth in Section 8.8(b).

“**Order**” means any award, injunction, judgment, decree, order, ruling, subpoena or verdict or other decision issued, promulgated or entered by or with any Governmental Entity or arbitrator of competent jurisdiction.

“**ordinary course**” or “**ordinary course of business**” means, with respect to an action taken by any Person, an action that (a) is consistent in nature, scope and magnitude with the past practices of such Person and is taken in the ordinary course of the normal, day-to-day operations of such Person, (b) does not require authorization by the board of directors or shareholders of such Person (or by any Person or group of Person exercising similar authority) and does not require any other separate or special authorization of any nature and (c) is similar in nature, scope and magnitude to actions customarily taken, without any separate or special authorization, in the ordinary course of the normal, day-to-day operations of other Persons that are in the same line of business as such Person.

"**Ordinary Shares**" means the ordinary registered shares in the Company.

"**Organizational Documents**" means, with respect to any entity, the certificate of incorporation or formation, the articles of association, by-laws, articles of organization, partnership agreement, limited liability company agreement, formation agreement, joint venture agreement or other similar organizational documents of such entity (in each case, as amended).

"**Owned Intellectual Property**" means, with respect to a Person, all Intellectual Property owned, or purported to be owned by such Person.

"**Pentavest**" shall have the meaning set forth in the recitals.

"**Person**" means an individual, a corporation, a partnership, a limited liability company, a trust, an unincorporated association or a Governmental Entity.

"**Policies**" shall have the meaning set forth in Section 4.13.

"**Post-Closing Period**" means any taxable period or portion thereof beginning after the Closing Date. If a taxable period begins on or prior to the Closing Date and ends after the Closing Date, then the portion of the taxable period that begins on the day following the Closing Date shall constitute a Post-Closing Period.

"**Pre-Closing Period**" means any taxable period or portion thereof that is not a Post-Closing Period.

"**Preferred Shares**" means the preferred registered shares in the Company, having the rights, preferences and privileges set forth in the Articles of Association and the Investor Agreements.

"**Pro Rata Share**" means with respect to each Shareholder, the quotient obtained by dividing (i) the amount of Consideration payable hereunder to such Shareholder by (ii) the total Consideration payable hereunder to all Shareholders.

"**ProteoSys**" shall have the meaning set forth in the recitals.

"**ProteoSys Agreement**" shall have the meaning set forth in the recitals.

"**ProteoSys Amendment**" shall have the meaning set forth in the recitals.

"**Proxy Agreement**" means that certain Voting Proxy Agreement, substantially in the form attached hereto as Exhibit E.

"**Registered Intellectual Property**" means all Owned Intellectual Property or Licensed Intellectual Property that is exclusively licensed to the Company, that is subject to registrations, applications for registration, or other filings with or issuances by any Governmental Entity.

"**Regulatory Authority**" means any instrumentality, subdivision, court, administrative agency, commission, official or other authority of the United States or any other country or any state, province, prefect, municipality, locality or other government or political subdivision thereof, or any quasi-governmental or private body exercising any regulatory, taxing, importing or other governmental or quasi-governmental authority.

"**Released Parties**" shall have the meaning set forth in Section 6.5.

"**Securities Act**" means the Securities Act of 1933, as the same may be amended from time to time.

"**Shareholders**" shall have the meaning set forth in the Preamble.

"**Shareholder Indemnitees**" shall have the meaning set forth in Section 8.5.

"**Subsidiary**" or "**Subsidiaries**" means, with respect to any Person, any other Person that is directly or indirectly Controlled by the first Person.

"**Tax**" or "**Taxes**" means any and all federal, state, local, or foreign net or gross income, gross receipts, net proceeds, sales, use, ad valorem, value added, franchise, bank shares, withholding, payroll, employment, excise, property, abandoned property, escheat, deed, stamp, alternative or add-on minimum, environmental, profits, windfall profits, transaction, license, lease, service, service use, occupation, severance, energy, Transfer Taxes, unemployment, social security, workers' compensation, capital, premium, and other taxes, assessments, customs, duties, fees, levies, or other governmental charges of any nature whatever, whether disputed or not, together with any interest, penalties, additions to tax, or additional amounts with respect thereto.

"**Tax Returns**" means any return, declaration, report, claim for refund, or information return or statement relating to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

"**Taxing Authority**" means any Governmental Entity having jurisdiction with respect to any Tax.

"**Third-Party Claim**" shall have the meaning set forth in Section 8.7(a).

"**Transfer Taxes**" means sales, use, transfer, real property transfer, recording, documentary, stamp, registration and stock transfer taxes and fees.

"**Transition Period**" shall have the meaning set forth in Section 6.7.

"**Transition Services**" shall have the meaning set forth in Section 6.7.

"**$**" means United States dollars.

"**Unlimited Claims**" means in respect to claims made by the Buyer any Loss that is directly or indirectly suffered or incurred by any of the Indemnified Parties (regardless of whether or not such Loss relates to any Third Party Claim), and that arises from or as a result of, or is directly or indirectly connected with (a) any misrepresentation or breach or failure of any representation or warranty in Sections 3.1, 3.2, 3.3, and 3.4 to be true and correct in all respects by such Shareholder or (b) any fraud or intentional misrepresentation or intentional breach of this Agreement by the Company or by such Shareholder and means in respect to claims made by a Shareholder any Loss that is directly or indirectly suffered or incurred by any of the Indemnified Parties (regardless of whether or not such Loss relates to any Third Party Claim), and that arises from or as a result of, or is directly or indirectly connected with (a) any misrepresentation or breach or failure of any representation or warranty in Sections 5.1, 5.2 and 5.3. to be true and correct in all respects by the Buyer or (b) any fraud or intentional misrepresentation or intentional breach of this Agreement by the Buyer.

ARTICLE 2.
PURCHASE AND SALE OF SECURITIES

2.1 Sale and Purchase of Company Shares. Upon the terms and subject to the conditions set forth in this Agreement, at the Closing, each Shareholder will sell, transfer and deliver, and Buyer will purchase from each Shareholder, on a several, and not joint, basis, all of its respective Company Shares (free and clear of all Liens, subscriptions, options, warrants, calls, proxies, commitments and Contracts of any kind), in consideration of 5,185,528 shares of Buyer Common Stock (the "**Consideration**"), to be allocated in accordance with Schedule B.

2.2 Closing. The consummation of the transactions contemplated by this Agreement (the "**Closing**") shall take place at the offices of Morgan, Lewis & Bockius LLP, 101 Park Avenue, New York, NY 10178-0060, at 10:00 a.m. on a date to be specified by the parties which shall be no later than two (2) Business Days after satisfaction (or waiver as provided herein) of the conditions set forth in ARTICLE 7 (other than those conditions that by their nature will be satisfied at the Closing), unless another time, date and/or place is agreed to in writing by the parties. The date upon which the Closing occurs is herein referred to as the "**Closing Date**."

2.3 Transactions to be Effected at the Closing.

(a) At the Closing, Buyer will:

(i) deliver to each Shareholder an amount equal to such Shareholder's Pro Rata Share of the Consideration (minus such Shareholder's Pro Rata Share of the Holdback Shares), as set forth on Schedule B hereto; and

(ii) deliver to the Company and the Shareholders all other documents, instruments or certificates required to be delivered by Buyer at or prior to the Closing pursuant to this Agreement (including Section 7.3 hereof).

(b) At the Closing, the Company and the Shareholders will deliver to Buyer:

(i) duly authorized and endorsed written declarations of assignment by each Shareholder assigning the number of Company Shares set forth opposite such Shareholder's name on Schedule A hereto under the headings "Number of Ordinary Shares Owned," "Number of Preferred Shares Owned," and "Number of Non-Voting Shares Owned", as applicable;

(ii) a copy of the resolutions of the board of directors of the Company approving the transfer of the Securities to Buyer and the entry of Buyer into the share register of the Company as owner of all Securities;

(iii) a copy of the updated share and non-voting share register evidencing Buyer's ownership in all Securities;

(iv) all other documents and instruments necessary to vest in Buyer all of each Shareholder's right, title and interest in and to the Company Shares, free and clear of all Liens, subscriptions, options, warrants, calls, proxies, commitments and Contracts of any kind; and

(v) all other documents, instruments or certificates required to be delivered by each Shareholder at or prior to the Closing pursuant to this Agreement (including Section 7.2 hereof).

2.4 Holdback. Buyer shall withhold from the Shareholders, on a pro rata basis according to their respective interests therein, shares representing ten percent (10%) of the Consideration (the "**Holdback Shares**"), to be retained as security for the indemnification obligations of the Shareholders set forth in of Section 8.3 of this Agreement.

2.5 Withholding. Unless required by applicable law, Buyer will not deduct or withhold from the Consideration amounts otherwise payable by it pursuant to this Agreement to any Person. If any amounts are withheld, the Buyer will submit to the Person from whom the payment was withheld a copy of the tax withholding certification. The Buyer will exercise diligent efforts to ensure that any withholding obligation imposed is reduced under the provisions of any treaties applicable to payments made in connection with this Agreement. In the event that any amount is so deducted and withheld, such withheld amounts will be treated for all purposes of this Agreement as having been paid to the Person to whom the payment from which such amounts were withheld was made.

ARTICLE 3.
REPRESENTATIONS AND WARRANTIES OF THE SHAREHOLDERS

Each of the Shareholders, severally but not jointly, and solely with respect to such Shareholder, represents and warrants to Buyer that each statement contained in this ARTICLE 3 as it applies to such Shareholder is true and correct as of the date hereof except as disclosed in the Disclosure Schedule to be provided prior to the signing of this Agreement.

3.1 Organization. Such Shareholder, if a legal entity, is duly organized, validly existing and in good standing under the Laws of the jurisdiction of its incorporation or other formation.

3.2 Authority and Enforceability. Such Shareholder has the requisite power and authority, and, in the case of any Shareholder that is an individual, the requisite legal capacity, to execute and deliver this Agreement and the Ancillary Agreements to which it is a party, to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance by such Shareholder of this Agreement and the Ancillary Agreements to which it is a party and the consummation by such Shareholder of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of such Shareholder and no other action is necessary on the part of such Shareholder to authorize this Agreement or any Ancillary Agreement to which it is a party or to consummate the transactions contemplated hereby and thereby. This Agreement and each Ancillary Agreements to which it is a party have been duly executed and delivered by such Shareholder. Assuming due authorization, execution and delivery by Buyer and each other party thereto, this Agreement and each of the Ancillary Agreements constitutes a legal, valid and binding obligation of such Shareholder, enforceable against such Shareholder in accordance with its terms, except as limited by (a) bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or other similar Laws relating to creditors' rights generally and (b) general principles of equity, whether such enforceability is considered in a proceeding in equity or at Law.

3.3 No Conflicts; Consents.

(a) The execution and delivery by such Shareholder of this Agreement and the Ancillary Agreements to which it is a party does not, the performance by such Shareholder of its obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby (in each case, with or without the giving of notice or lapse of time or both) will not, directly or indirectly, (i) if such Shareholder is a legal entity, violate or conflict with or result in the breach of the provisions of any of the Organizational Documents of such Shareholder, (ii) violate, breach, conflict with or constitute a default, an event of default, or an event creating any additional rights (including rights of amendment, impairment, modification, suspension, revocation, acceleration, termination, or cancellation), impose additional obligations or result in a loss of any rights, or require a consent or the delivery of notice, under any Contract or Law to which such Shareholder is a party or a beneficiary or by which such Shareholder or its Company Shares is subject, or (iii) result in the creation of any Liens, subscriptions, options, warrants, calls, proxies, commitments or Contracts of any kind upon any of the Company Shares. There is no Action pending or, to the knowledge of such Shareholder, threatened against or affecting its Company Shares.

(b) No Order of, with, or to any Person is required by such Shareholder in connection with the execution and delivery, of this Agreement and the Ancillary Agreements, the performance of the obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby.

3.4 Company Shares.

(a) Such Shareholder holds of record and owns beneficially all of the Company Shares set forth opposite such Shareholder's name on Schedule A hereto, free and clear of all Liens, subscriptions, options, warrants, calls, proxies, commitments, restrictions and Contracts of any kind. The number of Company Shares set forth opposite such Shareholder's name on Schedule A hereto correctly sets forth all of the capital stock of the Company owned of record or beneficially by such Shareholder and such Shareholder does not own (or have any rights in or to acquire) any capital stock of the Company or any other securities convertible into, or exercisable or exchangeable for, capital stock of the Company. Such Shareholder's Company Shares were not issued in violation of (i) any Contract to which such Shareholder is or was a party or beneficiary or by which such Shareholder or its properties or assets is or was subject or (ii) of any preemptive or similar rights of any Person. This Agreement, together with the other documents executed and delivered at Closing by such Shareholder, will be effective to transfer valid title to such Shareholder's Company Shares to Buyer, free and clear of all Liens, subscriptions, options, warrants, calls, proxies, commitments and Contracts of any kind.

(b) Except for the Investor Agreements, such Shareholder is not party to (i) any voting agreement, voting trust, registration rights agreement, Shareholder agreement or other similar arrangement with respect to the capital stock of the Company or (ii) any Contract obligating such Shareholder to vote or dispose of any shares of the capital stock of, or other equity or voting interests in, the Company or which has the effect of restricting or limiting the transfer, voting or other rights associated with the Company Shares.

3.5 Disclosure of Information and Investment Experience.

(a) Such Shareholder understands that the transactions contemplated by this Agreement and the Ancillary Agreement involve substantial risk. Such Shareholder (i) is a sophisticated investor with respect to the transactions contemplated by this Agreement and the Ancillary Agreements, (ii) has adequate information concerning the business and financial affairs of the Company to make an informed decision regarding the sale of the Company Shares pursuant to the terms and conditions of this Agreement, (iii) has independently and without reliance upon Buyer, and based on such information as such Shareholder has deemed appropriate, made its own analysis and decision to sell the Company Shares to Buyer and (iv) has a preexisting business relationship with the Company of a nature and duration that enables such Shareholder to assess the merits and risks of the transactions contemplated by this Agreement.

(b) Buyer has not given such Shareholder any investment advice, credit information or opinion on whether the sale of the Company Shares is prudent.

(c) Notwithstanding anything to the contrary contained herein, such Shareholder acknowledges that (i) Buyer currently may have, and later may come into possession of, information about the Company Shares or the Company that is not known to such Shareholder and that may be material to a decision to sell the Company Shares; (ii) it has determined to sell the Company Shares to Buyer notwithstanding its lack of such knowledge and (iii) Buyer shall not have any liability to any Shareholder with respect to material information that Buyer possesses and/or such Shareholder's lack of such information. For the purpose of this Section 3.5, each Shareholder hereby waives and releases any claims that it might have had prior to the Closing Date against Buyer under applicable securities Laws.

3.6 Brokers' Fees. Such Shareholder does not have any Liability to pay any fees or commissions to any broker, finder or similar agent with respect to this Agreement, the Ancillary Agreements or the transactions contemplated by hereby or thereby.

3.7 Investment Intent. Such Shareholder is acquiring the Buyer Common Stock for investment for its own account and not with a view to resale or distribution within the meaning of Section 2(11) of the Securities Act.

3.8 Regulation S Representations and Restrictions.

(a) Such Shareholder (1) is domiciled outside the United States; (2) is not a U.S. Person as defined in Rule 902 of Regulation S, is acquiring the Buyer Common Stock for investment for such Shareholder's own account, and not as nominee or agent, and not for the account or benefit of any U.S. Person; and (3) represents and warrants that at the time of the Closing, such Shareholder and any Person acting on such Shareholder's behalf in connection therewith will be located outside the United States.

(b) Such Shareholder has been advised and acknowledges: (1) that the Buyer Common Stock has not been, and when issued will not be, registered under the Securities Act, as amended, the securities laws of any state of the United States or the securities laws of any other country; (2) that in issuing the Buyer Common Stock to such Shareholder pursuant hereto, Buyer is relying upon the exemption from registration provided by Regulation S under the Securities Act; (3) that it is a condition to the availability of the Regulation S safe harbor that the Buyer Common Stock not be offered or sold in the United States or to a U.S. Person until the expiration of a period of twelve months following their issuance to such Shareholder, provided, however, that such period shall be reduced to six months upon the consummation of the Buyer IPO (the "**Distribution Compliance Period**"); (4) that prior to the expiration of the Distribution Compliance Period, the Buyer Common Stock may be offered and sold by the holder thereof only if the offer and sale is made in compliance with the terms of this Agreement and either: (A) the offer or sale is within the United States or to or for the account of a U.S. Person and pursuant to an effective registration statement or an exemption from the registration requirements of the Securities Act; or (B) the offer and sale is outside the United States and to other than a U.S. Person; (5) that the foregoing restrictions are binding upon subsequent transferees of the Buyer Common Stock except for transferees pursuant to an effective registration statement; and (6) that after the Distribution Compliance Period, the Buyer Common Stock may be offered or sold within the United States or to or for the account of a U.S. Person only in accordance with this Agreement and pursuant to applicable securities laws.

(c) Such Shareholder covenants that, with respect to the Buyer Common Stock, until the expiration of the Distribution Compliance Period, the Shareholder, its agents or representatives will not solicit offers to buy, offer for sale or sell any of the Buyer Common Stock or any beneficial interest therein in the United States or to or for the account of a U.S. Person. Notwithstanding the foregoing, prior to the expiration of the Distribution Compliance

Period, the Buyer Common Stock may be offered and sold by the holder thereof only if such offer and sale is made in compliance with the terms of this Agreement and either: (A) the offer or sale is within the United States or to or for the account of a U.S. Person and pursuant to an effective registration statement or an exemption from the registration requirements of the Securities Act; or (B) the offer and sale is outside the United States and to other than a U.S. Person.

(d) Such Shareholder understands that the Buyer Common Stock constitute "restricted securities" within the meaning of Rule 144 under the Securities Act inasmuch as they are being acquired from Buyer in a transaction pursuant to Regulation S. Under applicable laws and regulations, the Buyer Common Stock may be resold without registration under the Securities Act only in certain limited circumstances. In this connection, such Shareholder represents that such Shareholder is familiar with Rule 144 under the Securities Act, and understands the resale limitations imposed thereby and by the Securities Act. Such Shareholder understands that although Rule 144 is not exclusive, the United States Securities and Exchange Commission has expressed its opinion that persons proposing to sell restricted securities received in a private offering will have a substantial burden of proof in establishing that an exemption from registration is available for such offers or sales and that such persons and the brokers who participate in the transactions do so at their own risk.

(e) Such Shareholder has not engaged in, nor is such Shareholder aware that any party has engaged in, and such Shareholder covenants that it will not engage in or cause any third party to engage in, any directed selling efforts (as such term is defined in Regulation S) in the United States with respect to the Buyer Common Stock. Such Shareholder is not a "distributor" (as defined in Regulation S) or a "dealer" (as defined in the Securities Act).

(f) Such Shareholder covenants that such Shareholder will not engage in hedging transactions (within the meaning of Rule 903(b)(3)(iii)(B)(4) of Regulation S) with regard to the Buyer Common Stock unless in compliance with the Securities Act.

(g) Such Shareholder understands that the Buyer Common Stock will bear legends substantially in the following forms:

Regulation S Legend

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), AND THE ISSUER DOES NOT INTEND TO REGISTER THEM. PRIOR TO THE DATE THAT IS THE FIRST ANNIVERSARY OF THE ISSUANCE DATE, (THE "DISTRIBUTION COMPLIANCE DATE"), THE SECURITIES MAY NOT BE OFFERED OR SOLD (INCLUDING OPENING A SHORT POSITION IN SUCH SECURITIES) IN THE UNITED STATES OR TO U.S. PERSONS (AS DEFINED BY RULE 902(k) ADOPTED UNDER THE ACT) UNLESS THE SECURITIES ARE REGISTERED UNDER THE ACT OR AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE ACT IS AVAILABLE. PURCHASERS OF SUCH SECURITIES PRIOR TO THE DISTRIBUTION COMPLIANCE DATE MAY RESELL SUCH SECURITIES ONLY PURSUANT TO AN EXEMPTION

FROM REGISTRATION UNDER THE ACT OR IN TRANSACTIONS EFFECTED OUTSIDE OF THE UNITED STATES PROVIDED THEY DO NOT SOLICIT (AND NO ONE ACTING ON THEIR BEHALF SOLICITS) PURCHASERS IN THE UNITED STATES OR OTHERWISE ENGAGE(S) IN SELLING EFFORTS IN THE UNITED STATES. HEDGING TRANSACTIONS INVOLVING THESE SECURITIES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE ACT."

Other Securities Act Legend

"THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OR THE SECURITIES LAWS OF CERTAIN STATES AND ARE BEING OFFERED AND SOLD IN RELIANCE ON EXEMPTIONS FROM THE REGISTRATION REQUIREMENTS OF SAID ACT AND SUCH LAWS. THE SECURITIES ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER SAID ACT AND SUCH LAWS PURSUANT TO REGISTRATION OR EXEMPTION THEREFROM. THE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE COMMISSION, ANY STATE SECURITIES COMMISSION OR ANY OTHER REGULATORY AUTHORITY, NOR HAVE ANY OF THE FOREGOING AUTHORITIES PASSED UPON OR ENDORSED THE MERITS OF THIS OFFERING. ANY REPRESENTATION TO THE CONTRARY IS UNLAWFUL"

(h) The certificates evidencing the Buyer Common Stock shall also bear any legend required pursuant to any state, local or foreign law governing such securities.

(i) Such Shareholder acknowledges that the only "offering material or document" (within the meaning of Rule 902(g)(2) of Regulation S) provided to such Shareholder in connection with the issuance of the Buyer Common Stock and the transactions contemplated by this Agreement was this Agreement and the term sheet dated November 19, 2013.

3.9 No Public Market. Such Shareholder understands that no public market now exists for the Buyer Common Stock and acknowledges that neither Buyer, nor any Affiliate of Buyer, has made any assurance that a public market will ever exist for the Buyer Common Stock.

ARTICLE 4.
REPRESENTATIONS AND WARRANTIES CONCERNING THE COMPANY

Each Seller represents and warrants to the Buyer, severally and not jointly (except with respect the Buyer's rights to recover from the Holdback Shares), as to itself that each statement contained in this ARTICLE 4 is true and correct as of the date hereof and will be true and correct as of the Closing Date (unless the particular statement speaks expressly as of a particular date, in which case it is true and correct only as of such date) except as disclosed in the Disclosure Schedule to be provided prior to the signing of this Agreement.

4.1 Organization and Good Standing. The Company is duly organized, validly existing under the Laws of Switzerland, has all requisite power and authority to own, lease and operate its assets and to carry on its business as now being conducted and as proposed to be conducted. The Company is duly licensed or qualified to do business as a foreign corporation and is in good standing in each jurisdiction in which it owns or leases assets or the nature of its activities require such licensing or qualification. Schedule 4.1 hereto contains a complete and accurate list of each jurisdiction in which the Company is licensed or qualified to do business. The Company has no subsidiaries and does not, directly or indirectly, own any securities or other interest in any corporation, partnership, joint venture or other business association or entity. The Company has delivered to Buyer a complete and accurate copy of the Organizational Documents as in effect on the date hereof. The Company is not and has not been in breach or violation of or default under any provision of its Organizational Documents.

4.2 Capitalization; Minute Books.

(a) At the date of this Agreement, the total share capital of the Company amounts CHF 393'806 fully paid in. Thereof, CHF 242,144 is (ordinary) share capital and CHF 151'662 148,846 is non-voting share capital. The ordinary share capital is divided into (i) 800 Ordinary Shares and (ii) 241,344 Preferred Shares. In addition, the Company has conditional non-voting share capital in the amount of CHF 75,700, for the issuance of 72'884Non-Voting Shares in case of option rights being exercised, to be paid in upon issuance. Further, the Company has authorized non-voting share capital in the amount of CHF 53,504 for the issuance 53,504 Non-Voting Shares until 21 July 2015, to be paid in upon issuance, and authorized (ordinary) share capital in the amount of CHF 87,297 for the issuance of 87,297 Preferred Shares until 21 July 2015, to be paid in upon issuance. No other capital stock of the Company is authorized, issued or outstanding. All of the Company Shares issued as of the date hereof are duly authorized, validly issued, fully paid and nonassessable and were issued in compliance with all applicable Laws. The Company Shares set forth on Schedule A hereto represent all of the issued and outstanding capital stock of the Company. None of the Company Shares were issued in violation of (i) any Contract to which the Company is or was a party or beneficiary or by which the Company or their respective properties or assets is or was subject or (ii) of any preemptive or similar rights of any Person.

(b) There are no outstanding options, warrants or other securities or subscription, preemptive or other rights convertible into or exchangeable or exercisable for any shares of capital stock or other equity or voting interests of the Company and there are no "phantom stock" rights, stock appreciation rights or other similar rights with respect to the Company. There are no Contracts of any kind to which the Company is a party or beneficiary or by which the Company or its assets are subject, obligating the Company to issue, deliver, grant or sell, or cause to be issued, delivered, granted or sold, additional shares of capital stock of, or other equity or voting interests in, or options, warrants or other securities or subscription, preemptive or other rights convertible into, or exchangeable or exercisable for, shares of capital stock of, or other equity or voting interests in, the Company, or any "phantom stock" right, stock appreciation right or other similar right with respect to the Company, or obligating the Company to enter into any such Contract.

(c) There are no securities or other instruments or obligations of the Company, the value of which is in any way based upon or derived from any capital or voting stock of the Company or having the right to vote (or convertible into, or exchangeable or exercisable for, securities having the right to vote) on any matters on which the Company's Shareholders (or their equivalent) may vote.

(d) There are no Contracts, contingent or otherwise, obligating the Company to repurchase, redeem or otherwise acquire or dispose of any shares of capital stock of, or other equity or voting interests in, the Company. There are no voting agreements, voting trusts, registration rights agreements, shareholder agreements or other similar arrangement with respect to the capital stock of the Company. There are no rights plans affecting the Company.

(e) Upon consummation of the transactions contemplated by this Agreement, Buyer will own all of the issued and outstanding capital stock of the Company, free and clear of all Liens, subscriptions, options, warrants, calls, proxies, commitments and Contracts of any kind.

(f) There are no bonds, debentures, notes or other Indebtedness of the Company.

(g) The Books and Records of the Company completely and accurately reflect in all respects all material actions taken by written consent or resolution and meetings held on or after October 4, 2013, by the Shareholders and directors. The Company has delivered to Buyer a complete and accurate copy of all minutes of the meetings of the board of directors of the Company and all minutes of the general meetings of the Company.

4.3 No Conflicts; Consents.

(a) The execution and delivery of this Agreement and the Ancillary Agreements to which the Company is a party does not, the performance by the Company of any of its obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby (in each case, with or without the giving of notice or lapse of time, or both) will not, directly or indirectly, (i) violate or conflict with or result in the breach of the provisions of any of the Organizational Documents of the Company that will have a negative impact on the Company's business and or financial condition , (ii) violate, breach, conflict with or constitute a default, an event of default, or an event creating any additional rights (including rights of amendment, impairment, modification, suspension, revocation, acceleration, termination or cancellation), impose additional obligations or result in a loss of any rights, or require a consent or the delivery of notice, under any Company Contract or Law applicable to the Company or to which the Company is a party or a beneficiary or otherwise subject, or in respect of any Company Intellectual Property that will have a negative impact on the Company's business and or financial condition, or (iii) result in the creation of any Liens upon any asset owned or used by the Company.

(b) No Order, consent or authorization of, with, or to any Person is required by the Company in connection with the execution, delivery and performance of this Agreement and the Ancillary Agreements and the consummation of the transactions contemplated hereby and thereby.

4.4 Financial Statements; Net Working Capital; No Liabilities.

(a) Complete and accurate copies of the (i) audited balance sheets of the Company as of 2012 and 2011, for the years then ended (collectively, the "**Financial Statements**" and (ii) unaudited balance sheet of the Company as at September 30, 2013 for the nine (9)-month period then ended (the "**Interim Financial Statements**") are set forth on the Schedule 4.4(a)(i). The Financial Statements were prepared from the Books and Records (which are complete and accurate) of the Company, and fairly present the financial condition of the Company as of the respective dates they were prepared and the results of the operations of the Company for the periods indicated. The Interim Financial Statements were prepared consistent with the Company's past practices for management's internal use and show the assets of the Company as of the respective date (without taking into account any depreciation and other limitations mentioned on such statement) and the actual liabilities of the Company.

(b) In addition to the Financial Statements, the Shareholders have provided (or caused to be provided) to Buyer a statement and setting forth in reasonable detail the calculation of the Company's Net Working Capital as of the Closing including each of the components of Net Working Capital. As of the Closing, to the extent that Net Working Capital is less than US$1,400,000, then certain Shareholders shall either (i) at Closing loan to the Company, or (ii) provide the Company at Closing a credit facility, which facility shall be fully funded at Closing into an escrow (which escrow shall provide that the Company shall have the sole discretion to withdraw from such escrow), in each case in an amount such that the loan proceeds (whether loaned directly to the Company at Closing or pursuant to a credit facility that will be fully funded into escrow), together with the Net Working Capital shall equal US$1,400,000. The terms of any such loan or credit facility and, if applicable, escrow shall be satisfactory to the Buyer, in its sole discretion.

(c) The Company has no Liabilities except (i) those which are adequately reflected or reserved against in the Financial Statements dated as of September 30, 2013 or the Net Working Capital, (ii) the €500,000 payment obligation owed under the ProteoSys Agreement; (iii) any amounts payable in connection with loans made by any of the Shareholders to or for the benefit of the Company; and (iv) those Liabilities which would bring the Company, as of the Closing, below the Net Working Capital in the minimum amount of US$1,400,000 (after taking into consideration the loan proceeds described in Section 4.4(b)).

(d) There are no Liens on any capital stock (or other equity interests) or assets of the Company.

4.5 Taxes.

(a) The Company has duly and timely filed with the appropriate Taxing Authorities all Tax Returns required to have been filed by the Company (or, if due between the date hereof and the Closing Date, will be duly and timely filed), and each such Tax Return to the extent required by law correctly and completely reflects Liabilities for Taxes and all other information required to be reported thereon. All Taxes owed by the Company have been duly and timely paid. The Company has adequately provided for, in its books of account and related records, Liabilities for all unpaid Taxes (that are current Taxes not yet due and payable).

(b) To the Knowledge of the Company there is no action or audit currently proposed, threatened or pending against, or with respect to, the Company in respect of any Taxes. No claim has ever been made by an authority in a jurisdiction where any of the Company does not file Tax Returns that the Company is or may be subject to taxation by that jurisdiction or that any of them must file Tax Returns in such jurisdiction. There are no Liens on any of the stock or assets of the Company with respect to Taxes.

(c) The Company has withheld and timely paid all Taxes required to have been withheld or paid and has complied with all information reporting and backup withholding requirements, including maintenance of required records with respect thereto.

(d) There is no dispute or claim concerning any Liabilities for Taxes with respect to the Company for which notice has been provided, or which is to the Knowledge of the Company asserted or threatened, or which is otherwise known to the Company. No issues have been raised in any examination with respect to the Company. The Company has not waived (or is subject to a waiver of) any statute of limitations in respect of Taxes and has not agreed to (or is subject to) any extension of time with respect to a Tax assessment or deficiency.

(e) The Company is and has always been a foreign corporation for U.S. federal income tax purposes, and is not and has never been a "controlled foreign corporation" within the meaning of Section 957 of the Code or a "passive foreign investment company" within the meaning of Section 1297 of the Code. The Company has never engaged in the conduct of a trade or business within the United States, or treated as or considered to be so engaged. Schedule 4.5(e) sets forth all non-U.S. jurisdictions in the Company is subject to Tax, is engaged in business or has a permanent establishment.

4.6 Arms-Length Transaction. The Consideration was negotiated between the Company, the Shareholders and Buyer in good faith and in an arms-length manner, and the Company has not conducted any public offering of its shares.

4.7 Compliance with Law. To the Knowledge of the Company the Company is in compliance in all material respects with, and has not received any notice of any pending violation with respect to, any Law or regulation with respect to the Company's business or operations. The Company currently has no material permits which are required for the operation of the Company's current business.

4.8 Real Property. The Company does not own, or have any interest (including any leasehold interest) in, any real property.

4.9 Intellectual Property.

(a) Schedule 4.9(a)(i) contains a complete and accurate list of all Registered Intellectual Property (including the owner; inventor (if applicable); application, registration, Patent or other identifying number under which such right is identified; application or registration/issue date; and jurisdiction) and all Owned Intellectual Property that is otherwise material to the operation of the Company's business. For purposes of the foregoing, material Know-How need only be generally described. Except as set forth on Schedule 4.9(a)(ii), the Company exclusively owns all right, title, and interest in and to the Owned Intellectual Property, free and clear of all Liens.

(b) Schedule 4.9(b) identifies all Licensed Intellectual Property and the relevant license (except for "shrink-wrap" and similar commercially available end-user licenses.

(c) Schedule 4.9(c): (i) lists all licenses, sublicenses, and other agreements pursuant to which the Company authorizes a third party to use, practice any rights under, co-exist with, or grant sublicenses with respect to any Company Intellectual Property (including on such list, whether such license is exclusive or non-exclusive); and (ii) identifies any material alterations to standard customer or client agreements of the Company and circumstances surrounding such alteration.

(d) The Company Intellectual Property owned or used by the Company immediately prior to the Closing will be owned or available for use (as applicable) by Buyer on identical terms and conditions immediately after Closing. To the Knowledge of the Company no Person has infringed, misappropriated, diluted or otherwise violated, or is infringing, misappropriating, diluting or otherwise violating, any Owned Intellectual Property. No Action has been instituted relating to any Owned Intellectual Property, or, to the Knowledge of the Company, threatened relating to any Company Intellectual Property and none of the Owned Intellectual Property is subject to any outstanding Order. The Company has taken reasonable and necessary steps to protect and maintain the proprietary nature of each item of Owned Intellectual Property and the confidentiality of the Know-How of the Company.

4.10 Contracts.

(a) Schedule 4.10(a) sets forth a complete and accurate list of all of the following Contracts to which the Company is a party or a beneficiary or by which the Company or its assets are subject: (i) Contracts under which amounts paid or expected receipts or expenditures exceed $100,000 in the current or any future calendar year, including Contracts with subcontractors and suppliers; (ii) requiring the Company to indemnify any Person on terms that are not customary; (iii) pursuant to which any materials are sole-sourced to the Company which cannot be obtained from another third party; (iv) constituting any notes, debentures, bonds, or other Contracts for the borrowing or lending of money (including loans to or from officers, directors, members, partners, or shareholders of the Company), Contracts or arrangements for a line of credit or for a guarantee of, or other undertaking in connection with, the Indebtedness of any other Person; (v) with any Governmental Entity; (vi) under which a representative or sales agency relationship is created; (vii) limiting or restraining the Company from engaging or competing in any lines of business with any Person other than standard non-disclosure agreements, none of which materially restrict competition other than by confidentiality, non-solicitation and non-use of confidential information of the discloser; (viii) involving the lease by the Company of any tangible assets; (ix) involving a license, distributorship or other similar arrangement; (x) involving any capital expenditure or leasehold improvements; (xi) that if terminated, would reasonably be expected to result in a Company

Material Adverse Effect; (xii) Contracts with any Affiliate or family member of any of the Shareholders, or Affiliate or family member of any director, current or former partner, Shareholder, officer, employee, of the Company; and (xiii) Contracts that are otherwise material to the Company or were entered into outside the ordinary course of business and not previously disclosed pursuant to this Section 4.10. The Contracts required to be listed on Schedule 4.10(a) together with the Intellectual Property Contracts and Policies, are collectively referred to herein as the "**Company Contracts**". The Company has delivered complete and accurate copies of each Company Contract (including all amendments, modifications, extensions and renewals thereof and related notices and agreements thereto) to Buyer.

(b) Each Company Contract is in full force and effect and valid and enforceable in accordance with its terms. The Company has complied with and is in compliance with, and all other parties thereto have complied with and are in compliance with, the provisions of each Company Contract. The Company is not, and to the Knowledge of the Company, no other party thereto is, in default in the performance, observance or fulfillment of any obligation, covenant, condition or other term contained in any Company Contract, and the Company has not given or received notice to or from any Person relating to any such alleged or potential default that has not been cured. No event has occurred which with or without the giving of notice or lapse of time, or both, could violate, breach, conflict with or constitute a default, an event of default, or an event creating any additional rights (including rights of amendment, impairment, modification, suspension, revocation, acceleration, termination, or cancellation), impose additional obligations or result in a loss of any rights, or require a consent or the delivery of notice, under any Company Contract.

4.11 Litigation. There is no action, suit or proceeding, claim, arbitration, litigation or investigation (each, an "**Action**"), (i) pending or, to the Knowledge of the Company, threatened against or affecting the Company, its business or its assets or (ii) that challenges or seeks to prevent, enjoin or otherwise delay the transactions contemplated by this Agreement or the Ancillary Agreements. No officer, director or manager of the Company is a defendant in any Action commenced by any Shareholder of the Company with respect to his duties as an officer, director or manager thereof under any applicable Law. No event has occurred or circumstances exist that does or could reasonably be expected to result in or serve as a basis for any such Action. There is no unsatisfied judgment, penalty or award against the Company or affecting its assets.

4.12 Regulatory Compliance.

(a) To the Knowledge of the Company the Company is in compliance in all material respects with all applicable Laws, including those relating to good laboratory practice, current good manufacturing practices, good clinical practice, and protection of human subjects and humane care and use of laboratory animals, to the extent that those laws and regulations apply to the Company's activities.

(b) The Company has not employed or otherwise used in any capacity, and will not employ or otherwise use in any capacity, the services of any person debarred under United States Law, including Section 21 USC 335a, or any foreign equivalent thereof, or otherwise, to the Knowledge of the Company, has been or is subject to legal or regulatory sanctions for conduct relating to pre-clinical studies.

(c) The Company has made available to Buyer accurate and complete copies of all material registrations, applications, licenses, requests for approvals, exemptions, permits and other regulatory authorization to any Regulatory Authority (including any premarket applications) with respect to the Company's business.

(d) The Company has made available to Buyer: (i) a description of all pre-clinical experiments conducted by the Company, including the design and, as applicable, the results of the experiments, to the Knowledge of the Company, including, without limitation, all completed and ongoing pre-clinical experiments; and (ii) all minutes, summaries or logs of the Company's meetings or communications (whether written or oral) with any Regulatory Authority.

4.13 Insurance. Schedule 4.13 sets forth (a) a list of each insurance policy and fidelity bond which covers the Company, its assets or any director, officer or employee of the Company (the "**Policies**") and (b) a list of all pending claims and the claims history for the Company during the current year and the preceding three (3) years (including with respect to insurance obtained but not currently maintained). There are no pending claims under any of such Policies as to which coverage has been questioned, denied or disputed by the insurer or in respect of which the insurer has reserved its rights. All Policies are issued by an insurer that is financially sound and reputable, are in full force and effect, are valid and are enforceable in accordance with their terms. All premiums due under the Policies have been paid in full or, with respect to premiums not yet due, accrued. Such Policies provide adequate insurance coverage for the Company, and are sufficient for compliance with all Laws and Contracts to which the Company is a party or a beneficiary or by which the Company or is assets are subject. The Company has not received a notice of cancellation or termination of any Policy or of any material changes that are required in the conduct of the Company's business as a condition to the continuation of coverage under, or renewal of, any such Policy. The Company does not have any self-insurance arrangements.

4.14 Bank Accounts; Powers of Attorney. Schedule 4.14 sets forth (a) the name of each bank, safe deposit company or other financial institution in which the Company has an account, lock box or safe deposit box and the names of all Persons authorized to draw thereon or have access thereto and (b) each outstanding power of attorney executed by or on behalf of the Company in favor of any other Person.

4.15 Brokers. The Company has no Liability to pay any fees or commissions to any broker, finder or similar agent with respect to this Agreement, the Ancillary Agreements or the transactions contemplated by hereby or thereby.

ARTICLE 5.
REPRESENTATIONS AND WARRANTIES OF BUYER

Buyer represents and warrants to the Shareholders and the Company that each statement contained in this ARTICLE 5 is true and correct as of the date hereof and as of the Closing Date except as disclosed in the Buyer Disclosure Schedule to be provided prior to the signing of this Agreement.

5.1 Organization and Good Standing. Buyer is duly organized, validly existing and in good standing under the Laws of the State of Delaware.

5.2 Authority and Enforceability. Buyer has the requisite power and authority to enter into this Agreement and each of the Ancillary Agreements to which it is a party, to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance by Buyer of this Agreement and each of the Ancillary Agreements to which it is a party and the consummation by Buyer of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of Buyer and no other action is necessary on the part of Buyer to authorize this Agreement or any Ancillary Agreement to which it is a party or to consummate the transactions contemplated hereby and thereby. This Agreement and each of the Ancillary Agreements to which it is a party have been duly executed and delivered by Buyer. Assuming due authorization, execution and delivery by the Shareholders and each other party thereto, this Agreement and each of the Ancillary Agreements constitutes the valid and binding obligation of Buyer, enforceable against Buyer in accordance with its terms, except as limited by (a) bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or other similar Laws relating to creditors' rights generally and (b) general principles of equity, whether such enforceability is considered in a proceeding in equity or at Law.

5.3 No Conflicts; Consents.

(a) The execution and delivery by Buyer of this Agreement and the Ancillary Agreements to which it is a party does not, and the performance by Buyer of its obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby (in each case, with or without the giving of notice or lapse of time, or both), will not, directly or indirectly, (i) violate or conflict with the provisions of any of the Organizational Documents of Buyer or (ii) violate, breach, conflict with or constitute a default, an event of default, or an event creating any additional rights (including rights of amendment, impairment, suspension, revocation, acceleration, termination or cancellation), impose additional obligations or resulting in a loss of any rights or require a consent or the delivery of notice, under any Contract or Law applicable to Buyer or to which Buyer is a party or a beneficiary or by which Buyer or its assets are subject, except in the case of clause (ii) where such violation, conflict, breach, default, event or other item would not reasonably be expected to materially impair or delay the ability of Buyer to perform its obligations under this Agreement and the Ancillary Agreements.

(b) No Order, consent or authorization of, with, or to any Person is required by Buyer in connection with the execution and delivery of this Agreement and the Ancillary Agreements, the performance of the obligations hereunder and thereunder and the consummation of the transactions contemplated hereby and thereby, except where the failure to obtain such Order, consent or authorization would not reasonably be expected to materially impair or delay the ability of Buyer to perform its obligations under this Agreement and the Ancillary Agreements.

5.4 Capitalization. The authorized capital stock of Buyer consists of 45,000,000 shares of Buyer Common Stock. As of the date hereof, 25,858,924 shares of Buyer Common Stock are issued and outstanding. No other capital stock of Buyer is authorized, issued or outstanding. All of the shares of Buyer Common Stock are duly authorized, validly issued, fully paid and nonassessable and were issued in compliance with all applicable Laws. No other capital stock of the Buyer is authorized, issued or outstanding. All of the shares of Buyer Common Stock issued as of the date hereof are duly authorized, validly issued, fully paid and nonassessable and were issued in compliance with all applicable Laws. The shares of Buyer Common Stock set forth on Schedule 5.4 hereto represent all of the issued and outstanding capital stock of the Buyer. None of the shares of Buyer Common Stock were issued in violation of (i) any Contract to which the Buyer is or was a party or beneficiary or by which the Buyer or their respective properties or assets is or was subject or (ii) of any preemptive or similar rights of any Person.

(a) Except as set forth on Schedule 5.4(a), there are no outstanding options, warrants or other securities or subscription, preemptive or other rights convertible into or exchangeable or exercisable for any shares of capital stock or other equity or voting interests of the Buyer and there are no "phantom stock" rights, stock appreciation rights or other similar rights with respect to the Buyer. There are no Contracts of any kind to which the Buyer is a party or beneficiary or by which the Buyer or its assets are subject, obligating the Buyer to issue, deliver, grant or sell, or cause to be issued, delivered, granted or sold, additional shares of capital stock of, or other equity or voting interests in, or options, warrants or other securities or subscription, preemptive or other rights convertible into, or exchangeable or exercisable for, shares of capital stock of, or other equity or voting interests in, the Buyer, or any "phantom stock" right, stock appreciation right or other similar right with respect to the Buyer, or obligating the Buyer to enter into any such Contract.

(b) There are no securities or other instruments or obligations of the Buyer, the value of which is in any way based upon or derived from any capital or voting stock of the Buyer or having the right to vote (or convertible into, or exchangeable or exercisable for, securities having the right to vote) on any matters on which the Buyer's shareholders (or their equivalent) may vote.

(c) There are no Contracts, contingent or otherwise, obligating the Buyer to repurchase, redeem or otherwise acquire or dispose of any shares of capital stock of, or other equity or voting interests in, the Buyer. There are no voting agreements, voting trusts, registration rights agreements, shareholder agreements or other similar arrangement with respect to the capital stock of the Buyer. There are no rights plans affecting the Buyer.

(d) Except as set forth on Schedule 5.4(d), there are no bonds, debentures, notes or other Indebtedness of the Buyer.

(e) The data room created by the Buyer contains a complete and accurate copy of all material minutes of the meetings of the board of directors and stockholders of the Buyer.

5.5 Arms-Length Transaction. The Consideration was negotiated between the Company, the Shareholders and Buyer in good faith and in an arms-length manner.

5.6 Brokers. Buyer does not have any Liability to pay any fees or commissions to any broker, finder or similar agent with respect to this Agreement, the Ancillary Agreements or the transactions contemplated by hereby or thereby.

5.7 Purchase for Investment. The Company Shares purchased by Buyer pursuant to this Agreement are being acquired for investment only and not with a view to any public distribution thereof. Buyer shall not offer to sell or otherwise dispose of, or sell or otherwise dispose of, the Company Shares so acquired by it in violation of any of the registration requirements of the Securities Act.

5.8 Buyer Financial Statements

(a) Complete and accurate copies of the (i) audited balance sheets of the Buyer as of 2012 and 2011, for the years then ended and (ii) audited balance sheet of the Buyer as at September 30, 2013 for the nine (9) -month period then ended (collectively, the "**Buyer Financial Statements**") have been made available to those Shareholders requesting them. The Buyer Financial Statements were prepared from the Books and Records (which are complete and accurate) of the Buyer, and fairly present the financial condition of the Buyer as of the respective dates they were prepared and the results of the operations of the Buyer for the periods indicated.

(b) There are no Liens on any capital stock (or other equity interests), assets of the Buyer.

5.9 Taxes.

(a) The Buyer has duly and timely filed with the appropriate Taxing Authorities all Tax Returns required to have been filed by the Buyer (or, if due between the date hereof and the Closing Date, will be duly and timely filed), and each such Tax Return to the extent required by law correctly and completely reflects Liabilities for Taxes and all other information required to be reported thereon. All Taxes owed by the Buyer have been duly and timely paid. The Buyer has adequately provided for, in its books of account and related records, Liabilities for all unpaid Taxes (that are current Taxes not yet due and payable).

(b) To the Knowledge of the Buyer there is no action or audit currently proposed, threatened or pending against, or with respect to, the Buyer in respect of any Taxes. No claim has ever been made by an authority in a jurisdiction where the Buyer does not file Tax Returns that the Buyer is or may be subject to taxation by that jurisdiction or that the Buyer must file Tax Returns in such jurisdiction. There are no Liens on any of the stock or assets of the Buyer with respect to Taxes.

(c) The Buyer has withheld and timely paid all Taxes required to have been withheld or paid and has complied with all information reporting and backup withholding requirements, including maintenance of required records with respect thereto.

(d) There is no dispute or claim concerning any Liabilities for Taxes with

respect to the Buyer for which notice has been provided, or which is to the Knowledge of the Buyer asserted or threatened, or which is otherwise known to the Buyer. No issues have been raised in any examination with respect to the Buyer. The Buyer has not waived (or is subject to a waiver of) any statute of limitations in respect of Taxes and has not agreed to (or is subject to) any extension of time with respect to a Tax assessment or deficiency.

5.10 Compliance with Law. To the Knowledge of the Buyer, the Buyer is in compliance in all material respects with, and has not received any notice of any pending violation with respect to, any Law or regulation with respect to the Buyer's business or operations.

5.11 Real Property. The Buyer does not own, or have any interest (including any leasehold interest) in, any real property.

5.12 Intellectual Property. Except as set forth on Schedule 5.12, the Buyer exclusively owns all right, title, and interest in and to the Owned Intellectual Property that is material to the operation of the Buyer's business, free and clear of all Liens. The Company Intellectual Property owned or used by the Company immediately prior to the Closing will be owned or available for use (as applicable) by Buyer on identical terms and conditions immediately after Closing. To the Knowledge of the Buyer, no Person has infringed, misappropriated, diluted or otherwise violated, or is infringing, misappropriating, diluting or otherwise violating, any Owned Intellectual Property. No Action has been instituted relating to any Owned Intellectual Property, or, to the Knowledge of the Buyer, threatened relating to any Buyer Intellectual Property and none of the Owned Intellectual Property is subject to any outstanding Order. The Buyer has taken reasonable and necessary steps to protect and maintain the proprietary nature of each item of Owned Intellectual Property and the confidentiality of the Know-How of the Buyer.

5.13 Buyer Contracts. Each Contract that is material to the Buyer's business (a "**Buyer Contract**") is in full force and effect and valid and enforceable in accordance with its terms. The Buyer has complied with and is in compliance with, and all other parties thereto have complied with and are in compliance with, the provisions of each Buyer Contract. The Buyer is not, and to the Knowledge of the Buyer, no other party thereto is, in default in the performance, observance or fulfillment of any obligation, covenant, condition or other term contained in any Buyer Contract, and the Buyer has not given or received notice to or from any Person relating to any such alleged or potential default that has not been cured. No event has occurred which with or without the giving of notice or lapse of time, or both, could violate, breach, conflict with or constitute a default, an event of default, or an event creating any additional rights (including rights of amendment, impairment, modification, suspension, revocation, acceleration, termination, or cancellation), impose additional obligations or result in a loss of any rights, or require a consent or the delivery of notice, under any Buyer Contract.

5.14 Litigation. There is no Action (i) pending or, to the Knowledge of the Buyer, threatened against or affecting the Buyer, its business or its assets or (ii) that challenges or seeks to prevent, enjoin or otherwise delay the transactions contemplated by this Agreement or the Ancillary Agreements. No officer, director or manager of the Buyer is a defendant in any Action commenced by any shareholder of the Buyer with respect to his duties as an officer, director or manager thereof under any applicable Law. No event has occurred or circumstances exist that

does or could reasonably be expected to result in or serve as a basis for any such Action. There is no unsatisfied judgment, penalty or award against the Buyer or affecting its assets.

5.15 Regulatory Compliance.

(a) To the Knowledge of the Buyer, the Buyer is in compliance in all material respects with all applicable Laws, including those relating to good laboratory practice, current good manufacturing practices, good clinical practice, and protection of human subjects and humane care and use of laboratory animals, to the extent that those laws and regulations apply to the Buyer's activities.

(b) The Buyer has not employed or otherwise used in any capacity, and will not employ or otherwise use in any capacity, the services of any person debarred under United States Law, including Section 21 USC 335a, or any foreign equivalent thereof, or otherwise, to the Knowledge of the Buyer, has been or is subject to legal or regulatory sanctions for conduct relating to pre-clinical studies.

5.16 Insurance. There are no pending claims under any insurance policy and fidelity bond which cover the Buyer ("**Buyer's Policies**") as to which coverage has been questioned, denied or disputed by the insurer or in respect of which the insurer has reserved its rights. All Buyer's Policies are issued by an insurer that is financially sound and reputable, are in full force and effect, are valid and are enforceable in accordance with their terms. All premiums due under the Buyer's Policies have been paid in full or, with respect to premiums not yet due, accrued. Such Buyer's Policies provide adequate insurance coverage for the Buyer, and are sufficient for compliance with all Laws and Contracts to which the Buyer is a party or a beneficiary or by which the Buyer or is assets are subject. The Buyer has not received a notice of cancellation or termination of any Policy or of any material changes that are required in the conduct of the Buyer's business as a condition to the continuation of coverage under, or renewal of, any such Policy. The Buyer does not have any self-insurance arrangements.

5.17 No Reliance. The Buyer acknowledges that it has conducted to its satisfaction an independent investigation, based in part on the due diligence materials provided by the Company, of the financial condition, liabilities, results of operations, and projected operations of the Company and the nature and condition of its assets and business and, in making the determination to proceed with the transactions contemplated by this Agreement, has relied solely on the results of its own independent investigation.

ARTICLE 6.
COVENANTS

6.1 Confidentiality. From and after the Closing, the Shareholders shall, and shall cause their Affiliates to, hold, and shall use their reasonable best efforts to cause their and their respective officers, directors, employees, accountants, counsel, consultants, advisors, agents and other representatives to hold, in confidence any and all information, whether written or oral, concerning the Company, except to the extent that such Person can show that such information (a) is in the public domain through no fault of any Shareholder or any of their Affiliates or (b) is lawfully acquired by them after the Closing from sources which are not prohibited from disclosing such information by a legal, contractual or fiduciary obligation. If any Shareholder or any of their Affiliates are compelled to disclose any such information by judicial or administrative process or by other requirements of Law, such Person shall promptly notify Buyer in writing and shall disclose only that portion of such information which such Person is advised by its counsel in writing is legally required to be disclosed, provided that such Person shall exercise its reasonable best efforts to obtain an appropriate protective order or other reasonable assurance that confidential treatment will be accorded such information. Without prejudice to the rights and remedies otherwise available in this Agreement, the parties each acknowledge that prior to Closing money damages would not be an adequate remedy for any breach of this Section 6.1, and that prior to Closing Buyer will be entitled to specific performance and other equitable relief by way of injunction in respect of a breach or threatened breach of any this Section 6.1.

6.2 Public Announcements. No Shareholder shall issue any press release or make any public statement relating to the subject matter of this Agreement without the prior written approval of Buyer.

6.3 Tax Matters.

(a) Preparation and Filing of Pre-Closing and Post-Closing Period Tax Returns.

(i) Tax Periods Ending on or Before the Closing Date. Buyer shall prepare, or cause to be prepared, and file, or cause to be filed, all Tax Returns of the Company for all periods ending on or prior to the Closing Date which are filed after the Closing Date. Buyer shall upon request permit the Shareholders to review and comment on each such Tax Return described in the preceding sentence

(ii) Tax Periods Beginning Before and Ending After the Closing Date. Buyer shall prepare, or cause to be prepared, and file, or cause to be filed, all Tax Returns of the Company for Tax periods which begin before the Closing Date and end after the Closing Date.

(b) Cooperation in Filing Tax Returns. Buyer and the Shareholders shall, and shall each cause its Affiliates to, provide to the other party such cooperation and information, as and to the extent reasonably requested, in connection with preparing, reviewing and filing of any Tax Return, amended Tax Return or claim for refund, determining Liabilities for Taxes or a right to refund of Taxes, or in conducting any audit or other Action with respect to Taxes. Such cooperation and information shall include providing copies of all relevant portions of relevant Tax Returns, together with relevant accompanying schedules and relevant work papers, relevant documents relating to rulings and other determinations by Governmental Entities relating to Taxes, and relevant records concerning the ownership and Tax basis of property, which any such party may possess. The Company will retain all Tax Returns, schedules, work papers, and all material records and other documents relating to Tax matters of the Company for the Tax period first ending after the Closing Date and for all prior Tax periods until the later of either (i) the expiration of the applicable statute of limitations (and, to the extent notice is provided with respect thereto, any extensions thereof) for the Tax periods to which the Tax Returns and other documents relate or (ii) eight (8) years following the due date (without extension) for such Tax

Returns. Thereafter, the Company may dispose of them. Each party shall make its employees reasonably available on a mutually convenient basis at its cost to provide explanation of any documents or information so provided.

(c) Payment of Transfer Taxes and Fees. The Shareholders shall pay all non- U.S. Transfer Taxes arising out of or in connection with the transactions effected pursuant to this Agreement, and shall indemnify, defend, and hold harmless Buyer including, following the Closing, the Company with respect to such Transfer Taxes. The Shareholders shall file all necessary documentation and Tax Returns with respect to such Transfer Taxes and Buyer shall provide such cooperation in connection with the preparation and filing of such documentation and Tax Returns as may be reasonably requested by the Shareholders. The Buyer shall pay all U.S. Transfer Taxes arising out of or in connection with the transactions effected pursuant to this Agreement, and shall indemnify, defend, and hold harmless the Shareholders following the Closing, the Company with respect to such U.S. Transfer Taxes. The Buyer shall file all necessary documentation and Tax Returns with respect to such U.S. Transfer Taxes and the Shareholders shall provide such cooperation in connection with the preparation and filing of such documentation and Tax Returns as may be reasonably requested by the Shareholders.

6.4 Termination of Rights in the Company. As of the Closing, each Shareholder hereby acknowledges and agrees that, subject to any necessary action otherwise required to be taken under Swiss Law, (i) the Shareholder shall forfeit and surrender all rights, preferences, privileges, and restrictions with respect to the Company Shares, as applicable, held by such Shareholder, including all rights, preferences, privileges, and restrictions under the Investor Agreements, and (ii) the Company, Buyer and each of their respective Affiliates and representatives, shall have no further obligation, Liability or duty to the Shareholder with respect to the Company Shares, as applicable, held by such Shareholder. After the Closing, there will be no holders of any securities of the Company other than Buyer and all agreements between the Company and any Shareholder or between Shareholders relating to the Company other than the ProteoSys Agreement and the consulting agreement with Bertrand Damour are terminated as per Closing.

6.5 Release. Effective upon the Closing, each Shareholder hereby irrevocably waives, releases and discharges the Company, Buyer and each of their respective Affiliates, representatives, successors and assigns, and each other Shareholder with respect to such Shareholder (collectively, the "**Released Parties**") of and from any and all manner of action and actions, cause and causes of action, suits, debts, dues, sums of money, accounts, reckoning, bonds, bills, specialties, covenants, contracts, controversies, agreements, promises, variances, trespasses, damages, judgments, executions, claims, demands, Liabilities and obligations, to such Shareholder and his, hers or its heirs, executors, administrators, successors and assigns, of any kind or nature whatsoever (including in (i) respect of any rights of contribution or indemnification, and (ii) in connection with the allocation among the Shareholders of the Consideration in accordance with Schedule B), whether arising under any Contract or otherwise at Law or in equity, and whether or not then known (other than Liabilities that arise under this Agreement and the Ancillary Agreements), and each Shareholder agrees that he, she or it will not seek to recover any amounts solely in connection therewith or thereunder from the Released Parties. Notwithstanding the foregoing, ProteoSys shall have the right to claim its rights under the ProteoSys Agreement, as amended by the ProteoSys Amendment, and each Shareholder shall be entitled to enforce its rights pursuant to this Agreement.

6.6 Claims Against Directors and Officers. Other than claims that may be brought against a Seller pursuant to this Agreement, following the Closing, Buyer shall make any claim against any director or executive officer of the Company arising out of, relating to or in connection with acts or omissions of such person taken or omitted in their capacity as a director or executive officer of the Company and occurring or alleged to have occurred prior to the Closing (including for acts or omissions occurring in connection with the approval of this Agreement and the consummation of the Transactions), under any applicable Swiss or other Laws including, in accordance with Article 752 et seq. CO, except for fraud or criminal or willful misconduct on the part of such director or executive officer. Any such potential claims (whether known as of the date hereof or not) are hereby unconditionally and irrevocably waived by Buyer. Buyer agrees that the waiver contained in this Section 6.6 shall be in addition to, and not in lieu of, the any existing indemnification obligation by the Company to its officers and directors. Buyer undertakes to use its commercially reasonable efforts, to cause the Company, to hold an extraordinary shareholders' meeting at the Closing and to elect the corporate officers of the Company at such meeting. Buyer agrees to grant, and undertake to use its commercially reasonable efforts to cause the Company to grant at Closing complete discharge to the present directors and executive officers of the Company, in their capacity as such.

6.7 Transition Services. For a period of ninety (90) days following the Closing Date (the "**Transition Period**"), Bertrand Damour shall use commercially reasonable efforts to commit, upon reasonable notice, an aggregate of up to ten (10) Business Days - in the framework of the existing Consulting Agreement between Bertrand Damour and the Company, which shall in absence of any other agreement shall terminate ninety (90) days after Closing - to provide Buyer with reasonable assistance in the transfer of information, documentation, know-how and other materials from the Company to Buyer, as well as such other reasonable transition services as Buyer may request (collectively, the "**Transition Services**"). During the Transition Period, Bertrand Damour shall be reasonably available for consultation by telephone, electronic communication or in person, as requested by Buyer, in connection with the Transition Services.

6.8 Financial Statements. The Shareholders shall, at their cost and expense, provide Buyer no later than March 7th with a complete and accurate copy of the audited balance sheet of the Company as at December 31, 2013, and an income and cash flow statement for the twelve (12) -month period then ended, prepared in accordance with Section 4.4(a).

6.9 Tag Along Registration Rights. Buyer covenants that it shall not include in any registration statement filed under the Securities Act in connection with the Buyer IPO any shares of Buyer Common Stock held by the Existing Stockholders without offering the Shareholders the opportunity to participate in such registration on a pro rata basis, based on each such Shareholder's pro rata share of the total number of shares of Buyer Common Stock then issued and outstanding.

6.10 Rule 144. For a period of twelve months following the Closing Date, Buyer shall:

(a) make and keep public information available, as those terms are understood and defined in Rule 144, at all times after the effective date of the Buyer IPO; and

(b) file with the SEC in a timely manner all reports and other documentation required of Buyer under the Securities Act and the Exchange Act.

6.11 Further Assurances. Except as otherwise provided herein, Buyer and the Shareholders shall (and the Shareholders shall cause the Company to) use their commercially reasonable efforts to take, or cause to be taken, all actions necessary or appropriate to consummate and make effective the transactions contemplated by this Agreement. If at any time (whether before or after the Closing) any further action is necessary or appropriate to carry out the purposes of this Agreement, the parties shall use their commercially reasonable efforts to take, or cause to be taken, that action.

ARTICLE 7.
CONDITIONS TO CLOSING

7.1 Conditions to Obligations of Buyer, the Company and the Shareholders. The obligations of Buyer, the Company and the Shareholders to consummate the transactions contemplated by this Agreement are subject to the satisfaction of the following conditions:

(a) No temporary restraining Order, preliminary or permanent injunction or other Order and no Action shall be in effect or have been instituted or threatened enjoining, prohibiting or otherwise preventing, or seeking to enjoin, prohibit or otherwise prevent the consummation of the transactions contemplated by this Agreement and the Ancillary Agreements.

(b) No Law shall have been enacted or shall be deemed applicable to the transactions contemplated by this Agreement which makes the consummation of such transactions illegal.

7.2 Conditions to Obligations of Buyer. The obligation of Buyer to consummate the transactions contemplated by this Agreement is subject to the satisfaction (or waiver in writing by Buyer in its sole discretion) of the following further conditions:

(a) Each of the representations and warranties made by the Shareholders in this Agreement that is qualified by materiality shall be true and correct as of the Closing and each such representation and warranty that is not so qualified shall be true and correct in all material respects as of the Closing, except to the extent that such representations and warranties refer specifically to an earlier date, in which case such representations and warranties shall have been true and correct as of such earlier date.

(b) The Company and the Shareholders shall have performed or complied in all material respects with all obligations and covenants required by this Agreement to be performed or complied with at or prior to the Closing.

(c) No event has occurred that has had, or could reasonably be expected to have, a material adverse effect on the condition (financial or otherwise), operations, prospects or results of operations of the Company.

(d) The Company shall have caused to be completed an audit of the Financial Statements for the years ended 2011 and 2012.

(e) The Company shall have no Liabilities except (i) those which are adequately reflected or reserved against in the Financial Statements dated as of September 30, 2013 or the Net Working Capital; (ii) the €500,000 payment obligation owed under the ProteoSys Agreement; (iii) any amounts payable in connection with loans made by any of the Shareholders to or for the benefit of the Company; and (iv) those Liabilities which would bring the Company, as of the Closing, below the Net Working Capital in the minimum amount of US$1,400,000.

(f) On or prior to the Closing Date, Buyer shall have received the following:

(i) certificates dated the Closing Date signed on behalf of the Company and each Shareholder to the effect that the conditions set forth in Sections 7.2(a), 7.2(b) and 7.2(c) have been satisfied;

(ii) a copy of the Organizational Documents of the Company, certified by the Secretary or Assistant Secretary of the Company;

(iii) the Books and Records;

(iv) the extract from the criminal and debt enforcement registers (*"Betreibungsregisterauszug")*, dated as of a date not earlier than one month prior to the Closing;

(v) the Financial Statements prepared in accordance with Section 4.4(a).

(vi) a statement setting forth the estimated Net Working Capital of the Company at Closing to be prepared in accordance with Section 4.4(b);

(vii) a copy of the resolutions of the board of directors of the Company authorizing the transfer of the Company Shares;

(viii) evidence regarding the termination of the Investor Agreements;

(ix) original letter of resignation of all members of the board of directors of the Company, to be effective as of the next extraordinary general meeting of the Company;

(x) a copy of the Buyer SPA, executed by the participating Shareholders;

(xi) a copy of the Board Observer Agreement, executed by the Shareholders;

(xii) a copy of the Joinder, executed by the Shareholders;

(xiii) a copy of the Lockup Agreement, executed by the Shareholders;

(xiv) a copy of the Proxy Agreement, executed by the Shareholders;

(xv) a copy of the ProteoSys Amendment, executed by the parties thereof; and

(xvi) all agreements and other documents required to be executed and delivered to Buyer pursuant to this Agreement at or prior to the Closing (including stock certificates for all outstanding shares of capital stock of the Company and all other certificates, documents and instruments required to be delivered to Buyer at the Closing pursuant to Section 2.3(b)).

7.3 Conditions to Obligations of the Company and the Shareholders. The obligation of the Company and the Shareholders to consummate the transactions contemplated by this Agreement is subject to the satisfaction (or waiver in writing by the Company and Shareholders in their sole discretion) of the following further conditions:

(a) Each of the representations and warranties of Buyer set forth in this Agreement that is qualified by materiality shall be true and correct at and as of the Closing Date and each such representation and warranty that is not so qualified shall be true and correct in all material respects at and as of the Closing Date, except, in each case, (i) to the extent that such representations and warranties refer specifically to an earlier date, in which case such representations and warranties shall have been true and correct as of such earlier date or (ii) for circumstances under which the breach of the representation or warranty could not reasonably be expected to materially impair or delay the ability of Buyer to perform its obligations under this Agreement and the Ancillary Agreements and consummate the transactions contemplated hereby and thereby.

(b) Buyer shall have performed or complied in all material respects with all obligations and covenants required by this Agreement to be performed or complied with at or prior to the Closing Date.

(c) On or prior to the Closing Date, the Company and the Shareholders shall have received the following:

(i) a certificate dated the Closing Date signed on behalf of Buyer by an officer of Buyer to the effect that the conditions set forth in Sections 7.3(a) and 7.3(b) have been satisfied;

(ii) a copy of the Joinder, executed by Buyer;

(iii) a copy of the Buyer SPA, executed by Buyer;

(iv) a copy of the Board Observer Agreement, executed by Buyer;

(v) a copy of the Proxy Agreement, executed by the Buyer;

(vi) a copy of a guarantee signed by the Buyer guaranteeing the obligations of the Company under the ProteoSys Agreement as amended, executed by the Buyer, in form and substance acceptable to ProteoSys; and

(vii) all agreements and other documents required to be executed and delivered to the Shareholders pursuant to this Agreement at or prior to the Closing (including all certificates, documents and instruments required to be delivered to the Shareholders the Closing pursuant to Section 2.3(a)).

ARTICLE 8.
SURVIVAL OF REPRESENTATION AND WARRANTIES; HOLDBACK AND INDEMNIFICATION

8.1 Survival. Except as otherwise expressly provided in this Section 8.1, all representations and warranties contained in this Agreement and the Ancillary Agreements, shall survive the Closing for a period of twelve (12) months; provided, however, the representations and warranties in ARTICLE 5 shall only survive until the earlier of (i) the Buyer IPO or (ii) twelve (12) months after the Closing Date. The Unlimited Claims shall survive until thirty (30) days following expiration of all statutes of limitation applicable to the matters referred to therein, at the latest five (5) years from the Closing Date. The period for which a representation or warranty, covenant or agreement survives the Closing is referred to herein as the "**Applicable Survival Period**." To the extent that a claim for indemnification under this ARTICLE 8 is based upon facts or circumstances to which more than one Applicable Survival Period may be applicable, the longest of such Applicable Survival Periods shall apply. In the event notice of claim for indemnification under Sections 8.3 or 8.5 is given within the Applicable Survival Period, the representation or warranty, covenant or agreement that is the subject of such indemnification claim (whether or not formal legal Action shall have been commenced based upon such claim) shall survive with respect to such claim until such claim is finally resolved. The Indemnifying Party shall indemnify the Indemnified Party for all Losses (subject to the limitations set forth herein, if applicable) that the Indemnified Party may incur in respect of such claim, regardless of when incurred. No claim may be made or instituted seeking indemnification unless a written notice of the claim is received by the applicable party within the Applicable Survival Period.

8.2 Holdback Shares. On the Closing Date, Buyer shall withhold the Holdback Shares to be retained as security for the indemnification obligations of the Shareholders set forth in of Section 8.3. The portion of the Holdback Shares contributed on behalf of each Shareholder shall be in proportion to the aggregate amount of Consideration to which such Shareholder would otherwise be entitled under this Agreement. All claims for indemnification pursuant to Section 8.3 below shall be satisfied first from the Holdback Shares to the full extent thereof. For the purpose of this Agreement, including without limitation the distribution of the Holdback Shares, the value of each Holdback Share (the "**Holdback Shares Indemnity Value**") shall be equal to the fair market value of a share of Buyer Common Stock as determined by the board of directors of Buyer, acting in good faith, at the time of distribution; provided, however, that in the event shares of Buyer Common Stock are actively traded on any national securities exchange, the

Holdback Shares Indemnity Value shall be determined by the average closing price per share of Buyer Common Stock on the ten (10) consecutive trading days immediately preceding the date of distribution of the Holdback Shares. Promptly, but in any event within three (3) Business Days, following the twelve (12) month anniversary of the Closing Date, Buyer will release the remaining Holdback Shares to the Shareholders in accordance with their respective Pro Rata Share. To the extent any Buyer Indemnitee has made a claim for indemnification prior to the twelve (12) month anniversary of the Closing Date, the release of any shares then remaining in the Holdback Shares will be reduced by the aggregate amount of any Losses which the Buyer, acting in good faith, reasonably estimates to have been incurred or reasonably estimated to be incurred by a Buyer Indemnitee with regard to all such pending claims. Any funds retained will be released within three (3) Business Days following final resolution of any such pending claim in accordance with Section 8.7(a).

8.3 Indemnification by Shareholders.

(a) Subject to the limitations set forth herein, each Shareholder shall, on an individual basis, indemnify and defend Buyer and its Affiliates (including, after the Closing, the Company) and their respective shareholders, members, managers, officers, directors, employees, agents, successors and permitted assigns (the "**Buyer Indemnitees**") against, and shall hold them harmless from, any and all losses, damages, claims (including third party claims), charges, Liabilities, actions, suits, proceedings, interest, penalties, Taxes, diminutions in value, costs and expenses (including legal, consultant, accounting and other professional fees, costs of sampling, testing, investigation, removal, treatment and remediation of contamination and fees and costs incurred in enforcing rights under this Agreement), but excluding punitive damages, any damages resulting in a loss of business reputation or any damages based on multiples (except to the extent resulting from any Third Party Claim), (collectively, "**Losses**") resulting from, arising out of, or incurred by any Buyer Indemnitee in connection with, or otherwise with respect to (i) any inaccuracy or breach of any representation or warranty made by such Shareholder under ARTICLE 3, any of the Ancillary Agreements or any certificate or other document furnished or to be furnished to Buyer in connection with the transactions contemplated by this Agreement; and (ii) any breach by such Shareholder of any covenant or agreement contained in this Agreement or any of the Ancillary Agreements.

(b) Subject to the limitations set forth herein, each Shareholders shall, on an individual pro rata basis based on each Shareholder's Pro Rata Share of the Consideration, indemnify and defend the Buyer Indemnitees against, and shall hold them harmless from, any and all Losses resulting from, arising out of, or incurred by any Buyer Indemnitee in connection with, or otherwise with respect to (i) any inaccuracy or breach of any representation or warranty made by the Company under ARTICLE 4; (ii) any breach by the Company of any covenant or agreement contained in this Agreement or any of the Ancillary Agreements; and (iii) any fees, expenses or other payments incurred or owed by the Company to any agent, broker, investment banker or other firm or Person retained or employed by it in connection with the transactions contemplated by this Agreement or the Ancillary Agreements.

8.4 Limits on Indemnification. No Buyer Indemnitees shall be entitled to recover any Loss pursuant to Section 8.3 until such time as the total amount of all Losses otherwise indemnifiable that have been directly or indirectly suffered or incurred by any one or more of the

Buyer, or to which any one or more of the Buyer has or have otherwise become subject, exceeds $50,000 in the aggregate. Following such time as the cumulative amount of such Loss exceeds $50,000 in the aggregate, the Buyer shall be entitled to recover all such Losses from dollar $1. Furthermore no Buyer Indemnitees shall be entitled to recover any Loss pursuant to Section 8.3, if and to the extent that:

a) the Buyer or the Company have actually recovered from any third person, including but not limited to an insurer, any sum in respect of any matter to which a claim made relates, after deduction of all duly documented costs and expenses incurred in making such recovery; or

b) a specific provision, reserve or valuation allowance has been or is made or included in Net Working Capital calculation.

8.5 Indemnification by Buyer. Buyer shall indemnify and defend the Shareholders and their respective Affiliates, shareholders, members, managers, officers, directors, employees, agents, successors and assigns (the "**Shareholder Indemnitees**") against, and shall hold them harmless from, any and all Losses resulting from, arising out of, or incurred by any Shareholder Indemnitee in connection with, or otherwise with respect to (i) any inaccuracy or breach of any representation or warranty made by Buyer in this Agreement or any of the Ancillary Agreements; and (ii) any breach by Buyer of any covenant or agreement contained in this Agreement or any of the Ancillary Agreements.

8.6 Limits on Indemnification.

(a) Notwithstanding anything to the contrary set forth in this Agreement, the total and aggregate Liability of Buyer for indemnity of the Shareholder Indemnitees under Section 8.5 shall not exceed Two Million Euros (€2,000,000). This limitation shall not apply to Unlimited Claims.

(b) Notwithstanding anything to the contrary set forth in this Agreement, except for indemnification for any Unlimited Claims, the sole and exclusive remedy of the Buyer in respect of a Loss shall be limited to recourse against the Holdback Shares and the aggregate amount of indemnification available hereunder shall be restricted to the amount of the Holdback Shares.

(c) Other than the amount of the Holdback Shares, notwithstanding anything to the contrary set forth in this Agreement, the liability of each Seller for indemnification under this Agreement, including with respect to Unlimited Claims, shall be several and not joint. Except in the event of fraud by such Shareholder, no Shareholder shall have liability under this Agreement for an amount in excess of the Consideration received by such Shareholder pursuant to this Agreement.

(d) Each Shareholder, on the one hand, and Buyer, on the other hand, agree that all payments made by or on behalf of either of them to or for the benefit of the other (including any payments to the Company) under this ARTICLE 8 shall be treated as adjustments to the Consideration payable pursuant to this Agreement for Tax purposes and that such treatment shall govern for purposes hereof.

8.7 Third-Party Claims.

(a) A Buyer Indemnitee or Shareholder Indemnitee entitled to indemnification hereunder, as applicable, (the "**Indemnified Party**") that becomes aware of any legal proceeding, claim or demand instituted by any third party (a "**Third-Party Claim**") shall promptly, but in any event no more than thirty (30) days after receiving notice of the Third-Party Claim, give the party required to provide such indemnification (the "**Indemnifying Party**") written notice of such Third-Party Claim in respect of which the Indemnified Party is entitled to indemnification hereunder; provided that the failure to provide prompt notice shall not relieve the Indemnifying Party of its indemnification obligations hereunder, except to the extent (and only to the extent) that the Indemnifying Party is actually and materially prejudiced by the failure of the Indemnified Party to provide such prompt notice.

(b) If the Indemnifying Party provides written notice to the Indemnified Party stating that the Indemnifying Party is responsible for the entire Third-Party Claim within fifteen (15) Business Days after the Indemnifying Party's receipt of written notice from the Indemnified Party of such Third-Party Claim, the Indemnifying Party shall have the right, at the Indemnifying Party's expense, to defend against, negotiate, settle or otherwise deal with such Third-Party Claim and to have the Indemnified Party represented by counsel, reasonably satisfactory to the Indemnified Party, selected by the Indemnifying Party; provided, that (i) the Indemnified Party may participate in any proceeding with counsel of its choice and at its expense, (ii) the Indemnifying Party may not assume the defense of any Third-Party Claim if a material conflict of interest exists between the Indemnifying Party and the Indemnified Party that precludes effective joint representation, and (iii) the Indemnified Party may take over the defense and prosecution of a Third-Party Claim from the Indemnifying Party if the Indemnifying Party has failed or is failing to diligently prosecute or defend such Third-Party Claim following the provision of written notice to the Indemnifying Party of such failure and the failure of the Indemnifying Party to cure such failure within five (5) Business Days of receipt of such notice; and provided further, that the Indemnifying Party may not enter into a settlement of any Third-Party Claim without the written consent of the Indemnified Party, which will not be unreasonably withheld, delayed or conditioned, unless such settlement provides the Indemnified Party with a full release from such Third-Party Claim and requires no more than a monetary payment for which the Indemnified Party is fully indemnified. If the Indemnifying Party does not, or is not able to, assume or maintain control of such defense in compliance with this Section 8.7(b), the Indemnified Party will have the right to control such defense at the Indemnifying Party's expense.

8.8 Indemnification Procedure.

(a) In the event an Indemnified Party seeks a recovery, in accordance with the terms of this ARTICLE 8, in respect of any claim for indemnification (each, a "**Claim**"), the Indemnified Party shall deliver a written notice (a "**Claim Notice**") to the Indemnifying Party. Each Claim Notice shall, with respect to each Claim set forth therein, (i) specify in reasonable detail and in good faith the nature of the Claim being made and (ii) state the aggregate amount of Losses to which the Indemnified Party is entitled to indemnification pursuant to Section 8.3 or Section 8.5, as applicable, that have been incurred, or a good faith estimate of the aggregate amount of such Losses reasonably expected to be incurred, by Indemnified Party pursuant to such Claim (the "**Claim Amount**").

(b) If the Indemnifying Party wishes to object to the allowance of some or all Claims made in a Claim Notice, the Indemnifying Party must deliver a written objection (an "**Objection Notice**") to the Indemnified Party within fifteen (15) Business Days after receipt by the Indemnifying Party of such Claim Notice expressing such objection and explaining in reasonable detail and in good faith the basis therefor. Following receipt by the Indemnified Party of an Objection Notice, the Indemnified Party and the Indemnifying Party shall promptly, and within thirty (30) Business Days, meet to agree on the rights of the respective parties with respect to each Claim that is the subject of such Objection Notice. In the event that the Indemnified Party and the Indemnifying Party do not resolve any dispute with respect to a Claim within thirty (30) Business Days of receipt by the Indemnified Party from the Indemnifying Party of the Objection Notice, then the Indemnified Party may commence a legal proceeding to resolve such dispute and enforce its rights with respect thereto in accordance with Section 9.6.

(c) If the Indemnified Party does not receive an Objection Notice from the Indemnifying Party by the end of the fifteen (15) Business Day period referred to in Section 8.8(b) above, the Indemnifying Party shall be deemed to have irrevocably waived any right to object to such Claim and to have agreed that Losses in the amount of the applicable Claim Amount are indemnifiable in accordance with the terms of this ARTICLE 8.

8.9 No Indemnification by the Company. Each of the Shareholders acknowledge and agree that, upon and following the Closing, the Company shall, except as required by Swiss law, not have any liability or obligation to indemnify, save or hold harmless or otherwise pay, reimburse or make any Shareholder whole for or on account of any indemnification or other claims made by any Buyer Indemnitee hereunder. None of the Shareholders shall have any right of contribution against the Company with respect to any such indemnification or other claim.

8.10 Exclusive Remedies. Except for claims based on or arising out of fraud, intentional misrepresentation or willful misconduct or seeking the remedy of specific performance or injunction, the indemnification rights of the parties under this ARTICLE 8 shall be the sole and exclusive remedy available to the Parties with respect to any claim, demand, action, cause, cause of action, suit, or other action, direct or indirect, vested or contingent, known or unknown, anticipated or unanticipated, suspected or unsuspected, accrued or unaccrued, fixed, contingent, or conditional, at law, in equity, in tort, by Law, Contract, or otherwise, in any way related to, resulting, or arising from the execution and delivery of this Agreement, or any breach of the representations, warranties, covenants, or agreements of the Parties in this Agreement. Notwithstanding anything contained herein to the contrary, nothing shall prohibit Buyer from seeking and obtaining recourse against any of the Shareholders in the event of fraud, intentional misrepresentation or willful misconduct by the Company.

ARTICLE 9.
MISCELLANEOUS

9.1 Notices. Any notice, request, demand, waiver, consent, approval or other communication which is required or permitted hereunder shall be in writing and shall be deemed given: (a) on the date established by the sender as having been delivered personally; (b) on the date delivered by a private courier as established by the sender by evidence obtained from the courier; (c) on the date sent by facsimile, with confirmation of transmission, if sent during normal business hours of the recipient, if not, then on the next business day; or (d) on the fifth day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid ("**Notice**"). All communication must be in English. Such communications, to be valid, must be addressed as follows:

(a) If to the Company:

Mind-NRG SA
Rue de Jargonnant 2
c/o Index Venture Management SA
1207 Genève
Switzerland
Attention: Bertrand Damour
Facsimile No.: +41 22 737 0099

With a copy to, which shall not constitute notice:

VISCHER Ltd
Attention: Dr. Matthias Staehelin
Aeschenvorstadt 4, CH-4010 Basel, Switzerland
Facsimile No.: +41 58 211 33 10

(b) If to any Shareholder, notice shall be delivered to the address designated by such Shareholder on Schedule A hereto.

(c) If to Buyer:

Minerva Neurosciences, Inc.
245 First Street, Suite 1800
Cambridge, MA 02142
Attention: CEO

With a copy to, which shall not constitute notice:

Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540-6241
Attention: Denis Segota

Facsimile No.: (609) 919-6701

or to such other address or to the attention of such Person or Persons as the recipient party has specified by prior written notice to the sending party (or in the case of counsel, to such other readily ascertainable business address as such counsel may hereafter maintain). If more than one method for sending notice as set forth above is used, the earliest notice date established as set forth above shall control.

9.2 Amendments and Waivers. No amendment of this Agreement will be effective unless it is in writing and signed by the parties hereto. No waiver of any provision of this Agreement will be effective unless it is in writing and signed by the party granting the waiver, and no such waiver will constitute a waiver of satisfaction of any other provision of this Agreement. To be valid, any document signed by a party in accordance with this Section 9.2 must be signed by a party authorized to do so. No failure or delay by any party in exercising any right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof of the exercise of any other right, power or privilege.

9.3 Expenses. Except as otherwise provided in this Agreement, each party shall bear its own costs and expenses in connection with this Agreement, the Ancillary Agreements and the transactions contemplated hereby and thereby, including all legal, accounting, financial advisory, consulting and all other fees and expenses of third parties, whether or not the transactions contemplated by this Agreement and the Ancillary Agreements are consummated; provided that the Shareholders shall be responsible, pro rata based on each Shareholder's Pro Rata Share of the Consideration, for all costs and expenses incurred by the Company in connection with this Agreement, the Ancillary Agreements and the transactions contemplated hereby and thereby to the extent such costs are not paid prior to the Closing.

9.4 Assignment and Delegation. No party may assign any part of its rights, or delegate any of its obligations, under this Agreement, except (i) with the other parties' prior written consent, (ii) Buyer may assign its rights and obligations under this Agreement, in whole or in part, to any of its Affiliates or to any subsequent purchaser of all or substantially all of the assets of the Company and (iii) each Shareholder may assign its rights and obligations under this Agreement any consideration received pursuant to this Agreement to the ultimate holders of such Shareholder (which in the case of Pentavest shall include Index Ventures V (Jersey), LP, Index Ventures V Parallel Entrepreneur Fund (Jersey), LP and Yucca (Jersey) SLP). No party shall unreasonably withhold its consent to assignment. Any purported assignment of rights or delegation of obligations in violation of this Section 9.4 is void. Subject to the foregoing, all of the terms and provisions of this Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective executors, heirs, personal representatives, successors and assigns.

9.5 Governing Law. The Laws of the State of Delaware, without giving effect to principles of conflict of Laws, govern all matters arising out of or relating to this Agreement and all of the transactions it contemplates.

9.6 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. EACH PARTY HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE ACTIONS OF SUCH PARTY IN THE NEGOTIATION, ADMINISTRATION, PERFORMANCE AND ENFORCEMENT HEREOF.

9.7 Specific Performance. Buyer and the Shareholders each agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed by them in accordance with the terms hereof and that each party shall prior to Closing be entitled to specific performance of the terms hereof, in addition to any other remedy at Law or equity.

9.8 Counterparts. The parties may sign this Agreement in several counterparts, each of which will be deemed an original but all of which together will constitute one instrument. The parties agree that delivery of this Agreement may be effected by means of an exchange of facsimile or other electronic copies.

9.9 Third Party Beneficiaries. Except as set forth in this Agreement, no provision of this Agreement is intended to confer upon any Person other than the parties hereto any rights or remedies hereunder.

9.10 Severability. If any provision of this Agreement is held invalid, illegal or unenforceable in any jurisdiction, the remainder of this Agreement, or application of that provision to any Persons or circumstances, or in any jurisdiction, other than those as to which it is held unenforceable, will not be affected by that unenforceability and will be enforceable to the fullest extent permitted by Law.

9.11 Disclosure. Nothing in the Disclosure Schedule shall be deemed adequate to disclose an exception to a representation or warranty made herein unless the Disclosure Schedule identifies the exception with particularity and describes the relevant facts in reasonable detail. Notwithstanding the foregoing, it is expressly understood and acknowledged that any information disclosed in the Disclosure Schedule under any numbered or lettered part shall be deemed to relate to and qualify representations and warranties set forth in one or more other parts of the Disclosure Schedule, but only where the relevance of such disclosure to such other part or parts is clear from the text of such disclosure; provided, however, the mere listing (or inclusion of a copy) of a document or other item shall not by itself be deemed adequate to disclose an exception to a representation or warranty made herein (unless the representation or warranty has to do with the existence of the document or item itself).

9.12 Entire Agreement. This Agreement, the Ancillary Agreements, the Schedules and the other documents, instruments and other agreements specifically referred to in this Agreement or those documents or delivered under this Agreement or those documents constitute the final agreement between the parties. It is the complete and exclusive expression of the parties' agreement on the subject matter of this Agreement. This Agreement supersedes all prior oral or written agreements or policies relating to this Agreement. The provisions of this Agreement may not be explained, supplemented, or qualified through evidence of trade usage or a prior course of dealings or performance.

9.13 Headings; Interpretation. All headings contained in this Agreement are for convenience of reference only, do not form a part of this Agreement and shall not affect in any way the meaning or interpretation of this Agreement. For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include masculine and feminine genders. As used in this Agreement, the words "include" and "including," and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words "without limitation." Except as otherwise indicated, all references in this Agreement to "Sections," "Exhibits" and "Schedules" are intended to refer to Sections of this Agreement and Exhibits or Schedules to this Agreement.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed by their respective authorized officers as of the date first above written.

BUYER:

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO

[**Signature Page to Share Purchase Agreement**]

COMPANY:

MIND-NRG SA

By: /s/ Michele Ollier
Name: Michele Ollier
Title: Chairman

[**Signature Page to Share Purchase Agreement**]

SHAREHOLDERS:

PENTAVEST S.À.R.L.

By: /s/ Jean Steffen
Name: Jean Steffen
Title: Manager

By: /s/ Emilie Bordaneil
Name: Emilie Bordaneil
Title: Manager

[**Signature Page to Share Purchase Agreement**]

LIMBURGSE RECONVERSIEMAATSCHAPPIJ NV

By: /s/ Stijn Bijnens
Name: Stijn Bijnens
Title: CEO

KMOFIN 2 NV

By: /s/ Stijn Bijnens
Name: Stijn Bijnens
Title: CEO

[**Signature Page to Share Purchase Agreement**]

PROTEOSYS AG

By:	/s/ Helmut Matthies
Name:	Helmut Matthies
Title:	CEO

[**Signature Page to Share Purchase Agreement**]

BERTRAND DAMOUR

By: /s/ Bertrand Damour

[**Signature Page to Share Purchase Agreement**]

Schedule A

Shareholders

Name	Address for Notice	Number of Ordinary Shares Owned	Number of Preferred Shares Owned	Number of Non-Voting Shares Owned
Pentavest S.à.r.l	1-3, Boulevard de la Foire L-1528, Luxembourg Grand Duchy of Luxembourg Facsimile: +352 26 27 07 99 Attention: Emilie Bordaneil, Manager” with copies to: Index Ventures 2, rue de Jargonnant CH-1207 Geneva Switzerland Fax +41 22 737 00 99 Attention: André Dubois		219,520	
Limburgse Reconversiemaatschappij NV	Kempische Steenweg 555 3500 Hasselt Belgium Attention: CEO Facsimile No.: F +32 11 24 68 50		14,549	

Name	Address for Notice	Number of Ordinary Shares Owned	Number of Preferred Shares Owned	Number of Non-Voting Shares Owned
KMOFIN 2 NV	Kempische Steenweg 555 3500 Hasselt Belgium Attention: CEO Facsimile No.: F +32 11 24 68 50		7,275	
ProteoSys AG	Carl-Zeiss-Strasse 51 55129 Mainz Germany Attention: Geschäftsführer Facsimile No.: +49 6131 5019211	800		148,846
Bertrand Damour	rue Caroline 23 1003 Lausanne Switzerland			2,816

Schedule B

Allocation of Consideration

Name	Consideration to be Distributed at Closing	Holdback Shares	Total Consideration
Pentavest S.à.r.l	1,635,144	181,683	1,816,827
Limburgse Reconversiemaatschappij NV	794,862	88,318	883,180
KMOFIN 2 NV	397,431	44,159	441,590
ProteoSys AG	1,703,276	189,253	1,892,529
Bertrand Damour	136,262	15,140	151,402
Total	**4,666,975**	**518,553**	**5,185,528**

EXHIBIT A

BUYER SPA

[See attached]

EXHIBIT B

BOARD OBSERVER AGREEMENT

[See attached]

<u>EXHIBIT C</u>

JOINDER

[See attached]

EXHIBIT D

LOCKUP AGREEMENT

[See attached]

<u>EXHIBIT E</u>

FORM OF PROXY AGREEMENT

[See attached]

Exhibit 10.14

COMMON STOCK PURCHASE AGREEMENT

This **COMMON STOCK PURCHASE AGREEMENT** (“***Agreement***”) is made as of February 13, 2014 (the “***Effective Date***”), by and between Minerva Neurosciences, Inc., a Delaware corporation (the “***Company***”), and Johnson & Johnson Development Corporation, a New Jersey corporation (the “***Investor***”).

RECITALS

WHEREAS, the Investor desires to purchase from the Company, and the Company desires to sell and issue to the Investor, up to $26.0 million of the common stock, par value $0.0001 per share, of the Company (the “***Common Stock***”), in connection with Company’s initial public offering of Common Stock (the “***IPO***”) on the terms and subject to the conditions set forth in this Agreement (the “***Financing***”);

WHEREAS, the parties hereto have executed this Agreement on the Effective Date, which is prior to the effectiveness of the registration statement on Form S-1 to be filed by the Company with the Securities and Exchange Commission (the “***SEC***”) for the IPO;

WHEREAS, the closing of the Financing shall take place on the closing date of the closing of the IPO and at a price per share equal to the initial public offering price per share that the Common Stock is sold to the public in the IPO (the “***IPO Price***” and such date, the “***IPO Closing Date***”), as set forth on the cover of the final prospectus filed with the SEC; and

WHEREAS, in order to effect the IPO, the Company shall enter into an Underwriting Agreement (the “***Underwriting Agreement***”) with Jefferies LLC, as representative of the several underwriters named therein (the “***Underwriters***”).

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Purchase and Sale of Stock.

1.1 Sale and Issuance of Stock. The Company agrees to issue and sell to the Investor, and the Investor agrees to purchase from the Company, $26.0 million of Common Stock (the “***Investment Amount***”) at the IPO Price; provided, however, that in the event the purchase by the Investor of the full Investment Amount would result in the Investor owning 18% or more of the outstanding Common Stock following consummation of the IPO and the Financing, then the Investment Amount shall be reduced to an amount that results in the ownership by the Investor of less than 18% of the outstanding Common Stock following consummation of the IPO and the Financing. The number of shares of Common Stock to be sold by the Company and purchased by the Investor hereunder (the "***Shares***") shall equal the number of shares determined by dividing the Investment Amount (as adjusted as necessary pursuant to the proviso in the preceding sentence) by the IPO Price (rounded down to the nearest whole share). Payment of the purchase price for the Shares (the "***Purchase Price***") shall be made at the Closing (as defined below) by wire transfer of immediately available funds to the account specified in writing by the Company to the Investor, subject to the satisfaction of the conditions set forth in this Agreement. Payment of the Purchase Price for the Shares shall be made against delivery to the Investor of the Shares, which Shares shall be uncertificated and shall be registered in the name of the Investor on the books of the Company by the Company's transfer agent.

1.2 Closing. The closing of the sale and purchase of the Shares (the "***Closing***") will take place remotely via the exchange of documents and signatures after the satisfaction or waiver of each of the conditions set forth in Section 4 (other than those conditions that by their nature are to be satisfied at the Closing, but subject to the fulfillment or waiver of those conditions) on the IPO Closing Date.

2. Representations and Warranties of the Company. The Company hereby represents and warrants to the Investor that the following representations are true and correct as of the date hereof and as of the Closing (except to the extent any such representations and warranties expressly relate to an earlier date, in which case such representations and warranties are true and correct as of such earlier date); provided, that, for this purpose, the representations and warranties of the Company shall be deemed to be updated and modified by the information included in the Registration Statement, including but not limited to the final prospectus relating to the IPO, a copy of which Registration Statement shall have been furnished to the Investor prior to the Closing and on which the Investor shall be entitled to rely. "***Registration Statement***" means the registration statement on Form S-1, including any prospectus filed pursuant to Rule 424 under the Securities Act of 1933, as amended (the "***Securities Act***"), and any free writing prospectuses, relating to the IPO.

2.1 Organization, Valid Existence and Qualification. The Company is a corporation duly organized and validly existing under the laws of the State of Delaware and has all requisite corporate power and authority to carry on its business as currently conducted. The Company is duly qualified to transact business as a foreign corporation in each jurisdiction in which it conducts its business, except where failure to be so qualified could not reasonably be expected to result, either individually or in the aggregate, in a material adverse effect on the Company's financial condition, business or operations.

2.2 Registration Statement. The Registration Statement and any prospectus contained therein will not, as of the filing date of such Registration Statement, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

2.3 Authorization. All corporate action on the part of the Company, its officers, directors and shareholders necessary for the authorization, execution and delivery of this Agreement and the Registration Rights Agreement in the form attached hereto as Exhibit A (the "***Registration Rights Agreement***"), the performance of all obligations of the Company hereunder and thereunder, and the authorization, issuance, sale and delivery of the Shares, has been taken or will be taken prior to the Closing, and this Agreement and the Registration Rights Agreement constitutes the valid and legally binding obligation of the Company, enforceable in accordance with their respective terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, and other laws of general application affecting enforcement of creditors' rights generally, and (b) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies.

2.4 Valid Issuance of Shares. The Shares that are being purchased by the Investor hereunder, when issued, sold and delivered in accordance with the terms of this Agreement for the consideration expressed herein, will be duly and validly issued, fully paid, and nonassessable, and will be transferred to the Investor free of liens, encumbrances and restrictions on transfer other than (a) restrictions on transfer under this Agreement and under applicable state and federal securities laws, (b) restrictions on transfer under the lock-up agreement entered into by the Investor for the benefit of the Underwriters in the IPO, and (c) any liens, encumbrances or restrictions on transfer that are created or imposed by the Investor. Subject in part to the truth and accuracy of the Investor's representations set forth in Section 3 of this Agreement, the offer, sale and issuance of the Shares as contemplated by this Agreement are exempt from the registration requirements of applicable state and federal securities laws.

2.5 Non-Contravention. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of the Company is required in connection with the consummation of the sale and issuance of Shares contemplated by this Agreement, except for the filing of notices of the sale of Shares pursuant to Regulation D promulgated under the Securities Act and applicable state securities laws. The Company is not in violation or default in any material respect of any provision of its certificate of incorporation or bylaws, or of any instrument, judgment, order, writ or decree to which it is a party or by which it is bound, or, to its knowledge, of any provision of any federal or state statute, rule or regulation applicable to the Company, except for such violations or defaults of any federal or state statute, rule or regulation that could not reasonably be expected to result, either individually or in the aggregate, in a material adverse effect on the Company's financial condition, business or operations. The execution, delivery and performance of this Agreement and the Registration Rights Agreement and the consummation of the transactions contemplated hereby and thereby will not result in any such violation or constitute, with or without the passage of time and giving of notice, either (i) a default in any material respect of any such instrument, judgment, order, writ or decree, or (ii) an event that results in the creation of any lien, charge or encumbrance upon any assets of the Company or the suspension, revocation, impairment, forfeiture, or nonrenewal of any material permit, license, authorization or approval applicable to the Company, in each case, which could reasonably be expected to result, either individually or in the aggregate, in a material adverse effect on the Company's financial condition, business or operations.

3. Representations and Warranties of the Investor. The Investor hereby represents and warrants to the Company that the following representations are true and correct as of the date hereof and as of the Closing (except to the extent any such representations and warranties expressly relate to an earlier date, in which case such representations and warranties are true and correct as of such earlier date):

3.1 Authorization. The investor has all requisite power and authority to enter into this Agreement and the Registration Rights Agreement, and this Agreement and the Registration Rights Agreement constitute its valid and legally binding obligations, enforceable in accordance with their respective terms except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, and other laws of general application affecting enforcement of creditors' rights generally, and (b) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

3.2 Purchase Entirely for Own Account. This Agreement is made with the Investor in reliance upon the Investor's representations to the Company, which by the Investor's execution of this Agreement the Investor hereby confirms, that the Shares acquired by the Investor hereunder will be acquired for investment for the Investor's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that the Investor has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, the Investor further represents that the Investor does not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participation rights to such person or to any third person, with respect to any of the Shares.

3.3 No Solicitation. At no time was the Investor presented with or solicited by any publicly issued or circulated newspaper, mail, radio, television or other form of general advertising or solicitation in connection with the offer, sale and purchase of the Shares.

3.4 Access to Information. The Investor has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the Shares to be purchased by the Investor under this Agreement. The Investor further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of the Shares and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to the Investor or to which the Investor had access. The foregoing, however, does not in any way limit or modify the representations and warranties made by the Company in Section 2.

3.5 Investment Experience. The Investor understands that the purchase of the Shares involves substantial risk. The Investor has experience as an investor in securities of companies in the development stage and acknowledges that the Investor is able to fend for itself, can bear the economic risk of the Investor's investment in the Shares, including a complete loss of the investment, and has such knowledge and experience in financial or business matters that the Investor is capable of evaluating the merits and risks of this investment in the Shares and protecting its own interests in connection with this investment. The Investor represents that the office in which its investment decision was made is located at the address set forth in Section 6.5.

3.6 Accredited Investor. The Investor understands the term "accredited investor" within the meaning of Rule 501 of Regulation D promulgated under the Securities Act and is an "accredited investor" for the purposes of acquiring the Shares to be purchased by the Investor under this Agreement.

3.7 Restricted Securities.

(a) The Investor understands that the Shares are characterized as "restricted securities" under the Securities Act inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under the Securities Act and applicable regulations thereunder such securities may be resold without registration under the Securities Act only in certain limited circumstances. In this connection, the Investor represents that the Investor is familiar with Rule 144 of the Securities Act, as presently in effect, and understands the resale limitations imposed thereby and by the Securities Act.

(b) The Investor understands that the certificates evidencing the Shares may bear one or all of the following legends (or substantially similar legends):

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. 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. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME.*

THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A LOCK-UP AGREEMENT EXECUTED BY THE ORIGINAL HOLDER OF THESE SHARES, A COPY OF WHICH MAY BE OBTAINED AT THE PRINCIPAL OFFICE OF THE ISSUER. AS A RESULT OF SUCH AGREEMENT, THESE SHARES MAY NOT BE TRADED FOR A PERIOD OF TIME AFTER THE EFFECTIVE DATE OF THE INITIAL PUBLIC OFFERING OF THE COMMON STOCK OF THE ISSUER HEREOF. SUCH RESTRICTION IS BINDING ON TRANSFEREES OF THESE SHARES.

3.8 No Brokers. The Investor has not incurred, and will not incur in connection with the purchase of the Shares, any brokerage or finders' fees, or agents' commissions or similar liabilities.

4. Conditions to the Investor's Obligations at Closing. The obligations of the Investor at Closing are subject to the fulfillment or waiver, on or by Closing, of each of the following conditions, which waiver may be given by written, oral or telephone communication to the Company or its counsel.

4.1 Representations and Warranties. Each of the representations and warranties of the Company contained in Section 2 shall be true and accurate in all material respects on and as of the Closing with the same force and effect as if they had been made at the Closing, except for (a) those representations and warranties that address matters only as of a particular date (which shall remain true and correct as of such particular date), with the same force and effect as if they had been made at the Closing, and (b) those representations and warranties which (i) are qualified as to materiality or (ii) provide that the Company's failure to comply with such representation or warranty would not result in a material adverse effect, shall be true and accurate in every respect as of the Closing.

4.2 Performance. The Company shall have performed and complied in all material respects with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing and shall have obtained all approvals, consents and qualifications necessary to complete the purchase and sale described herein.

4.3 IPO. The Registration Statement shall have been declared effective by the SEC. The Underwriters shall have purchased the Firm Shares (as defined in the Underwriting Agreement) at the IPO Price (less any underwriting discounts or commissions).

4.4 Qualifications. All authorizations, approvals, or permits, if any, of any governmental authority or regulatory body of the United States or of any state that are required in connection with the lawful issuance and sale of the Shares pursuant to this Agreement shall be duly obtained and effective as of the Closing, other than (a) the filing pursuant to Regulation D, promulgated under the Securities Act, and (b) the filings required by applicable state "blue sky" securities laws, rules and regulations.

4.5 Registration Rights Agreement. The Company shall have executed and delivered to the Investor the Registration Rights Agreement.

5. Conditions to the Company's Obligations at Closing. The obligations of the Company to the Investor at the Closing are subject to the fulfillment, on or by the Closing, of each of the following conditions, which waiver may be given by written, oral or telephone communication to the Investor or its counsel:

5.1 Representations and Warranties. The representations and warranties of the Investor contained in Section 3 shall be true and accurate in all material respects on and as of the Closing with the same force and effect as if they had been made at the Closing.

5.2 Performance. The Investor shall have performed and complied in all material respects with all agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or before the Closing and shall have obtained all approvals, consents and qualifications necessary to complete the purchase and sale described herein.

5.3 Payment of the Purchase Price. The Investor shall have delivered the Purchase Price as specified in Section 1.1 of this Agreement.

5.4 Delivery of Lock-up Agreement. The Investor shall have delivered to the Company or the Underwriters a Lock-up Agreement (as defined in the Underwriting Agreement) duly executed by the Investor.

5.5 Qualifications. All authorizations, approvals, or permits, if any, of any governmental authority or regulatory body of the United States or of any state that are required in connection with the lawful issuance and sale of the Shares pursuant to this Agreement shall be

duly obtained and effective as of the Closing, other than (a) the filing pursuant to Regulation D, promulgated under the Securities Act, and (b) the filings required by applicable state "blue sky" securities laws, rules and regulations.

5.6 IPO. The Underwriters shall have purchased the Firm Shares at the IPO Price (less any underwriting discounts or commissions).

5.7 Registration Rights Agreement. The Investor shall have executed and delivered to the Company the Registration Rights Agreement.

6. Miscellaneous.

6.1 Survival of Representations and Warranties. The representations and warranties of the Company and the Investor contained in or made pursuant to this Agreement shall survive the execution and delivery of this Agreement until the Closing, and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Investor or the Company.

6.2 Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of New Jersey (without reference to the conflicts of law provisions thereof).

6.3 Counterparts; Facsimile Signatures. 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. This Agreement may be executed and delivered by facsimile, or by email in portable document format (.pdf) and upon such delivery of the signature page by such method will be deemed to have the same effect as if the original signature had been delivered to the other parties.

6.4 Headings; Interpretation. In this Agreement, (a) the meaning of defined terms shall be equally applicable to both the singular and plural forms of the terms defined, (b) the captions and headings are used only for convenience and are not to be considered in construing or interpreting this Agreement and (c) the words "including," "includes" and "include" shall be deemed to be followed by the words "without limitation." All references in this Agreement to sections, paragraphs, exhibits and schedules shall, unless otherwise provided, refer to sections and paragraphs hereof and exhibits and schedules attached hereto, all of which exhibits and schedules are incorporated herein by this reference.

6.5 Notices. Unless otherwise provided herein, any and all notices required or permitted to be given to a party pursuant to the provisions of this Agreement will be in writing and will be effective and deemed to provide such party sufficient notice under this Agreement on the earliest of the following: (a) at the time of personal delivery, if delivery is in person; (b) at the time of transmission by facsimile, addressed to the other party at its facsimile number specified herein (or hereafter modified by subsequent notice to the parties hereto), with confirmation of receipt made by printed confirmation sheet verifying successful transmission of the facsimile; (c) one (1) business day after deposit with an express overnight courier for United States deliveries, or two (2) business days after such deposit for deliveries outside of the United States, with proof of delivery from the courier requested; or (d) three (3) business days after

deposit in the United States mail by certified mail (return receipt requested) for United States deliveries. All notices for delivery outside the United States will be sent by facsimile or by express courier. Notices by facsimile shall be machine verified as received. All notices not delivered personally or by facsimile will be sent with postage and/or other charges prepaid and properly addressed to the party to be notified at the address or facsimile number as follows, or at such other address or facsimile number as such other party may designate by one of the indicated means of notice herein to the other parties hereto as follows:

(a) if to the Investor:

Johnson & Johnson Development Corporation
410 George Street
New Brunswick, New Jersey 08901
Facsimile: (732) 247-5309
Attention: Kathy Horvath

With a copy to (which shall not constitute notice):

Johnson & Johnson Development Corporation
410 George Street
New Brunswick, New Jersey 08901
Facsimile: (732) 524-5334
Attention: Office of the General Counsel

; and

(b) if to the Company:

Minerva Neurosciences, Inc.
245 First Street, Suite 1800
Cambridge, MA 02142
Attention: Chief Executive Officer

With a copy to (which shall not constitute notice):

Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540
Facsimile: (609) 919-6701
Attention: Denis Segota, Esq.

6.6 No Finder's Fees. The Investor agrees to indemnify and to hold harmless the Company from any liability for any commission or compensation in the nature of a finders' or broker's fee (and any asserted liability as a result of the performance of services of any such finder or broker) for which the Investor or any of its officers, partners, employees, or representatives is responsible. The Company agrees to indemnify and hold harmless the Investor from any liability for any commission or compensation in the nature of a finder's or broker's fee (and any asserted liability as a result of the performance of services by any such finder or broker) for which the Company or any of its officers, employees or representatives is responsible.

6.7 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the Investor. Any amendment or waiver effected in accordance with this Section 6.7 shall be binding upon each holder of any Shares at the time outstanding, each future holder of such securities, and the Company. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision as to that or any other instance. No waiver granted under this Agreement as to any one provision herein shall constitute a subsequent waiver of such provision or of any other provision herein, nor shall it constitute the waiver of any performance other than the actual performance specifically waived.

6.8 Severability. If any provision of this Agreement is determined by any court or arbitrator of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such provision will be enforced to the maximum extent possible given the intent of the parties hereto. If such clause or provision cannot be so enforced, such provision shall be stricken from this Agreement and the remainder of this Agreement shall be enforced as if such invalid, illegal or unenforceable clause or provision had (to the extent not enforceable) never been contained in this Agreement.

6.9 Entire Agreement. This Agreement, together with all exhibits and schedules hereto, constitute the entire agreement and understanding of the parties with respect to the subject matter hereof and supersede any and all prior negotiations, correspondence, agreements, understandings duties, or obligations, whether oral or written, between or among the parties hereto with respect to the specific subject matter hereof.

6.10 Third Parties. Nothing in this Agreement, express or implied, is intended to confer upon any person, other than the parties hereto and their successors and assigns, any rights or remedies under or by reason of this Agreement.

6.11 Costs, Expenses. The Company and the Investor will each bear their own expenses in connection with the preparation, execution and delivery of this Agreement and the consummation of the Financing.

6.12 Further Assurances. The parties agree to execute such further documents and instruments and to take such further actions as may be reasonably necessary to carry out the purposes and intent of this Agreement.

6.13 Termination. This Agreement shall automatically terminate upon the earliest to occur, if any, of: (a) either the Company, on the one hand, or either of the Underwriters, on the other hand, advising the other in writing, prior to the execution of the Underwriting Agreement, that they have determined not to proceed with the IPO, (b) termination of the Underwriting Agreement (other than the provisions thereof which survive termination) prior to the sale of any of the Common Stock to the Underwriters, (c) the registration statement filed with the SEC with respect to the IPO is withdrawn, (d) the Underwriting Agreement has not become effective by September 30, 2014, or (e) the written consent of each of the Company and the Investor.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this **COMMON STOCK PURCHASE AGREEMENT** as of the date first written above.

COMPANY:

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD MBA
Title: Co-Founder President and CEO

[Signature Page to Common Stock Purchase Agreement]

IN WITNESS WHEREOF, the parties hereto have executed this **COMMON STOCK PURCHASE AGREEMENT** as of the date first written above.

<u>INVESTOR</u>:

JOHNSON & JOHNSON DEVELOPMENT CORPORATION.

By: /s/ Zeev Zehavi
Name: Zeev Zehavi
Title: Vice President

[Signature Page to Common Stock Purchase Agreement]

EXHIBIT 10.15

CONSULTING AGREEMENT

This CONSULTING AGREEMENT (this "Agreement") is entered into as of January 11, 2011, by and between Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Remy Luthringer, an individual ("Consultant").

WHEREAS, the Company wishes to obtain the services of Consultant for certain purposes, and Consultant wishes to provide such services, all subject to the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, and intending to be legally bound, the Company and Consultant hereby agree as follows:

1. Services to Be Provided. During the Term (as defined below), Consultant shall provide services of business development and advice in terms of strategy (the "Services"). The Consultant shall be available to render the Services (a) during normal business hours or such other reasonable times as the parties may agree and (b) at the Company's offices, places the Company may request from time to time or such other places as the parties may agree. Consultant shall target to provide 36 hours of work on a bi-weekly basis.

2. Term. The initial term of this Agreement shall begin on January 11, 2011, and shall continue until December 31, 2011, unless terminated prior thereto pursuant to Paragraph 7 below (the "Initial Term"). At the expiration of the Initial Term, the Term of this Agreement shall automatically renew for successive one (1) month periods (the Initial Term, all such renewal periods and the Transition Period (as defined below), the "Term") unless written notice of non-renewal is provided by one party to the other at least ten (10) days prior to the applicable renewal date. If at any time during the Term of this Agreement, the Company hires an individual to serve as Chief Medical Officer, the Consultant hereby agrees to continue to provide Services under this Agreement for one (1) month from the date of such hiring (the "Transition Period").

3. Compensation and Expenses.

(a) Monthly Payment. As compensation for Consultant's performance of the Services to be performed by Consultant under this Agreement, the Company shall pay Consultant $11,250 per month (the "Monthly Payment"), payable bi-weekly in arrears, for each month during which he provides Services during the Term; provided, however, if at any time during the Term of this Agreement, the Company hires an individual to serve as Chief Medical Officer, the Monthly Payment for the remainder of the Term and during the Transition Period shall be $8,000 per month, payable bi-weekly in arrears. To the extent the Transition Period does not commence at the start of the applicable bi-weekly pay period, the Monthly Payment shall only be reduced for such pro rata portion of the bi-weekly pay period that was part of the Transition Period.

(b) Expenses. The Company shall reimburse the Consultant for all reasonable travel and other business expenses incurred in the performance of Consultant's duties to the Company in accordance with the Company's applicable expense reimbursement policies and procedures. Notwithstanding the foregoing, no individual expense shall exceed $2,500 without the prior written approval of the Company.

4. Independent Contractor. Consultant acknowledges that he is acting as an independent contractor, that Consultant is solely responsible for his actions or inactions, and that nothing in this Agreement will be construed to create an agency, employment, partnership or joint venture relationship between the Company and Consultant. Consultant is not authorized to enter into contracts or agreements on behalf of the Company or to otherwise create obligations of the Company to third parties without prior written authorization by the Company. Consultant acknowledges that he is not an employee of the Company for any purpose, including for: (i) federal, state or local tax, employment, withholding or reporting purposes; or (ii) eligibility or entitlement to any benefit under any of the Company employee benefit plans (including those that are subject to the Employee Retirement Income Security Act of 1974, as amended), incentive compensation or other employee programs or policies. Consultant agrees that he is solely responsible for payment of all applicable workers' compensation, disability benefits, unemployment insurance and any other taxes required by any foreign jurisdiction, and for withholding and paying any such taxes (including any employment taxes and income withholding taxes) as required.

5. Restrictive Covenants.

(a) Confidentiality. The Consultant agrees that he will not during the Term or thereafter divulge to anyone (other than the Company or any persons designated by the Company) any knowledge or information of any type whatsoever of a confidential nature relating to the business of the Company, including, without limitation, all types of trade secrets, business strategies, marketing, sales and distribution plans (collectively, "Confidential Information"). The Consultant further agrees that he will not disclose, publish or make use of any such Confidential Information (other than in the performance of the Consultant's duties hereunder) without the prior written consent of the Company. Consultant shall use the Confidential Information solely for the performance of Services under this Agreement and for no other purpose. Consultant shall not use any Confidential Information to circumvent Company or its affiliates of their clients or use the Confidential Information for its own benefit. Consultant shall not reverse engineer, reverse compile or otherwise attempt to derive the composition or underlying information, structure or ideas of any Confidential Information This provision does not apply to information which becomes available publicly without the fault of the Consultant.

(b) Competitive Business Restrictions. During the Term, the Consultant shall not engage directly or indirectly, whether as an employee, independent contractor, consultant, partner, shareholder or otherwise, in a business or other endeavor which would or might interfere with any of Consultant's duties or obligations hereunder or which is competitive with or similar to the Company's business, anywhere in world. Notwithstanding the foregoing, the Consultant shall have the right to continue to serve in its current role as employee of Forenap Pharma, a Clinical Research Organization located in Rouffach, France, as long as such service does not materially interfere with Consultant's duties hereunder.

(c) Non-Disparagement. The Consultant agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, stockholders or affiliates, either orally or in writing, at any time.

6. Inventions. The Consultant agrees that all inventions, discoveries, improvements in "know how" and other trade secrets, other improvements and patentable or copyrightable works ("Inventions") initiated, conceived or made by him, either alone or in conjunction with others, while performing Services prior to and during the Term shall be the sole property of the Company to the maximum extent permitted by applicable law and, to the extent permitted by law, shall be "works made for hire" as that term is defined in the United States Copyright Act (17 U.S.C.A., Section 101). The Company shall be the sole owner of all patents, copyrights, trade secret rights, and other intellectual property or other rights in connection therewith. The Consultant hereby assigns to the Company all right, title and interest he may have or acquire in all such Inventions; provided, however, that the Board of Directors of the Company may in its sole discretion agree to waive the Company's rights pursuant to this Paragraph 6 with respect to any Invention that is not directly or indirectly related to the Company's business. The Consultant further agrees to assist the Company in every proper way (but at the Company's expense) to obtain and from time to time enforce patents, copyrights, trade secrets or other rights on such Inventions in any and all countries, and to that end the Consultant will execute all documents necessary:

(a) to apply for, obtain and vest in the name of the Company alone (unless the Company otherwise directs) letters patent, copyrights or other analogous protection in any country throughout the world and when so obtained or vested to renew and restore the same; and

(b) to defend any opposition proceedings in respect of such applications and any opposition proceedings or petitions or applications for revocation of such letters patent, copyright or other analogous protection.

7. Termination. Notwithstanding the provisions of Paragraph 2, either party may terminate this Agreement upon thirty (30) days' prior written notice to the other party. In the event of any termination of this Agreement, the Company shall be responsible for prompt payment of any portion of the compensation owed to Consultant under Paragraph 3 for any Services rendered prior to the effective date of such termination and the remaining Monthly Payments through the scheduled expiration of the Term.

8. No Conflicting Agreements. Consultant represents that Consultant is not a party to any existing agreement that would prevent Consultant from entering into and performing this Agreement. Consultant will not enter into any other agreement that is in conflict with Consultant's obligations under this Agreement. Subject to the foregoing, Consultant may from time to time act as a consultant to, perform professional services for, or enter into agreements similar to this Agreement with other persons or entities without the necessity of obtaining approval from the Company.

9. Equitable Relief. Consultant agrees that it would be impossible or inadequate to measure and calculate the Company's damages from any breach of the covenants set forth in Paragraph 5 of this Agreement. Accordingly, Consultant and the Company agree that if

Consultant breaches or is accused of breaching any of such covenants, the Company will have available, in addition to any other right or remedy available, the right to seek an injunction from a court of competent jurisdiction restraining such breach or threatened breach and to order specific performance of any such provision of this Agreement, and Consultant will have available the right to seek declaratory relief from a court of competent jurisdiction regarding such alleged breach or threatened breach. Consultant further agrees that no bond or other security shall be required in obtaining such equitable relief and Consultant hereby consents to the issuance of such injunction and to the ordering of such specific performance.

10. Entire Agreement; Amendment and Assignment. This Agreement is the sole agreement between Consultant and the Company with respect to the Services to be performed hereunder and supersedes all prior agreements and understandings with respect thereto, whether oral or written. No modification to any provision of this Agreement shall be binding unless in writing and signed by both Consultant and the Company. No waiver of any rights under this Agreement will be effective unless in writing signed by the party to be charged. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, except that the duties and responsibilities of Consultant hereunder are of a personal nature and shall not be assignable or delegable in whole or in part by Consultant.

11. Survival. Any provision of this Agreement which, by its nature, would survive termination of this Agreement will survive any such termination of this Agreement and remain in full force and effect, including but not limited to Paragraphs 4, 5 and 6 of this Agreement.

12. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Delaware, without giving effect to any conflict of laws provisions.

13. Notices. All notices and other communications required or permitted hereunder or necessary or convenient in connection herewith shall be in writing and shall be deemed to have been given when hand-delivered, sent by facsimile or mailed by registered or certified mail, as follows (provided that notice of change of address shall be deemed given only when received):

If to the Company, to:

Cyrenaic Pharmaceuticals, Inc.
47 Hulfish Street, Ste. 310
Princeton, NJ 08542
Attention: Lorenzo Pellegrini
Facsimile No.: 1-609-683-5787

If to Consultant, to:

Dr. Remy Luthringer
[Address]
Facsimile No.: [number]

or to such other names or addresses as the Company or Consultant, as the case may be, shall designate by notice to each other person entitled to receive notices in the manner specified in this Paragraph.

14. Counterparts. This Agreement shall become binding when any one or more counterparts hereof, individually or taken together, shall bear the signatures of Consultant and the Company. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

15. Severability. If any provision of this Agreement or application thereof to anyone or under any circumstances is adjudicated to be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect any other provision or application of this Agreement that can be given effect without such invalid or unenforceable provision or application in any other jurisdiction.

IN WITNESS WHEREOF, the undersigned, intending to be legally bound, have duly executed this Agreement as of the date first above written.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ A.N. Karabelas

Name: A.N. Karabelas

Title: Chairman

CONSULTANT

/s/ Remy Luthringer

Remy Luthringer

IN WITNESS WHEREOF, the undersigned, intending to be legally bound, have duly executed this Agreement as of the date first above written.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ A. Karabelas

Name: A.N. Karabelas

Title: Chairman

CONSULTANT

/s/ Remy Luthringer
Remy Luthringer

Exhibit 10.16

AMENDMENT NO. 1
TO THE
CONSULTING AGREEMENT

This Amendment No. 1 (this "**Amendment**") to the Consulting Agreement, dated as of January 11, 2011 (the "**Agreement**"), is made and entered into as of September 1, 2011 (the "**Execution Date**"), by and between Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "**Company**"), and Remy Luthringer, an individual ("**Consultant**"). Company and Consultant are each referred to individually as a "**Party**" and together as the "**Parties**".

RECITALS:

WHEREAS, the Parties are the parties to the Agreement; and

WHEREAS, the Parties wish to amend the Agreement subject to the terms and conditions set forth in this Amendment.

NOW, THEREFORE, the Parties hereto agree and affirm that the Agreement is hereby amended as follows:

1. The words "36 hours" in the last sentence of Section 1 of the Agreement shall be amended to "40 hours".

2. The words "$11,250 per month" in the first sentence of Section 3(a) of the Agreement shall be amended to "$14,100 per month".

3. No Other Amendments. Except as expressly provided herein, the Agreement remains in full force and effect in accordance with its terms.

4. Headings and Captions. The headings and captions used in this Amendment are for convenience and reference purposes only and shall not be considered a part of or effect the construction or interpretation of any provision of this Amendment.

5. Counterparts; Effectiveness. This Amendment may be executed in two or more counterparts, each of which shall be an original, but all of which together shall constitute one and the same instrument. This Amendment shall become effective when each Party hereto shall have received a counterpart hereof signed by the other Parties hereto.

6. Severability. If any provision of the Amendment is held to be invalid or unenforceable, the remaining provisions shall nevertheless be given full force and effect.

7. Governing Law. This Amendment shall be governed by, and construed interpreted and enforced in accordance with the laws of the State of Delaware.

[Signature Page to Amendment No. 1 to the Consulting Agreement]

IN WITNESS WHEREOF, the Parties hereto have each caused this Amendment to be executed as of the Execution Date.

Company:	**CYRENAIC PHARMACEUTICALS, INC.**	
	By:	/s/ Lorenzo Pellegrini
	Name:	Lorenzo Pellegrini
	Title:	Director & Secretary
Consultant		
	Name:	/s/ Remy Luthringer
		Remy Luthringer

[Signature Page to Amendment No. 1 to the Consulting Agreement]

EXHIBIT 10.17

CONSULTING AGREEMENT

This CONSULTING AGREEMENT (this "Agreement") is entered into as of 1st September, 2011, by and between Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Geoff Race, an individual ("Consultant"). This Agreement replaces the unsigned agreement dated July 26th, 2010 in Schedule I.

WHEREAS, the Company wishes to obtain the services of Consultant for certain purposes, and Consultant wishes to provide such services, all subject to the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, and intending to be legally bound, the Company and Consultant hereby agree as follows:

1. Services to Be Provided. During the Term (as defined below), Consultant shall provide business development and other related services to assist the Company in selling or licensing its lead asset (the "Services"). The Consultant shall be available to render the Services (a) during normal business hours or such other reasonable times as the parties may agree and (b) at the Company's offices, places the Company may request from time to time or such other places as the parties may agree.

2. Term. The initial term of this Agreement shall begin on 1st September, 2011, and shall continue until December 31, 2012, unless terminated prior thereto pursuant to Paragraph 7 below (the "Initial Term"). At the expiration of the Initial Term, the Term of this Agreement shall automatically renew for successive one (1) month periods (the Initial Term, all such renewal periods and the Transition Period (as defined below), the "Term") unless written notice of non-renewal is provided by one party to the other at least ten (10) days prior to the applicable renewal date.

3. Compensation and Expenses.

(a) Monthly Payment. As compensation for Consultant's performance of the Services to be performed by Consultant under this Agreement, the Company shall pay Consultant 1,500 US Dollars per day (assuming an 8 hour work day, or any pro rata reduced amount for less than a full 8 hour work day) up to a maximum of 12,000 US Dollars per month (the "Monthly Payment"). Payment shall be made in arrears within thirty (30) days after receipt by Company of an invoice from Consultant indicating the number of days worked for such month, for each month during which he provides Services during the Term.

(b) Equity Grant. As compensation for the Consultant's performance of the Services to be performed by the Consultant under this Agreement, concurrently with, or promptly following, the execution of this Agreement, the Company shall grant Consultant the right to purchase 346,154 shares of the Company's common stock, at the par value $0.0001 per share (“Common Stock”), which is equivalent to 2.5% of the Company capitalization on a fully diluted basis as of the date of this Agreement.

(c) Expenses. The Company shall reimburse the Consultant for all reasonable travel and other business expenses incurred in the performance of Consultant’s duties to the Company in accordance with the Company’s applicable expense reimbursement policies and procedures. Notwithstanding the foregoing, no individual expense shall exceed 2,500 US Dollars without the prior written approval of the Company.

4. Independent Contractor. Consultant acknowledges that he is acting as an independent contractor, that Consultant is solely responsible for his actions or inactions, and that nothing in this Agreement will be construed to create an agency, employment, partnership or joint venture relationship between the Company and Consultant. Consultant is not authorized to enter into contracts or agreements on behalf of the Company or to otherwise create obligations of the Company to third parties without prior written authorization by the Company. Consultant acknowledges that he is not an employee of the Company for any purpose, including for: (i) federal, state or local tax, employment, withholding or reporting purposes; or (ii) eligibility or entitlement to any benefit under any of the Company employee benefit plans (including those that are subject to the Employee Retirement Income Security Act of 1974, as amended), incentive compensation or other employee programs or policies. Consultant agrees that he is solely responsible for payment of all applicable workers’ compensation, disability benefits, unemployment insurance and any other taxes required by any foreign jurisdiction, and for withholding and paying any such taxes (including any employment taxes and income withholding taxes) as required.

5. Restrictive Covenants.

(a) Confidentiality. The Consultant agrees that he will not during the Term or thereafter divulge to anyone (other than the Company or any persons designated by the Company) any knowledge or information of any type whatsoever of a confidential nature relating to the business of the Company, including, without limitation, all types of trade secrets, business strategies, marketing, sales and distribution plans (collectively, “Confidential Information”). The Consultant further agrees that he will not disclose, publish or make use of any such Confidential Information (other than in the performance of the Consultant’s duties hereunder) without the prior written consent of the Company. Consultant shall use the Confidential Information solely for the performance of Services under this Agreement and for no other purpose. Consultant shall not use any Confidential Information to circumvent Company or its affiliates of their clients or use the Confidential Information for its own benefit. Consultant shall not reverse engineer, reverse compile or otherwise attempt to derive the composition or underlying information, structure or ideas of any Confidential Information This provision does not apply to information which becomes available publicly without the fault of the Consultant.

(b) Competitive Business Restrictions. During the Term, the Consultant shall not engage directly or indirectly, whether as an employee, independent contractor, consultant, partner, shareholder or otherwise, in a business or other endeavor which would or might interfere with any of Consultant’s duties or obligations hereunder or which is competitive with or similar to the Company’s business, anywhere in world. Notwithstanding the foregoing, the Consultant shall have the right to continue to serve in its current roles as (i) CEO of Funxional Therapeutics Ltd., a pharmaceutical company based in Cambridge, UK, (ii) a consultant to PanGenetics BV, a pharmaceutical company based in Royston, UK and Utrecht, NL, (iii) a consultant to Sonkei Inc., a pharmaceutical company based in Princeton, NJ, USA as long as such services do not materially interfere with Consultant's duties hereunder.

(c) Non-Disparagement. The Consultant agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, stockholders or affiliates, either orally or in writing, at any time.

6. Inventions. The Consultant agrees that all inventions, discoveries, improvements in "know how" and other trade secrets, other improvements and patentable or copyrightable works ("Inventions") initiated, conceived or made by him, either alone or in conjunction with others, while performing Services prior to and during the Term shall be the sole property of the Company to the maximum extent permitted by applicable law and, to the extent permitted by law, shall be "works made for hire" as that term is defined in the United States Copyright Act (17 U.S.C.A., Section 101). The Company shall be the sole owner of all patents, copyrights, trade secret rights, and other intellectual property or other rights in connection therewith. The Consultant hereby assigns to the Company all right, title and interest he may have or acquire in all such Inventions; provided, however, that the Board of Directors of the Company may in its sole discretion agree to waive the Company's rights pursuant to this Paragraph 6 with respect to any Invention that is not directly or indirectly related to the Company's business. The Consultant further agrees to assist the Company in every proper way (but at the Company's expense) to obtain and from time to time enforce patents, copyrights, trade secrets or other rights on such Inventions in any and all countries, and to that end the Consultant will execute all documents necessary:

(a) to apply for, obtain and vest in the name of the Company alone (unless the Company otherwise directs) letters patent, copyrights or other analogous protection in any country throughout the world and when so obtained or vested to renew and restore the same; and

(b) to defend any opposition proceedings in respect of such applications and any opposition proceedings or petitions or applications for revocation of such letters patent, copyright or other analogous protection.

7. Termination. Notwithstanding the provisions of Paragraph 2, either party may terminate this Agreement upon thirty (30) days' prior written notice to the other party. In the event of any termination of this Agreement, the Company shall be responsible for prompt payment of any portion of the compensation owed to Consultant under Paragraph 3 for any Services rendered prior to the effective date of such termination.

8. No Conflicting Agreements. Consultant represents that Consultant is not a party to any existing agreement that would prevent Consultant from entering into and performing this Agreement. Consultant will not enter into any other agreement that is in conflict with Consultant's obligations under this Agreement. Subject to the foregoing, Consultant may from time to time act as a consultant to, perform professional services for, or enter into agreements

similar to this Agreement with other persons or entities without the necessity of obtaining approval from the Company.

9. Equitable Relief. Consultant agrees that it would be impossible or inadequate to measure and calculate the Company's damages from any breach of the covenants set forth in Paragraph 5 of this Agreement. Accordingly, Consultant and the Company agree that if Consultant breaches or is accused of breaching any of such covenants, the Company will have available, in addition to any other right or remedy available, the right to seek an injunction from a court of competent jurisdiction restraining such breach or threatened breach and to order specific performance of any such provision of this Agreement, and Consultant will have available the right to seek declaratory relief from a court of competent jurisdiction regarding such alleged breach or threatened breach. Consultant further agrees that no bond or other security shall be required in obtaining such equitable relief and Consultant hereby consents to the issuance of such injunction and to the ordering of such specific performance.

10. Entire Agreement; Amendment and Assignment. This Agreement is the sole agreement between Consultant and the Company with respect to the Services to be performed hereunder and supersedes all prior agreements and understandings with respect thereto, whether oral or written. No modification to any provision of this Agreement shall be binding unless in writing and signed by both Consultant and the Company. No waiver of any rights under this Agreement will be effective unless in writing signed by the party to be charged. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, except that the duties and responsibilities of Consultant hereunder are of a personal nature and shall not be assignable or delegable in whole or in part by Consultant.

11. Survival. Any provision of this Agreement which, by its nature, would survive termination of this Agreement will survive any such termination of this Agreement and remain in full force and effect, including but not limited to Paragraphs 4, 5 and 6 of this Agreement.

12. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of New York, without giving effect to any conflict of laws provisions.

13. Notices. All notices and other communications required or permitted hereunder or necessary or convenient in connection herewith shall be in writing and shall be deemed to have been given when hand-delivered, sent by facsimile or mailed by registered or certified mail, as follows (provided that notice of change of address shall be deemed given only when received):

If to the Company, to:

Cyrenaic Pharmaceuticals, Inc.
47 Hulfish Street, Ste. 310
Princeton, NJ 08542
Attention: Lorenzo Pellegrini

Facsimile No.: 1-609-683-5787

If to Consultant, to:

Geoff Race
Building 14a
Michael Young Centre
Purbeck Road
Cambridge CB2 8QL
United Kingdom
Facsimile No.: +44 1223 245565

or to such other names or addresses as the Company or Consultant, as the case may be, shall designate by notice to each other person entitled to receive notices in the manner specified in this Paragraph.

14. Counterparts. This Agreement shall become binding when any one or more counterparts hereof, individually or taken together, shall bear the signatures of Consultant and the Company. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

15. Severability. If any provision of this Agreement or application thereof to anyone or under any circumstances is adjudicated to be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect any other provision or application of this Agreement that can be given effect without such invalid or unenforceable provision or application in any other jurisdiction.

IN WITNESS WHEREOF, the undersigned, intending to be legally bound, have duly executed this Agreement as of the date first above written.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ J. Karabelas

Name: Jerry Karabelas

Title: Chairman

CONSULTANT

/s/ Geoff Race

Geoff Race

Exhibit 10.18

CONSULTING AGREEMENT

This CONSULTING AGREEMENT (this "Agreement") is entered into as of 1st October, 2011, by and between Sonkei Pharmaceuticals Inc, a Delaware corporation (the "Company"), and Geoff Race, an individual ("Consultant").

WHEREAS, the Company wishes to obtain the services of Consultant for certain purposes, and Consultant wishes to provide such services, all subject to the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises hereinafter set forth, and intending to be legally bound, the Company and Consultant hereby agree as follows:

1. Services to Be Provided. During the Term (as defined below), Consultant shall provide business development and other related services to assist the Company in selling or licensing its lead asset (the "Services"). The Consultant shall be available to render the Services (a) during normal business hours or such other reasonable times as the parties may agree and (b) at the Company's offices, places the Company may request from time to time or such other places as the parties may agree.

2. Term. The initial term of this Agreement shall begin on 1st October, 2011, and shall continue until April 30, 2012, unless terminated prior thereto pursuant to Paragraph 7 below (the "Initial Term"). At the expiration of the Initial Term, the Term of this Agreement shall automatically renew for successive one (1) month periods (the Initial Term, all such renewal periods and the Transition Period (as defined below), the "Term") unless written notice of non-renewal is provided by one party to the other at least ten (10) days prior to the applicable renewal date.

3. Compensation and Expenses.

(a) Monthly Payment. As compensation for Consultant's performance of the Services to be performed by Consultant under this Agreement, the Company shall pay Consultant 1,500 US Dollars per day (assuming an 8 hour work day, or any pro rata reduced amount for less than a full 8 hour work day) up to a maximum of 3,000 US Dollars per month (the "Monthly Payment"). Payment shall be made in arrears within thirty (30) days after receipt by Company of an invoice from Consultant indicating the number of days worked for such month, for each month during which he provides Services during the Term.

(b) Equity Grant. As compensation for the Consultant's performance of the Services to be performed by the Consultant under this Agreement, concurrently with, or promptly following, the execution of this Agreement, the Company shall grant Consultant the right to purchase 113,520 shares of the Company's common stock, at the par value of $0.000l per share ("Common Stock"), which is equivalent to [ ] % of the Company capitalization on a fully diluted basis as of the date of this Agreement.

(c) Expenses. The Company shall reimburse the Consultant for all reasonable travel and other business expenses incurred in the performance of Consultant's duties to the Company in accordance with the Company's applicable expense reimbursement policies and procedures. Notwithstanding the foregoing, no individual expense shall exceed 2,500 US Dollars without the prior written approval of the Company.

4. Independent Contractor. Consultant acknowledges that he is acting as an independent contractor, that Consultant is solely responsible for his actions or inactions, and that nothing in this Agreement will be construed to create an agency, employment, partnership or joint venture relationship between the Company and Consultant. Consultant is not authorized to enter into contracts or agreements on behalf of the Company or to otherwise create obligations of the Company to third parties without prior written authorization by the Company. Consultant acknowledges that he is not an employee of the Company for any purpose, including for: (i) federal, state or local tax, employment, withholding or reporting purposes; or (ii) eligibility or entitlement to any benefit under any of the Company employee benefit plans (including those that are subject to the Employee Retirement Income Security Act of 1974, as amended), incentive compensation or other employee programs or policies. Consultant agrees that he is solely responsible for payment of all applicable workers' compensation, disability benefits, unemployment insurance and any other taxes required by any foreign jurisdiction, and for withholding and paying any such taxes (including any employment taxes and income

5. Restrictive Covenants.

(a) Confidentiality. The Consultant agrees that he will not during the Term or thereafter divulge to anyone (other than the Company or any persons designated by the Company) any knowledge or information of any type whatsoever of a confidential nature relating to the business of the Company, including, without limitation, all types of trade secrets, business strategies, marketing, sales and distribution plans (collectively, "Confidential Information"). The Consultant further agrees that he will not disclose, publish or make use of any such Confidential Information (other than in the performance of the Consultant's duties hereunder) without the prior written consent of the Company. Consultant shall use the Confidential Information solely for the performance of Services under this Agreement and for no other purpose. Consultant shall not use any Confidential Information to circumvent Company or its affiliates of their clients or use the Confidential Information for its own benefit. Consultant shall not reverse engineer, reverse compile or otherwise attempt to derive the composition or underlying information, structure or ideas of any Confidential Information This provision does not apply to information which becomes available publicly without the fault of the Consultant.

(b) Competitive Business Restrictions. During the Term, the Consultant shall not engage directly or indirectly, whether as an employee, independent contractor, consultant, partner, shareholder or otherwise, in a business or other endeavor which would or might interfere with any of Consultant's duties or obligations hereunder or which is competitive with or similar to the Company's business, anywhere in world. Notwithstanding the foregoing, the Consultant shall have the right to continue to serve in his current roles as (i) CEO of Funxional Therapeutics Ltd., a pharmaceutical company based in Cambridge, UK, (ii) a consultant to PanGenetics BV, a pharmaceutical company based in Royston, UK and Utrecht, NL, (iii) a consultant to Cyrenaic

Inc, a pharmaceutical company based in Princeton, NJ as long as such services do not materially interfere with Consultant's duties hereunder.

(c) Non-Disparagement. The Consultant agrees not to disparage the Company, any of its products or practices, or any of its directors, officers, agents, representatives, stockholders or affiliates, either orally or in writing, at any time.

6. Inventions. The Consultant agrees that all inventions, discoveries, improvements in "know how" and other trade secrets, other improvements and patentable or copyrightable works ("Inventions") initiated, conceived or made by him, either alone or in conjunction with others, while performing Services prior to and during the Term shall be the sole property of the Company to the maximum extent permitted by applicable law and, to the extent permitted by law, shall be "works made for hire" as that term is defined in the United States Copyright Act (17 U.S.C.A., Section 101). The Company shall be the sole owner of all patents, copyrights, trade secret rights, and other intellectual property or other rights in connection therewith. The Consultant hereby assigns to the Company all right, title and interest he may have or acquire in all such Inventions; provided, however, that the Board of Directors of the Company may in its sole discretion agree to waive the Company's lights pursuant to this Paragraph 6 with respect to any Invention that is not directly or indirectly related to the Company's business. The Consultant further agrees to assist the Company in every proper way (but at the Company's expense) to obtain and from time to time enforce patents, copyrights, trade secrets or other rights on such Inventions in any and all countries, and to that end the Consultant will execute all documents necessary:

(a) to apply for, obtain and vest in the name of the Company alone (unless the Company otherwise directs) letters patent, copyrights or other analogous protection in any country throughout the world and when so obtained or vested to renew and restore the same; and

(b) to defend any opposition proceedings in respect of such applications and any opposition proceedings or petitions or applications for revocation of such letters patent, copyright or other analogous protection.

7. Termination. Notwithstanding the provisions of Paragraph 2, either party may terminate this Agreement upon thirty (30) days' prior written notice to the other party. In the event of any termination of this Agreement, the Company shall be responsible for prompt payment of any portion of the compensation owed to Consultant under Paragraph 3 for any Services rendered prior to the effective date of such termination.

8. No Conflicting Agreements. Consultant represents that Consultant is not a party to any existing agreement that would prevent Consultant from entering into and performing this Agreement. Consultant will not enter into any other agreement that is in conflict with Consultant's obligations under this Agreement. Subject to the foregoing, Consultant may from time to time act as a consultant to, perform professional services for, or enter into agreements similar to this Agreement with other persons or entities without the necessity of obtaining approval from the Company.

9. Equitable Relief. Consultant agrees that it would be impossible or inadequate to measure and calculate the Company's damages from any breach of the covenants set forth in Paragraph 5 of this Agreement. Accordingly, Consultant and the Company agree that if Consultant breaches or is accused of breaching any of such covenants, the Company will have available, in addition to any other right or remedy available, the right to seek an injunction from a court of competent jurisdiction restraining such breach or threatened breach and to order specific performance of any such provision of this Agreement, and Consultant will have available the right to seek declaratory relief from a court of competent jurisdiction regarding such alleged breach or threatened breach. Consultant further agrees that no bond or other security shall be required in obtaining such equitable relief and Consultant hereby consents to the issuance of such injunction and to the ordering of such specific performance.

10. Entire Agreement; Amendment and Assignment. This Agreement is the sole agreement between Consultant and the Company with respect to the Services to be performed hereunder and supersedes all prior agreements and understandings with respect thereto, whether oral or written. No modification to any provision of this Agreement shall be binding unless in writing and signed by both Consultant and the Company. No waiver of any rights under this Agreement will be effective unless in writing signed by the party to be charged. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, except that the duties and responsibilities of Consultant hereunder are of a personal nature and shall not be assignable or delegable in whole or in part by Consultant.

11. Survival. Any provision of this Agreement which, by its nature, would survive termination of this Agreement will survive any such termination of this Agreement and remain in full force and effect, including but not limited to Paragraphs 4, 5 and 6 of this Agreement.

12. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of New York, without giving effect to any conflict of laws provisions

13. Notices. All notices and other communications required or permitted hereunder or necessary or convenient in connection herewith shall be in writing and shall be deemed to have been given when hand-deliver sent by facsimile or mailed by registered or certified mail, as follows (provided that notice of change of address shall be deemed given only when received):

If to the Company, to:

Sonkei Pharmaceuticals, Inc.
47 Hulfish Street, Ste. 310
Princeton, NJ 08542
Attention: Lorenzo Pellegrini
Facsimile No.: 1-609-683-5787

If to Consultant, to:

Geoff Race
Building 14a
Michael Young Centre
Purbeck Road
Cambridge CB2 8QL
United Kingdom
Facsimile No.: +44 1223 245565

or to such other names or addresses as the Company or Consultant, as the case may be, shall designate by notice to each other person entitled to receive notices in the manner specified in this Paragraph.

14. Counterparts. This Agreement shall become binding when any one or more counterparts hereof, individually or taken together, shall bear the signatures of Consultant and the Company. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

15. Severability. If any provision of this Agreement or application thereof to anyone or under any circumstances is adjudicated to be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect any other provision or application of this Agreement that can be given effect without such invalid or unenforceable provision or application in any other jurisdiction.

IN WITNESS WHEREOF, the undersigned, intending to be legally bound, have duly executed this Agreement as of the date first above written.

SONKEI PHARMACEUTICALS, INC.

By: /s/ Michele Ollier

Name: Michele Ollier

Title: Chairperson

CONSULTANT

/s/ Geoff Race

Geoff Race

Exhibit 10.19

STOCK PURCHASE AGREEMENT

BY AND AMONG

CYRENAIC PHARMACEUTICALS, INC.,

CARE CAPITAL INVESTMENTS III LP

AND

INDEX VENTURES III (Delaware) L.P., and certain affiliates

August 29, 2007

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CYRENAIC PHARMACEUTICALS, INC.

STOCK PURCHASE AGREEMENT

This Stock Purchase Agreement (this "Agreement") is made as of August 29, 2007 by and among Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and each of Care Capital Investments III LP ("Care Investments"), Care Capital Offshore Investments III LP, ("Care Offshore, and together with Care Investments, "Care"), Index Ventures III (Jersey) L.P., and each other affliated Index fund listed on Schedule A attached hereto (collectively, "Index"). "Index" and Care shall be collectively referred to as the "Purchasers".

RECITALS

WHEREAS, the Purchasers desires to purchase from the Company and the Company desires to issue and sell to the Purchasers an aggregate of up to 35,000,100 shares (the "Shares") of the Company's Common Stock, par value $0.0001 per share (the "Common Stock"), with those rights and preferences as set forth in the Amended and Restated Certificate of Incorporation of the Company (the "Certificate of Incorporation") as set forth on **Exhibit A** attached hereto.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth, the parties hereby agree as follows:

1. **Agreement to Sell and Purchase**.

1.1 **Authorization of Shares**. On or prior to the First Closing (as defined in Section 2 below), the Company shall have authorized the issuance to the Purchasers of the Shares.

1.2 **Purchase of Securities**.

(a) Subject to the terms and conditions of this Agreement, at the First Closing (as defined in Section 2 below), the Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares set forth opposite the name of such Purchaser on Schedule A for the purchase price of $1.00 per Share (the "Purchase Price"). The aggregate purchase price payable in U.S. Dollars by each Purchaser for the Shares being purchased by such Purchaser shall be equal to the amount set forth opposite the name of such Purchaser on Schedule A.

(b) Subject to the terms and conditions of this Agreement, at the Second Closing (as defined in Section 2 below), the Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares set forth opposite the name of such Purchaser on Schedule A for the Purchase Price. The aggregate purchase price payable in U.S. Dollars by each Purchaser for the Shares being purchased by such Purchaser shall be equal to the amount set forth opposite the name of such Purchaser on Schedule A.

(c) Subject to the terms and conditions of this Agreement, at the Third Closing (as defined in Section 2 below), the Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares set forth opposite the name of such Purchaser on Schedule A for the Purchase Price. The aggregate purchase price payable in U.S. Dollars by each Purchaser for the Shares being purchased by such Purchaser shall be equal to the amount set forth opposite the name of such Purchaser on such revised Schedule A.

(d) Subject to the terms and conditions of this Agreement, at the Fourth Closing (as defined in Section 2 below), the Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares set forth opposite the name of such Purchaser on Schedule A for the Purchase Price. The aggregate purchase price payable in U.S. Dollars by each Purchaser for the Shares being purchased by such Purchaser shall be equal to the amount set forth opposite the name of such Purchaser on such revised Schedule A.

(e) Subject to the terms and conditions of this Agreement, at the Fifth Closing (as defined in Section 2 below), the Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares set forth opposite the name of such Purchaser on Schedule A for the Purchase Price. The aggregate purchase price payable in U.S. Dollars by each Purchaser for the Shares being purchased by such Purchaser shall be equal to the amount set forth opposite the name of such Purchaser on Schedule A.

1.3 **Funding Acceleration**. Notwithstanding anything else to the contrary in Section 1.2, each Purchaser shall, subject to the prior written approval of each other Purchaser as described below, have the right prior to the occurrence of any Closing to elect to purchase any or all of the remaining Shares set forth opposite the name of such Purchaser on Schedule A prior to any Closing. In order to so elect, such Purchaser shall provide notice to the Company and the other Purchasers of its intention, and the details thereof, to elect to purchase Shares prior to such Closing, and such other Purchasers shall have the right, within fifteen (15) days of the receipt of such notice, to elect to purchase the Shares set forth opposite the name of such Purchaser on Schedule A prior to such Closing in the same proportion as the initially electing Purchaser. The Company shall issue, and each Purchaser shall severally and not jointly acquire that number of Shares so elected to be purchased in accordance with this Section 1.3 for the Purchase Price. Prior to purchasing any Shares pursuant to this Section 1.3, each Purchaser shall obtain the prior written consent of the other Purchasers; provided, however, that no prior written consent shall be required by any Purchaser (a "Subsequent Electing Purchaser") to the extent any prior Purchaser exercised its rights under this Section 1.3 and such Subsequent Electing Purchaser is electing to purchase that number of Shares equal to the pro rata portion purchased by such prior Purchaser(s).

1.4 **Use of Proceeds**. The proceeds received by the Company from the sale of the Shares at the Closings shall be used for general corporate and working capital purposes as specified in the Company's business plan to be agreed on by the Company and the Purchasers from time to time.

2. **The Closing**.

2.1 **Closings**.

(a) First Closing. The first closing (the "First Closing") of the purchase of the Shares under this Agreement and all related transactions contemplated hereby shall take place on the date hereof contemporaneously with the execution and delivery of this Agreement at the offices of Morgan, Lewis & Bockius LLP, 502 Carnegie Center, Princeton, New Jersey 08540 (such date shall hereinafter be referred to as the "First Closing Date"). Each of the Purchasers shall deliver to the Company the aggregate amount of the purchase price for the Shares to be purchased at the First Closing by each Purchaser by wire transfer or cashier's check, and the Company shall deliver to each Purchaser certificates representing either the number of Shares acquired, as set forth in Schedule A. If at the First Closing any of the conditions or obligations specified in Section 5.1 below shall not have been fulfilled, each Purchaser shall, at its election, be relieved of all of its obligations under this Agreement without thereby waiving any other rights it may have by reason of such failure or such non-fulfillment.

(b) Second Closing. The second closing (the "Second Closing") of the purchase of the Shares under this Agreement pursuant to Section 1.2(b) by the Purchasers and all related transactions contemplated hereby shall take place at such time as the Company and the Purchasers may mutually agree (provided that such Second Closing must occur within thirty (30) days of the date hereof) at the offices of Morgan, Lewis & Bockius LLP, 502 Carnegie Center, Princeton, New Jersey 08540, or at such other place as the Company and the Purchasers may mutually agree (such date shall hereinafter be referred to as the "Second Closing Date"). Each of the Purchasers shall deliver to the Company the aggregate amount of the purchase price for the Shares to be purchased at the Second Closing by each Purchaser by wire transfer or cashier's check, and the Company shall deliver to each Purchaser certificates representing either the number of Shares acquired, as set forth in Schedule A. If at the Second Closing any of the conditions or obligations specified in Section 5.1 below shall not have been fulfilled, each Purchaser shall, at its election, be relieved of all of its obligations under this Agreement without thereby waiving any other rights it may have by reason of such failure or such non-fulfillment.

(c) Third Closing. Unless otherwise agreed to by both of the Purchasers, the closing of the purchase of the Shares under this Agreement pursuant to Section 1.2(c) by the Purchasers and all related transactions contemplated hereby (the "Third Closing") shall take place at the offices of Morgan, Lewis & Bockius LLP, 502 Carnegie Center, Princeton, New Jersey 08540, on a business date (such date shall hereinafter be referred to as the "Third Closing Date") within thirty (30) days following the date upon which each of the Purchasers provide written notice to the Company that both of the following events has occurred: (i) GMP manufacture of clinical supplies; and (ii) agreement by each of the Purchasers to a protocol for a phase IIa clinical trial for AN-117/MT-210 (the "Third Closing Approval"). Upon the occurrence of a Third Closing Approval, the Company shall promptly send to each Purchaser written notice thereof and the date of the Third Closing. Each of the Purchasers shall in such event deliver to the Company the aggregate amount of the purchase price for the Shares to be purchased at the Third Closing by each Purchaser by wire transfer or cashier's check, and the Company shall deliver to each Purchaser certificates representing either the number of Shares acquired. If at the Third Closing any of the conditions or obligations specified in Section 5.1 below shall not have been fulfilled, each Purchaser shall, at its election, be relieved of all of its obligations under this Agreement without thereby waiving any other rights it may have by reason of such failure or such non-fulfillment.

(d) Fourth Closing. Unless otherwise agreed to by both of the Purchasers, the closing of the purchase of the Shares and under this Agreement pursuant to Section 1.2(d) by the Purchasers and all related transactions contemplated hereby (the "Fourth Closing") shall take place at the offices of Morgan, Lewis & Bockius LLP, 502 Carnegie Center, Princeton, New Jersey 08540, on a business date (such date shall hereinafter be referred to as the "Fourth Closing Date") within thirty (30) days following the date upon which each of the Purchasers provide written notice to the Company that the Purchasers have opted to continue the Phase IIa clinical trial for AN-117/MT-210 based on the evaluation of the results of the first 15 patients, particularly with respect to QTc prolongation (the "Fourth Closing Approval"). Upon the occurrence of a Fourth Closing Approval, the Company shall promptly send to each Purchaser written notice thereof and the date of the Fourth Closing. Each of the Purchasers shall in such event deliver to the Company the aggregate amount of the purchase price for the Shares to be purchased at the Fourth Closing by each Purchaser by wire transfer or cashier's check, and the Company shall deliver to each Purchaser certificates representing either the number of Shares acquired. If at the Fourth Closing any of the conditions or obligations specified in Section 5.1 below shall not have been fulfilled, each Purchaser shall, at its election, be relieved of all of its obligations under this Agreement without thereby waiving any other rights it may have by reason of such failure or such non-fulfillment.

(e) Fifth Closing. Unless otherwise agreed to by both of the Purchasers, the closing of the purchase of the Shares and under this Agreement pursuant to Section 1.2(e) by the Purchasers and all related transactions contemplated hereby (the "Fifth Closing"; the First Closing, the Second, the Third Closing, the Fourth Closing and the Fifth Closing are sometimes referred to herein collectively as the "Closings" and individually as a "Closing") shall take place at the offices of Morgan, Lewis & Bockius LLP, 502 Carnegie Center, Princeton, New Jersey 08540, on a business date (such date shall hereinafter be referred to as the "Fifth Closing Date"; the First Closing Date, the Second Closing Date, the Third Closing Date, the Fourth Closing Date and the Fifth Closing Date are sometimes referred to herein collectively as the "Closing Dates" and individually as a "Closing Date") within thirty (30) days following the date upon which each of the Purchasers provide written notice to the Company that each of the following events has occurred: (i) a final study report for the phase IIa clinical trial for AN-117/MT-210 has been delivered to each Purchaser; (ii) each Purchaser has determined that the results of such phase IIa clinical trial warrant the continued development of AN-117/MT-210; and (iii) the agreement by the Purchasers, in each of their sole discretion, on the use of the proceeds for the funds to be raised by the Fifth Closing (the "Fifth Closing Approval"). Upon the occurrence of a Fifth Closing Approval, the Company shall promptly send to each Purchaser written notice thereof and the date of the Fifth Closing. Each of the Purchasers shall in such event deliver to the Company the aggregate amount of the purchase price for the Shares to be purchased at the Fifth Closing by each Purchaser by wire transfer or cashier's check, and the Company shall deliver to each Purchaser certificates representing either the number of Shares acquired. If at the Fifth Closing any of the conditions or obligations specified in Section 5.1 below shall not have been fulfilled, each Purchaser shall, at its election, be relieved of all of its obligations under this Agreement without thereby waiving any other rights it may have by reason of such failure or such non-fulfillment.

(f) Purchaser Default. If any Purchaser defaults (each a "Defaulting Purchaser") on its obligation to purchase the full amount of its Shares at the First Closing (the

"First Closing Allocation"), at the Second Closing (the "Second Closing Allocation"), at the Third Closing (the "Third Closing Allocation"), at the Fourth Closing (the "Fourth Closing Allocation") or at the Fifth Closing (the "Fifth Closing Allocation", and together with the First Closing Allocation, the Second Closing Allocation, the Third Closing Allocation and the Fourth Closing Allocation, the "Closing Allocation") then the Company shall, promptly after each Closing, as applicable, send written notice thereof (the "Default Notice") to each of those Purchasers participating in the Second Closing, Third Closing, Fourth Closing or Fifth Closing, as applicable, who are not Defaulting Purchasers (each a "Non-Defaulting Purchaser"). Each Non-Defaulting Purchaser shall have a right of over-allotment such that to the extent a Defaulting Purchaser does not purchase its full Closing Allocation, such remaining Closing Allocation which such Defaulting Purchaser did not purchase may be purchased by any Non-Defaulting Purchaser (the "Closing Over Allotment Purchaser") in proportion to the total number of Shares which each such Closing Over Allotment Purchaser owns compared to the total number of Shares which all such other Closing Over Allotment Purchasers own. The closing of the sale of the Closing Allocation to Closing Over Allotment Purchasers, if any, shall occur within thirty (30) days after the date of the Default Notice, and promptly thereafter the Company shall circulate a revised Schedule A to each Purchaser, reflecting the number of Shares comprising the Closing Allotment that were subscribed for and purchased by the applicable Closing Over Allotment Purchasers. For clarification purposes, nothing in this Section 2.1(e) shall relieve any Purchaser from its obligation to purchase its allocated Shares at a Closing, if any, pursuant to the terms and conditions hereof.

(g) Consummation of Closings. The Closings may be consummated by: (i) fax transmission whereby the parties shall transmit facsimile copies of all executed documents required to be executed pursuant to this Agreement, which facsimile copies shall be acceptable and binding; and (ii) mail by reputable overnight courier service an executed original of each document to the respective parties (or their counsel).

(h) Additional Funding. During the period beginning on the day after the Fifth Closing Date and ending two (2) years after the Fifth Closing Date, in addition to the Closings, each Purchaser shall have the option, in its sole discretion, to purchase up to an aggregate of its pro rata portion of 10,000,000 shares of Common Stock for a purchase price of $1.00 per share. Upon such election, such electing Purchasers shall notify the Company and the other Purchasers of its or their election in writing (including the number of shares which each such Purchaser will be purchasing) and the closing of such additional funding shall occur on the date specified by such electing Purchasers, but in any event no earlier than twenty (20) days and not later than thirty (30) days after such written election notice was received by the Company and the non-electing Purchasers. For the purposes of this Section 2.1(g), a Purchaser's pro rata share shall equal the proportion of the Shares purchased by such Purchaser at all of the Closings to the aggregate number of Shares purchased by all Purchasers at all of the Closings.

3. **Representations and Warranties of the Company**. The Company represents and warrants to each of the Purchasers that the statements made in this Section 3, together with the disclosure set forth on the disclosure schedules referenced herein and attached hereto (the "Schedule of Exceptions"), are true and correct as the date of each Closing, as qualified by any updated Schedule of Exceptions delivered in accordance with Section 5.1 of this Agreement. The Schedule of Exceptions shall be arranged to correspond to the numbered paragraphs

contained in this Section 3, and the disclosure in any paragraph of the Schedule of Exceptions shall qualify other subsections in Section 3 only to the extent that it is readily apparent from a reading of the disclosure that such disclosure is applicable to such other subsections.

3.1 **Organization, Good Standing and Qualification**. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to carry on its business as presently conducted or proposed to be conducted. The Company is duly qualified to transact business and is in good standing in each jurisdiction in which the failure so to qualify would have a Material Adverse Effect (as defined in Section 7.13 below).

3.2 **Capitalization**. The authorized capital of the Company, immediately prior to the issuance of the Shares consists of:

(a) 45,000,000 shares of Common Stock, 100 of which are currently issued and outstanding. The rights and privileges of the Common Stock are as stated in the Certificate of Incorporation. All of the outstanding shares of Common Stock have been duly authorized, are fully paid and nonassessable and were issued in compliance with all applicable federal and state securities laws.

(b) Other than a Warrant to be issued to Archimedon S.A. and which has been provided to each Purchaser, there are no outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal or similar rights) or agreements, orally or in writing, for the purchase or acquisition from the Company of any shares of its capital stock.

3.3 **Subsidiaries**. The Company does not currently own or control, directly or indirectly, any interest in any other corporation, partnership, trust, joint venture, limited liability company, association or other business entity.

3.4 **Authorization**. All corporate action on the part of the Company, its officers, directors and holders of capital stock necessary for the authorization, execution and delivery of the Transaction Documents (as defined in Section 7.13 below), the performance of all obligations of the Company thereunder and the authorization, issuance and delivery of the Shares has been taken prior to the date hereof, and the Transaction Documents, when executed and delivered by the Company, shall constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their respective terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, or other laws of general application relating to or affecting the enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies, or (iii) to the extent the indemnification provisions contained in the Investors' Rights Agreement may be limited by applicable federal or state securities laws.

3.5 **Valid Issuance of Securities**. The Shares, when issued, sold and delivered in accordance with the terms hereof for the consideration expressed herein, will be duly and validly issued, fully paid and nonassessable and free of restrictions on transfer other than restrictions on transfer under the Transaction Documents and applicable state and federal securities laws and liens or encumbrances created by or imposed by the Purchasers. Based in part upon the representations of the Purchasers in Section 4 of this Agreement and subject to the filings described in Section 3.6 below, the Shares will be issued in compliance with all applicable federal and state securities laws.

3.6 **Governmental Consents and Filings**. Assuming the accuracy of the representations made by the Purchasers in Section 4 of this Agreement, no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority is required on the part of the Company in connection with the consummation of the transactions contemplated by this Agreement, except for the filings to be made pursuant to Regulation D of the Securities Act of 1933, as amended (the "Securities Act"), and applicable state securities laws.

3.7 **Litigation**. There is no claim, action, suit, proceeding, arbitration, complaint, charge or investigation pending or, to the Company's knowledge, currently threatened against the Company. Neither the Company nor, to the Company's knowledge, any of its officers or directors, is a party or is named as subject to the provisions of any order, writ, injunction, judgment or decree of any court or government agency or instrumentality.

3.8 **Proprietary Information of Third Parties**. No third party has claimed or has reason to claim that any person employed by, consulting for or affiliated with the Company has (a) violated or may be violating any of the terms or conditions of his employment, non-competition, or non-disclosure or consulting agreement with such third party, (b) disclosed or may be disclosing or utilized or may be utilizing any Intellectual Property (as defined below), trade secret or proprietary information or documentation of such third party or (c) interfered or may be interfering in the employment relationship between such third party and any of its present or former employees. No third party has requested information from the Company which suggests that such a claim might be contemplated.

3.9 **Patents, Trademarks, Etc**. The Schedule of Exceptions contains a list and brief description of all domestic and foreign patents, patent rights, patent applications, trademarks, trademark applications, service marks, service mark applications, trade names and copyrights, and all applications for such which are in the process of being prepared, owned by or registered in the name of the Company, or of which the Company is a licensor or licensee or in which the Company has any right. To the Company's knowledge, the Company owns or possesses adequate fully paid or perpetual licenses or other rights to use all patents, patent applications, trademarks, trademark applications, service marks, service mark applications, trade names, copyrights, manufacturing processes, formulae, trade secrets, customer lists and know how (collectively, "Intellectual Property") necessary to the conduct of its business as currently conducted and proposed to be conducted. To the Company's knowledge, the Intellectual Property that it owns or has a right to use does not infringe upon or misappropriate the rights of others, and no one is infringing upon or misappropriating the Intellectual Property that the Company owns or has a right to use. No claim is pending, or to the Company's knowledge, threatened to the effect that the operations of the Company infringe upon or conflict with the asserted rights of any other person under any Intellectual Property. No claim is pending, or to the Company's knowledge, threatened to the effect that any such Intellectual Property owned or licensed by the Company, or which the Company otherwise has the right to use, is invalid or unenforceable by the Company. All technical information developed by and belonging to the

Company which has not been patented has been kept confidential. The Company has not granted or assigned to any other person or entity any right to manufacture, have manufactured, assemble or sell the products or to provide the services of the Company.

3.10 **[Intentionally Omitted]**

3.11 **Material Agreements**. Except for the Investors' Rights Agreement, the ROFR and Co-Sale Agreement and that certain Master Services Agreement, dated as of June 25, 2007, between the Company and Forenap Pharma, the Company is not a party to or otherwise bound by any written or oral agreement, instrument, commitment or restriction which (i) individually or in the aggregate could reasonably be expected to materially affect the business, financial condition, operations, property or affairs of the Company, or (ii) any of the following (collectively, the "Material Agreements"):

(a) distributor, dealer, manufacturing, supply, marketing, manufacturer's representative or sales agency agreement;

(b) agreement pursuant to which the Company is obligated to pay a third party in excess of $50,000;

(c) agreement for the employment or compensation of any kind of any officer, employee or other person (whether of a legally binding nature or in the nature of informal understandings) on a full-time or consulting basis which is not terminable on notice without cost or other liability to the Company, except accrued vacation pay;

(d) agreement relating to the borrowing of money or to the mortgaging or pledging of, or otherwise placing a lien or security interest on, any asset of the Company;

(e) guaranty of any obligation for borrowed money or otherwise;

(f) voting trust or agreement, stockholders' agreement, pledge agreement, buy-sell agreement or first refusal or preemptive rights agreement relating to any securities of the Company;

(g) agreement, or group of related agreements with the same party or any group of affiliated parties, under which the Company has advanced or agreed to advance money or has agreed to lease any material property as lessee or lessor;

(h) agreement or obligation (contingent or otherwise) to issue, sell or otherwise distribute or to repurchase or otherwise acquire or retire any share of its capital stock or any of its other equity or debt securities;

(i) assignment, license or other agreement with respect to any form of intangible property (including, without limitation, intellectual property);

(j) agreement under which it has granted any person any registration rights;

(k) agreement under which it has limited or restricted its right to compete with any person in any respect;

(l) agreement with any investment banker, broker, finder or other intermediary pursuant to which the Company is obligated to pay any fee, commission or other payment in connection with any financing transaction, sale of the Company's business or otherwise; or

(m) other agreement, instrument, commitment, plan or arrangement, a copy of which would be required to be filed with the Securities and Exchange Commission as an exhibit to a registration statement on Form S-1 if the Company were registering securities under the Securities Act.

All of the Material Agreements are valid, binding and enforceable by and against the Company in accordance with their respective terms. The Company and, to the Company's knowledge each other party thereto, has performed in all material aspects all the obligations required to be performed by them to date (or each non-performing party has received a valid, enforceable and irrevocable written waiver with respect to its non-performance), has received no notice of default and is not in default (with due notice or lapse of time or both) under any Material Agreement where such default is reasonably likely to have a material adverse affect on the Company. The Company has no present expectation or intention of not fully performing all of its obligations under each such Material Agreement and has no knowledge of any breach or anticipated breach by the other party to any Material Agreement.

3.12 **Compliance with Other Instruments**. The Company is not in violation or default of any provisions of the Certificate of Incorporation or the Company's bylaws (the "Bylaws"), or of any instrument, judgment, order, writ, or decree, or under any note, indenture, mortgage, lease, agreement, contract or purchase order to which it is a party or by which it is bound or, to its knowledge, of any provision of federal or state statute, rule or regulation applicable to the Company. The execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby will not result in any such violation or default with or constitute, with or without the passage of time and giving of notice, under any such provision, instrument, judgment, order, writ, decree or contract or an event that would have a Material Adverse Effect.

3.13 **No Conflict of Interest**. The Company is not indebted, directly or indirectly, to any of its officers or directors, in any amount whatsoever other than in connection with expenses or advances of expenses incurred in the ordinary course of business or relocation expenses of employees. None of the Company's officers or directors are, directly or indirectly, indebted to the Company or, to the Company's knowledge, have any direct or indirect ownership interest in any firm or corporation with which the Company is affiliated or with which the Company has a business relationship, or any firm or corporation which competes with the Company, except that officers, directors and/or holders of capital stock of the Company may own stock in any publicly traded Company that may compete with the Company. To the Company's knowledge, none of the Company's officers or directors are, directly or indirectly, interested in any material contract with the Company. The Company is not a guarantor or indemnitor of any indebtedness of any other person, firm or corporation.

3.14 **Rights of Registration and Voting Rights**. Except as provided in the Investors' Rights Agreement, the Company is not under any obligation to register under the Securities Act any of its currently outstanding securities or any securities issuable upon exercise or conversion of its currently outstanding securities. To the Company's knowledge, except as contemplated in the Investors' Rights Agreement, no holder of capital stock of the Company has entered into any agreements with respect to the voting of capital shares of the Company.

3.15 **Title to Property and Assets**. The Company owns its property and assets free and clear of all mortgages, deeds of trust, liens, loans and encumbrances, except for statutory liens for the payment of current taxes that are not yet delinquent and encumbrances and liens that arise in the ordinary course of business and do not materially impair the Company's ownership or use of such property or assets. With respect to the property and assets it leases, the Company is in compliance with such leases in all material respects and, to its knowledge, holds a valid leasehold interest free of any liens, claims or encumbrances other than to the lessors of such property or assets.

3.16 **Changes**. Since the Company was formed in the State of Delaware on April 23, 2007, there has not been:

(a) any change in the assets, liabilities, financial condition or operating results of the Company from that reflected in the Financial Statements, except changes in the ordinary course of business that have not had a Material Adverse Effect;

(b) any damage, destruction or loss, whether or not covered by insurance, that has a Material Adverse Effect;

(c) any waiver or forgiveness by the Company of a valuable right or of a material debt owed to it;

(d) any satisfaction or discharge of any lien, claim, or encumbrance or payment of any obligation by the Company, except in the ordinary course of business and the satisfaction or discharge of which would not have a Material Adverse Effect;

(e) any material change to a material contract or agreement by which the Company or any of its assets is bound or subject;

(f) any material change in any compensation arrangement or agreement with any employee, officer, director or holder of capital stock;

(g) any sale, assignment or transfer of any patents, trademarks, copyrights, trade secrets or other intangible assets;

(h) any mortgage, pledge, transfer of a security interest in, or lien, created by the Company, with respect to any of its material properties or assets, except liens for taxes not yet due or payable and liens that arise in the ordinary course of business and that do not materially impair the Company's ownership or use of such property or assets;

(i) any loans or guarantees made by the Company to or for the benefit of its employees, officers or directors, or any members of their immediate families, other than travel advances and other advances made in the ordinary course of its business;

(j) any declaration, setting aside or payment or other distribution in respect to any of the Company's capital stock, or any direct or indirect redemption, purchase, or other acquisition of any of such stock by the Company; or

(k) any arrangement or commitment by the Company to do any of the things described in this Section 3.16.

3.17 **Employee Benefit Plans**. The Schedule of Exceptions sets forth all employee benefit plans maintained, established or sponsored by the Company, or in or to which the Company participates or contributes, which are subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). The Company has made all required contributions and has no liability to any such employee benefit plan, other than liability for health plan continuation coverage described in Part 6 of Title I(B) of ERISA, and has complied with all applicable laws for any such employee benefit plan.

3.18 **Tax Returns**. The Company has not been required to file any tax returns or reports required by applicable law.

3.19 **Insurance**. The Schedule of Exceptions provides a complete list of the Company's fire and casualty insurance policies in effect as of the date hereof.

3.20 **Permits**. The Company has all franchises, permits, licenses and any similar authority necessary for the conduct of its business, the lack of which could have a Material Adverse Effect. The Company is not in default in any material respect under any of such franchises, permits, licenses or other similar authority.

3.21 **Corporate Documents**. The Certificate of Incorporation and the Bylaws are in the form provided to counsel for the Purchasers. The copy of the minute books of the Company provided to the Purchasers' counsel contains minutes of all meetings of directors and holders of capital stock and all actions by written consent without a meeting by the directors and holders of capital stock since the date of incorporation and reflects all actions by the directors (and any committee of directors) and holders of capital stock with respect to all transactions referred to in such minutes accurately in all material respects.

3.22 **Disclosure**. Nothing in this Agreement, including any Schedule or Exhibit to this Agreement, contains an untrue statement of a material fact or omits a material fact necessary to make the statements contained herein or therein not misleading. None of the Investors' Rights Agreement, ROFR and Co-Sale Agreement, documents, certificates or other written items prepared or supplied by the Company with respect to the transactions contemplated hereby contains an untrue statement of a material fact or omits a material fact necessary to make the statements contained therein not misleading.

4. **Representations and Warranties of the Purchasers**. Each Purchaser, severally and not jointly, hereby represents and warrants to the Company that:

4.1 **Authorization**. Such Purchaser has full power and authority to enter into the Transaction Documents. The Transaction Documents, when executed and delivered by such Purchaser, will constitute valid and legally binding obligations of such Purchaser, enforceable in accordance with their terms, except (a) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of a specific performance, injunctive relief, or other equitable remedies, or (b) to the extent the indemnification provisions contained in the Investors' Rights Agreement may be limited by applicable federal or state securities laws.

4.2 **Purchase Entirely for Own Account**. This Agreement is made with such Purchaser in reliance upon such Purchaser's representation to the Company, which by such Purchaser's execution of this Agreement, such Purchaser hereby confirms, that the Shares to be acquired by such Purchaser will be acquired for investment for such Purchaser's own account, not as a nominee or agent, and not with a view to the resale or distribution of any part thereof, and that such Purchaser has no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, such Purchaser further represents that such Purchaser does not presently have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participations to such person or to any third person, with respect to any of the Shares.

4.3 **Disclosure of Information**. Such Purchaser has had an opportunity to discuss the Company's business, management, financial affairs and the terms and conditions of the offering of the Shares with the Company's management and has had an opportunity to review the Company's facilities and conduct due diligence with respect to the Company, its management, operations, assets and financial condition. Such Purchaser understands that such discussions, as well as any other written information delivered by the Company to such Purchaser, were intended to describe the aspects of the Company's business which such Purchaser believes to be material.

4.4 **Restricted Securities**. Such Purchaser understands that the Shares have not been, and will not be (except in accordance with the Investors' Rights Agreement), registered under the Securities Act, and that the offer and sale of the Shares hereunder is permitted by reason of a specific exemption from the registration provisions of the Securities Act, which depends upon, among other things, the bona fide nature of the investment intent and the accuracy of such Purchaser's representations as expressed herein. Such Purchaser understands that the Shares are "restricted securities" under applicable U.S. federal and state securities laws and that, pursuant to these laws, such Purchaser must hold the Shares indefinitely unless they are registered with the Securities and Exchange Commission and qualified by state authorities, or an exemption from such registration and qualification requirements is available. Such Purchaser acknowledges that the Company has no obligation to register or qualify the Shares for resale except as set forth in the Investors' Rights Agreement. Such Purchaser further acknowledges that if an exemption from registration or qualification is available, it may be conditioned on various requirements including, but not limited to, the time and manner of sale, the holding period for the Shares, and on requirements relating to the Company which are outside of such Purchaser's control, and which the Company is under no obligation and may not be able to satisfy.

4.5 **No Public Market**. Such Purchaser understands that no public market now exists for any of the Shares, and that the Company has made no assurances that a public market will ever exist for the Shares.

4.6 **Legends**. Such Purchaser understands that the Shares and any securities issued in respect of or exchange for the Shares, may bear one or all of the following legends:

(a) "THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933."

(b) Any legend set forth in or required by the Bylaws or other Transaction Documents.

(c) Any legend required by the securities laws of any state to the extent such laws are applicable to the shares represented by the certificate so legended.

4.7 **Accredited Investor**. Such Purchaser is an "accredited investor," as such term is defined in Rule 501(a) of Regulation D promulgated under the Securities Act.

4.8 **No General Solicitation**. Neither such Purchaser, nor any of its officers, employees, agents, directors, holders of capital stock or partners has engaged the services of a broker, investment banker or finder to contact any potential investor nor has such Purchaser or any of such Purchaser's officers, employees, agents, directors, holders of capital stock or partners, agreed to pay any commission, fee or other remuneration to any third party to solicit or contact any potential investor. Neither such Purchaser, nor any of its officers, directors, employees, agents, holders of capital stock or partners has (a) engaged in any general solicitation, or (b) published any advertisement in connection with the offer and sale of the Shares.

4.9 **Residence**. Such Purchaser's principal place of business or residence, as applicable, is located is at the address set forth on the signature page attached hereto.

5. **Conditions to Closing**.

5.1 **Conditions to Purchaser's Obligation at the Closings**.

Each Purchaser's obligation to purchase the Shares at each Closing is subject to the satisfaction, at or prior to each applicable Closing Date, of the following conditions:

(a) Representations and Warranties True; Performance of Obligations. The representations, warranties and covenants made by the Company in Section 3 hereof shall be true and correct as of each Closing Date (provided that with respect to each Closing Date after the First Closing Date, the truth and accuracy of the representations, warranties and covenants made by the Company in Sections 3.9, 3.10, 3.11, 3.16, 3.17, 3.18, 3.19 and 3.21 shall not be needed), and the Company shall have performed all obligations and conditions herein required to be performed or complied with by it on or prior to each Closing Date.

(b) No Material Adverse Effect. Since the date of execution of this Agreement, there has not been any event, occurrence, fact, condition, change, development or effect that shall have occurred, exist or come to exist that, individually or in the aggregate, has constituted or resulted in, or could reasonably be expected to constitute or result in a Material Adverse Effect.

(c) Legal Investment. On each Closing Date, the sale and issuance of the Shares shall be legally permitted by all laws and regulations to which Purchasers and the Company are subject.

(d) Consents, Permits, and Waivers. The Company shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and other Transaction Documents prior to or at each Closing, and such consents, permits and waivers shall be reasonably satisfactory to Purchasers and their counsel.

(e) Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated hereby and all documents and instruments incident to such transactions shall be reasonably satisfactory in substance and form to Purchasers and their counsel, and Purchasers and their counsel shall have received all such counterpart originals or certified or other copies of such documents as they may reasonably request.

(f) Opinion of Counsel. Each Purchaser shall have received from legal counsel for the Company, an opinion, dated as of the First Closing, in the form attached hereto as **Exhibit D**.

(g) Investor's Rights Agreement. The Company and each Purchaser shall have entered into the Investors' Rights Agreement.

(h) ROFR and Co-Sale Agreement. The Company and each Purchaser shall have entered into the Investors' Rights Agreement.

(i) Indemnification Agreements. The Company shall have executed and delivered to each director an indemnification agreement reasonably satisfactory to each director.

(j) Management Rights Letter. The Company and each of Index and Care shall have executed and delivered a Management Rights Letter in form and substance reasonably satisfactory to each of Care and Index.

(k) Collateral Documents. The Company shall have delivered to each Purchaser executed copies of that certain in-licensing agreement with Mitsubishi for that certain compound known as MT-210 (the "Mitsubishi License Agreement"), that certain Master Services Agreement with Forenap Pharma, and such other documents reasonably requested by the Purchasers; provided, however, that the delivery of an executed copy of the Mitsubishi License Agreement shall not be a condition to the First Closing.

(l) Solvency. The Company shall be Solvent (as defined below). As used herein, "Solvent" shall mean that (a) the fair value of the property and assets of the Company are greater than the amount of the Company's liabilities (including disputed, contingent and unliquidated liabilities) as such value is established and liabilities evaluated for purposes of Section 101(32)(A) of the Federal Bankruptcy Reform Act of 1978 (11 U.S.C. §101, et seq.), as amended and in effect from time to time, and, in the alternative, for purposes of the Uniform Fraudulent Transfer Act; (b) the present fair saleable value of the property and assets of the Company is not less than the amount that will be required to pay the probable liability of the Company on its debts as they become absolute and matured; (c) the Company is able to realize upon the property and assets of the Company and pay its debts and other liabilities (including disputed, contingent and unliquidated liabilities) as they mature in the normal course of business; and (d) the Company does not intend to, and does not believe that it will, incur debts or liabilities beyond the Company's ability to pay as such debts and liabilities mature.

5.2 **Conditions to Obligations of the Company at the Closings**.

The Company's obligation to issue and sell the Shares at each Closing is subject to the satisfaction, on or prior to such Closing, of the following conditions:

(a) Representations and Warranties True; Performance Obligations. The representations and warranties in Section 4 made by each Purchaser shall be true and correct as of each respective Closing Date and each Purchaser shall have performed all obligations and conditions herein required to be performed or complied with by it on or prior to each Closing Date respectively.

(b) Consents, Permits, and Waivers. Purchasers shall have obtained any and all consents, permits and waivers necessary or appropriate for consummation of the transactions contemplated by the Agreement and the other Transaction Documents.

6. **Post-Closing Covenants**.

6.1 **Further Assurances**. On and after each respective Closing Date, the Company and the Purchasers will take all appropriate action and execute (or cause to be executed) all documents, instruments or conveyances of any kind which may be reasonably necessary or advisable to carry out any of the provisions hereof.

6.2 **Expenses**. The Company shall reimburse each Purchaser for such Purchaser's actual costs incurred in connection with this Agreement and the other Transaction Documents and the transactions contemplated hereby and thereby, including, but not limited to, costs and fees of legal and accounting counsel, clinical, technical, and intellectual property due diligence.

6.3 **Public Announcements**.

(a) The timing and content of all announcements regarding any aspect of this Agreement or the transactions contemplated hereby, including without limitation, the use of any Purchaser's name or any of its affiliates name, to the financial community, government agencies, employees or the general public, whether in any press release, notice or other publication, shall be mutually agreed upon in advance by the Company and each Purchaser; provided, that each party hereto may make any such announcement which it in good faith believes, based on advice of counsel, is necessary or advisable in connection with any requirement of law or regulation, it being understood and agreed that each party promptly shall provide the other parties hereto with copies of any such announcement.

(b) Notwithstanding the aforementioned, Purchasers and their respective affiliates may, in their securities offering materials and promotional materials, provide the name of the Company with a description and the amount invested in the Company; and provided further that any of the Purchasers, the Company or their respective affiliates may make any announcement or disclosure to current or future financing sources or subsequent purchasers or assignees of substantially all of the capital stock or assets of such Purchasers, the Company or affiliate thereof, without consent of or disclosure to the Company or any Purchaser, as the case may be.

6.4 **Indemnification**.

(a) The Company shall indemnify, defend and hold harmless the Purchasers and their respective affiliates and their respective officers, directors, trustees, agents, employees, members, managers, partners and controlling persons (each, an "Indemnified Party") against any and all Losses (as hereinafter defined) arising out of or relating to (i) any misrepresentation or breach of any representation, warranty, covenant or agreement by the Company in this Agreement , Investors' Rights Agreement or the ROFR and Co-Sale Agreement, or (ii) Purchasers' status as a security holder of the Company.

(b) In connection with the obligation of the Company to indemnify for expenses as set forth in clause (a) above, the Company shall, upon presentation of appropriate invoices containing reasonable detail, reimburse each Indemnified Party, as the case may be, for all such expenses (including reasonable expenses of investigation and reasonable fees, disbursements and other charges of counsel in connection with any claim, action, suit or proceeding) as they are incurred by such Indemnified Party. "Losses" means all losses, claims (including any claim by a third party), damages, expenses (including reasonable fees, disbursements and other charges of counsel incurred by the Indemnified Party in connection with any claim, action, suit or proceeding, including any action between the Indemnified Party and the Company, or between the Indemnified Party and any third party) or other liabilities.

(c) The rights to indemnification provided to an Indemnified Party under this Section 6.4 shall not preclude such Indemnified Party from exercising any other remedy that may be available under the Investors' Rights Agreement, applicable law or otherwise.

7. **Miscellaneous**.

7.1 **Survival of Warranties**. Unless otherwise set forth in this Agreement, the warranties, representations and covenants of the Company and the Purchasers contained in or made pursuant to this Agreement shall survive the execution and delivery of this Agreement for a period of two (2) years following the date hereof.

7.2 **Transfer; Successors and Assigns**. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

7.3 **Governing Law**. This Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the State of Delaware, without giving effect to principles of conflicts of law.

7.4 **Counterparts**. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument.

7.5 **Titles and Subtitles**. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

7.6 **Notices**. Any notice required or permitted by this Agreement shall be in writing and shall be deemed sufficient upon delivery, when delivered personally or by overnight courier or sent by fax (upon customary confirmation of receipt), or seven (7) days after being deposited in the U.S. mail, as certified or registered mail, with postage prepaid, addressed to the party to be notified at such party's address as set forth herein, or as subsequently modified by written notice.

7.7 **Attorney's Fees**. If any action at law or in equity (including arbitration) is necessary to enforce or interpret the terms of any of the Transaction Documents, the prevailing party shall be entitled to reasonable attorney's fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled.

7.8 **Amendments and Waivers**. Any term of this Agreement may be amended or waived only with the written consent of the Company and each of the Purchasers. Any amendment or waiver effected in accordance with this Section 7.8 shall be binding upon the Purchasers and each permitted transferee of the Shares, each future holder of all such securities, and the Company.

7.9 **Severability**. If one (or more provisions) of this Agreement is held to be unenforceable under applicable law, the parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (a) such provision shall be excluded from this Agreement, (b) the balance of the Agreement shall be interpreted as if such provision were so excluded and (c) the balance of the Agreement shall be enforceable in accordance with its terms.

7.10 **Delays or Omissions**. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

7.11 **Entire Agreement**. This Agreement, and the documents referred to herein constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and any and all other written or oral agreements relating to the subject matter hereof existing between the parties hereto are expressly canceled.

7.12 **Confidentiality**. Each Purchaser, severally and not jointly, hereby agrees that, except with the prior written permission of the Company, it shall at all times hold in confidence and trust and not use or disclose any confidential information of the Company provided to or learned by such Purchaser in connection with the Purchaser's rights under the Transaction Documents and will cause its employees, officers, affiliates and agents to hold in confidence and trust and not use or disclose any confidential information of the Company provided to or learned by such party in connection with the rights of the Purchaser (to whom such employee, officer, affiliate and agent is related) under the Transaction Documents. Notwithstanding the foregoing, such Purchaser may disclose any confidential information of the Company provided to or learned by such Purchaser in connection with such rights to the minimum extent necessary: (i) as required by any court or other governmental body, provided that such Purchaser provides the Company with prompt notice of such court order or requirement to the Company to enable the Company to seek a protective order or otherwise to prevent or restrict such disclosure; (ii) to legal counsel of such Purchaser; (iii) to each Purchaser's investors and other limited partners, (iv) in connection with the enforcement of this Agreement or rights under this Agreement; or (v) to comply with applicable law. The provisions of this Section 7.12 shall be in addition to, and not in substitution for, the provisions of any separate nondisclosure agreement executed by the parties hereto with respect to the transactions contemplated hereby.

7.13 **Certain Defined Terms**. In addition to the terms defined above, the following terms used in this Agreement shall be construed to have the meanings set forth or referenced below.

"Company's knowledge" or "knowledge of the Company" means, for purposes of the Company's representations and warranties in Section 3, the knowledge (following a reasonable inquiry) of Dan Cabo and Lorenzo Pellegrini and the other senior management of the Company.

"Investors' Rights Agreement" means that certain Investors' Rights Agreement, dated as of the date hereof, by and among the Company, the Purchasers and the other signatories thereto, in substantially the form attached here to as **Exhibit B**, as may be amended from time to time.

"Material Adverse Effect" means a material adverse effect on the business, assets (including intangible assets), liabilities, financial condition, property or results of operation of the Company.

"ROFR and Co-Sale Agreement" means that certain Right of First Refusal and Co-Sale Agreement, dated as of the date hereof, by and among the Company, the Purchasers and the other signatories thereto, in substantially the form attached here to as **Exhibit C**, as may be amended from time to time.

"Transaction Documents" means this Agreement, the Investors' Rights Agreement and the ROFR and Co-Sale Agreement.

(Signature Page Follows)

The parties have executed this Stock Purchase Agreement as of the date first written above.

THE COMPANY:

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniele Cabo Jr.
Name: Daniel J. Cabo, Jr.
Title: CFO

THE PURCHASERS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By:
Name:
Title:
Address:

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By:
Name:
Title:
Address:

INDEX VENTURES III (JERSEY) L.P.

By:
Name:
Title:
Address:

INDEX VENTURES III (DELAWARE) L.P.

By: ______________________________
Name:
Title:
Address:

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

By: ______________________________
Name:
Title:
Address:

YUCCA PARTNERS LP JERSEY BRANCH

By: ______________________________
Name:
Title:
Address:

The parties have executed this Stock Purchase Agreement as of the date first written above.

THE COMPANY:

CYRENAIC PHARMACEUTICALS, INC.

By: ____________________
Name:
Title:

THE PURCHASERS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Rooney
Name: David R. Rooney
Title:
Address:

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Rooney
Name: David R. Rooney
Title:
Address:

INDEX VENTURES III (JERSEY) L.P.

By: ____________________
Name:
Title:
Address:

INDEX VENTURES III (DELAWARE) L.P.

By: ______________________________
Name:
Title:
Address:

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

By: ______________________________
Name:
Title:
Address:

YUCCA PARTNERS LP JERSEY BRANCH

By: ______________________________
Name:
Title:
Address:

The parties have executed this Stock Purchase Agreement as of the date first written above.

THE COMPANY:

CYRENAIC PHARMACEUTICALS, INC.

By: ______________________________
Name:
Title:

THE PURCHASERS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: ______________________________
Name:
Title:
Address:

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: ______________________________
Name:
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: No. 1 Seaten Place
St. Helier, Jersey JE4 8YJ

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: No. 1 Seaten Place
St. Helier, Jersey JE48YJ

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: No. 1 Seaten Place
St. Helier, Jersey JE4 8YJ

YUCCA PARTNERS LP JERSEY BRANCH

By: ______________________
Name:
Title:
Address:

INDEX VENTURES III (DELAWARE) L.P.

By: ____________________
Name:
Title:
Address:

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

By: ____________________
Name:
Title:
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/ George Le Breton
Name: Peter George Le Breton
Title: Authorised Signatory
Address:

SCHEDULE A

SCHEDULE OF PURCHASERS

Name of Purchaser	Pro Rata %	1st Closing	2nd Closing	3rd Closing	4th Closing	5th Closing	Total
Care Capital Investments III, LP	49.1787%	$ 49,179	$ 1,180,190	$ 983,574	$ 1,475,361	$ 8,606,272	$ 12,294,675
Care Capital Offshore Investments III, LP	0.8213%	$ 821	$ 19,710	$ 16,426	$ 24,639	$ 143,728	$ 205,325
Index Ventures III (Jersey) L.P.	16.0387%	$ 16,039	$ 384,928	$ 320,774	$ 481,161	$ 2,806,772	$ 4,009,691
Index Ventures III (Delaware) L.P.	32.5809%	$ 32,581	$ 781,942	$ 651,618	$ 977,427	$ 5,701,658	$ 8,145,257
Index Ventures III Parallel Entrepreneur Fund (Jersey) L.P.	0.5804%	$ 580	$ 13,930	$ 11,608	$ 17,412	$ 101,570	$ 145,101
Yucca Partners LP Jersey Branch	0.8000%	$ 800	$ 19,200	$ 16,000	$ 24,000	$ 140,000	$ 200,001
Total	100.0000%	$ 100,000	$ 2,399,900	$ 2,000,000	$ 3,000,000	$ 17,500,000	$ 25,000,100

EXHIBIT A

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

(see attached)

EXHIBIT B

INVESTORS' RIGHTS AGREEMENT

(see attached)

EXHIBIT C

ROFR AND CO-SALE AGREEMENT

(see attached)

EXHIBIT D

FORM OF LEGAL OPINION

(see attached)

Exhibit 10.20

AMENDMENT NO. 1

TO

STOCK PURCHASE AGREEMENT

THIS AMENDMENT NO. 1 TO STOCK PURCHASE AGREEMENT (this "**Amendment**"), dated as of March 28, 2014, is made by and among Minerva Neurosciences, Inc., a Delaware corporation, as successor in interest to Cyrenaic Pharmaceuticals, Inc. (the "**Company**"), and the undersigned stockholders of the Company (the "**Purchasers**").

WHEREAS, the Company and the Purchasers are parties to that certain Stock Purchase Agreement, dated as of August 29, 2007 (the "**Agreement**"); and

WHEREAS, the Company and the Purchasers, in accordance with Section 7.8 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 parties hereto acknowledge and agree that Section 2.1 of the Agreement shall be amended to reflect that the Purchasers' right to purchase any additional Shares under the Agreement is hereby terminated.

2. This Amendment shall be effective as of the date hereof; provided, however, in the event the registration statement filed with the Securities Exchange Commission with respect to the Company's initial public offering of common stock, par value $0.0001, has not become effective as of December 31, 2014, Section 1 of this Amendment shall be deemed null and void, and the Agreement in its entirety shall remain unchanged and continue in full force and effect.

3. Except as amended by this Amendment, the Agreement shall remain unchanged and continue in full force and effect.

3. 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).

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4. 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.

[*Signature Page to Follow*]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first written above.

COMPANY:

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO

Signature Page to Amendment No. 1 to Stock Purchase Agreement
Minerva Neurosciences, Inc.

PURCHASERS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ Robert Seltzer
Name: Robert Seltzer
Title: Authorized Signatory

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ Robert Seltzer
Name: Robert Seltzer
Title: Authorized Signatory

INDEX VENTURES III (JERSEY) L.P.

By: Index Venture Associates III Limited, its Managing General Partner

By: /s/ N.T. Greenwood
Name: N.T. Greenwood
Title: Director

INDEX VENTURES III (DELAWARE) L.P.

By: Index Venture Associates III Limited, its Managing General Partner

By: /s/ N.T. Greenwood
Name: N.T. Greenwood
Title: Director

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

By: Index Venture Associates III Limited, its Managing General Partner

By: /s/ N.T. Greenwood
Name: N.T. Greenwood
Title: Director

YUCCA (JERSEY) SLP

By: Ogier Employee Benefit Services Limited, as Authorized Signatory in its Capacity as Administrator of The Index Co-Investment Scheme

By: /s/ Giles Johnstone-Scott /s/ Charles Le Cornu
Name: Giles Johnstone-Scott and Charles Le Cornu
Title: Authorized Signatories

Signature Page to Amendment No. 1 to Stock Purchase Agreement
Minerva Neurosciences, Inc.

Exhibit 10.21

STOCK REPURCHASE AGREEMENT

THIS STOCK REPURCHASE AGREEMENT (this "Agreement") entered into April 3, 2014 and effective as of March 31, 2014 by and among Minerva Neurosciences, Inc., a Delaware corporation (the "Company"), and Wint2felden Holding SA, a Swiss corporation (the "Stockholder").

RECITALS

WHEREAS, the Stockholder has entered into the following Subscription Agreements pursuant to which Stockholder acquired shares of Common Stock of the Company: (i) Subscription Agreement dated March 30, 2012 (the "March Subscription Agreement") by and between Stockholder and Sonkei Pharmaceuticals, Inc., a Delaware corporation and predecessor to the Company; (ii) Subscription Agreement dated April 26, 2012 (the "April Subscription Agreement") by and between Stockholder and the Company (F/K/A Cyrenaic Pharmaceuticals, Inc.), and (iii) Subscription Agreement dated December 20, 2013 (the "December Subscription Agreement, and together with the March Subscription Agreement and the April Subscription Agreement, the "Subscription Agreements") by and between Stockholder and the Company;

WHEREAS, in connection with the payment of the purchase price for the issuance of the shares of Common Stock under the Subscription Agreements, the Stockholder issued and delivered to the Company the following promissory notes (collectively, the "Promissory Notes"): (i) promissory note dated March 30, 2012 in the original principal amount of €1,119,017 Euros; (ii) promissory note April 26, 2012 in the original principal amount of $3,058,326; and (iii) promissory note dated December 20, 2013 in the original principal amount of $97,737; and

WHEREAS, the Stockholder desires to sell, and the Company desires to repurchase, the number of shares of the Common Stock of the Company as set forth on Schedule A (such shares to be repurchased, the "Shares"), on the terms and subject to the conditions contained in this Agreement (the "Repurchase").

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

SECTION 1. REPURCHASE.

(a) **Repurchase**. At the Closing (as defined below), the Company hereby agrees to repurchase from the Stockholder, and the Stockholder hereby agrees to sell, assign, transfer and deliver to the Company, all of the Stockholder's right, title and interest in and to the Shares sold in consideration of the cancellation of all amounts owed under the Promissory Notes, including all principal and accrued but unpaid interest in the amount of $17,279.20 (the "Repurchase Amount"). At the Closing, the Stockholder shall deliver to the Company its stock certificate representing the Shares, accompanied by a duly executed stock power in the form attached hereto as Exhibit A. The Company shall cancel on its books the stock certificate representing such Shares and shall cancel the Promissory Notes, and deliver promptly to the Stockholder the originals of each of the Promissory Notes marked cancelled.

(b) **Intentionally Omitted**.

(c) **Closing**. The closing of the Repurchase (the "Closing") shall take place at such place as the parties hereto shall mutually agree, on or about the date first set forth above, or at such other date as the parties hereto shall mutually agree.

SECTION 2. REPRESENTATIONS AND WARRANTIES.

(a) The Stockholder represents and warrants to the Company as follows:

(i) **Ownership of Shares**. The Stockholder is the record and beneficial owner of that number of the Shares set forth opposite the Stockholder's name on Schedule A to be transferred under this Agreement, free and clear of any pledge, lien, security interest, encumbrance, claim or equitable interest (collectively, "Liens"), other than Liens granted for the benefit of the Company.

(ii) **Consents**. All consents, approvals, authorizations and orders required for the execution and delivery of this Agreement by the Stockholder and the transfer of the Shares by the Stockholder under this Agreement have been obtained and are in full force and effect.

(iii) **Authority**. The Stockholder has full legal right, power and authority to enter into and perform its obligations under this Agreement and to transfer the Shares under this Agreement. This Agreement constitutes the valid and binding obligation of the Stockholder, enforceable in accordance with their terms, except (i) as limited by laws of general application relating to bankruptcy, insolvency and the relief of debtors and (ii) as limited by rules of law governing specific performance, injunctive relief or other equitable remedies and by general principles of equity.

(iv) **No Continuing Rights**. The Stockholder acknowledges that the Repurchase Amount represents the entire consideration to be paid for the Shares and that, after the Closing, the Stockholder shall have no further rights with respect to the Shares (other than the right to receive the Repurchase Amount).

(v) **Tax Matters**. The Stockholder has had the opportunity to review with his or her tax advisors the tax consequences of the Repurchase and the transactions contemplated by this Agreement. The Stockholder is relying solely on such advisors and not on any statements or representations of the Company or any of its agents. The Stockholder understands that the Stockholder (and not the Company) shall be responsible for the Stockholder's tax liability and any related interest and penalties that may arise as a result of the transactions contemplated by this Agreement.

(b) The Company hereby represents and warrants to the Seller as follows:

(i) Authority. The Company has full legal right, power and authority to enter into and perform its obligations under this Agreement and to repurchase the Shares under this Agreement. The Company has taken all requisite action to authorize the execution and delivery of this Agreement and to carry out the transactions contemplated hereby. This Agreement constitutes the valid and binding obligation of the Company, enforceable in accordance with its terms, except (i) as limited by laws of general application relating to bankruptcy, insolvency and the relief of debtors and (ii) as limited by rules of law governing specific performance, injunctive relief or other equitable remedies and by general principles of equity.

(ii) Absence of Litigation. No suit, action, claim, proceeding or investigation has been instituted, or to the Company's knowledge, threatened, by or before any court or any foreign, federal, state, county or local government or any other governmental, regulatory or administrative agency or authority seeking to restrain, prohibit or invalidate the repurchase of the Shares by the Company hereunder or the consummation of the transactions contemplated hereby or to seek damages in connection with such transactions or which is reasonably likely to adversely affect the right of the Company to repurchase the Shares.

(iii) Consents. All consents, approvals, authorizations and orders required for the execution and delivery of this Agreement by the Company and the repurchase of the Shares by the Company under this Agreement have been obtained and are in full force and effect.

SECTION 3. CANCELLATION OF PUT/CALL OPTIONS. The Stockholder and Company each acknowledge and agree that (i) the put option set forth in Section 5 of each of the Subscription Agreements shall be terminated immediately and shall no longer be in force and effect following the execution of this Agreement and (ii) the call option set forth in Section 4 of each of the Subscription Agreements shall be terminated in the event that the Company completes an IPO and shall be no longer in force and effect from the date of such IPO.

SECTION 4. MISCELLANEOUS.

(a) **Survival**. The representations and warranties of the Stockholder set forth in Section 2 above shall survive the execution and delivery of this Agreement and the Closing for a period of six (6) months, and shall in no way be affected by any investigation of the subject matter thereof made by or on behalf of the Company.

(b) **Acknowledgement by Stockholder**. THE STOCKHOLDER IS AWARE, ACKNOWLEDGES AND UNDERSTANDS THAT IT HAS ALL AVAILABLE INFORMATION RELATING TO THE COMPANY'S BUSINESS, FINANCIAL POSITION AND PROSPECTS. THE STOCKHOLDER EXPRESSLY WAIVES ANY AND ALL CLAIMS TO ANY POTENTIAL OR ACTUAL INCOME, PROFITS, OR OTHER SUMS IN EXCESS OF THE CONSIDERATION PAYABLE PURSUANT TO THIS AGREEMENT THAT MAY BE REALIZED BY THE COMPANY OR OTHERS AS A RESULT OF ANY TRANSACTION INVOLVING THE SHARES. THE STOCKHOLDER ACKNOWLEDGES THAT THE STOCKHOLDER'S DECISION TO SELL THE SHARES WAS NOT MADE IN

RELIANCE ON ANY REPRESENTATIONS OF THE COMPANY OR ANY OTHER PERSON. IN ADDITION, STOCKHOLDER ACKNOWLEDGES AND AGREES THAT, THE COMPANY HAS NO OBLIGATION TO ISSUE ANY ADDITIONAL SHARES OR OPTIONS TO ACQUIRE SHARES TO STOCKHOLDER, WHETHER AS AN ANTI-DILUTION ADJUSTMENT OR OTHERWISE, AND ANY ORAL UNDERSTANDING BETWEEN THE COMPANY OR ANY OFFICER, DIRECTOR OR INVESTOR IN THE COMPANY AND STOCKHOLDER, ARE HEREBY TERMINATED AND NO LONGER IN FORCE AND EFFECT.

(c) **Stockholder's Tax Obligations**. The Stockholder shall be solely responsible for paying, and shall indemnify and hold harmless the Company against, any and all taxes and any related penalties, fines and interest arising out of or related to the transactions contemplated hereby, including, without limitation, any capital gains or income taxes arising from the sale of the Shares to the Company and any liability asserted against the Company for withholding taxes, and any related penalties, fines and interest, with respect to such sale of the Shares. The Stockholder shall provide to the Company, properly completed and duly executed by the Stockholder, an IRS Form W-8BEN revision 2006 (or, if such form is then in effect, an IRS Form W-8BEN-E).

(d) **Successors and Assigns**. The provisions of this Agreement shall inure to the benefit of, and be binding upon, the Company and the Stockholder and their respective successors and assigns, whether or not any such person has become a party to this Agreement or has agreed in writing to join herein and to be bound by the terms, conditions and restrictions hereof. Nothing expressed or referred to in this Agreement will be construed to give any person other than the parties to this Agreement any legal or equitable right, remedy, or claim under or with respect to this Agreement or any provision of this Agreement. This Agreement and all of its provisions and conditions are for the sole and exclusive benefit of the parties to this Agreement and their successors and assigns.

(e) **Governing Law**. All questions concerning the construction, validity and interpretation of this Agreement and the exhibits hereto will be governed by and construed in accordance with the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.

(f) **Counterparts**. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Facsimile and .pdf signature pages shall be accepted as originals for all purposes hereof.

(g) **Amendments and Waivers**. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the Stockholder. Any amendment or waiver effected in accordance with this section shall be binding upon each party hereto (and any successors or assigns).

(h) **Notices**. All notices and other communications given or made pursuant hereto shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) day after deposit with an internationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company, at 245 First Street, Suite 1800, Cambridge, MA 02142, and with respect to Stockholder, at the address set forth on Schedule A attached hereto (or at such other addresses as shall be specified by notice given in accordance with this Section 4(h)).

(i) **Further Action**. Each party hereto agrees to execute any additional documents and to take any further action as may be necessary or desirable in order to implement the transactions contemplated by this Agreement.

(j) **Entire Agreement**. This Agreement contains the entire understanding of the parties and there are no further or other agreements or understandings, written or oral, in effect between the parties relating to the subject matter hereof except as expressly referred to herein.

(k) **Severability**. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

COMPANY:

MINERVA NEUROSCIENCES, INC.

By: /s/ Rogerio Vivaldi Coelho
Name: Rogerio Vivaldi Coelho, MD, MBA
Title: Co-Founder, President & CEO

SIGNATURE PAGE TO STOCK REPURCHASE AGREEMENT

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

STOCKHOLDER:

Wint2felden Holding SA.

By: /s/ Rémy Luthringer
Name: Rémy Luthringer
Title: President

SIGNATURE PAGE TO STOCK REPURCHASE AGREEMENT

Exhibit A

STOCK POWER

FOR VALUE RECEIVED, Wint2felden Holding SA. (the "Stockholder") hereby sells, assigns and transfers unto Minerva Neurosciences, Inc. (the "Company") 1,202,137 shares out of 4,366,616 shares the Common Stock of the Company standing in Stockholder's name on the books of the Company and represented by Certificate Number CS-94 herewith and does hereby irrevocably constitute and appoint the Secretary of the Company, its attorney-in-fact to transfer such stock on the books of the Company with full power of substitution in the premises.

Dated: March 31, 2014

/s/ Rémy Luthringer
(signature)

Wint2felden Holding SA.
Name: Rémy Luthringer
Title: President

STOCK POWER

FOR VALUE RECEIVED, Wint2felden Holding SA. (the "Stockholder") hereby sells, assigns and transfers unto Minerva Neurosciences, Inc. (the "Company") 25,466 shares out of 97,737 shares the Common Stock of the Company standing in Stockholder's name on the books of the Company and represented by Certificate Number CS-96 herewith and does hereby irrevocably constitute and appoint the Secretary of the Company, its attorney-in-fact to transfer such stock on the books of the Company with full power of substitution in the premises.

Dated: March 31, 2014

/s/ Rémy Luthringer
(signature)

Wint2felden Holding SA.
Name: Rémy Luthringer
Title: President

Schedule A

Stockholder
Wint2felden Holding SA
c/o NAT Services
2 Rue de Jargonnant
CH-1207 Geneva
Switzerland

Date of Original Subscription	Number of Shares to be Returned in Exchange for Cancellation of Promissory Note	Amount of Principal and Accrued Unpaid Interest under Promissory Note to be Cancelled
March 30, 2012	816,480	$ 3,069,966.98
April 26, 2012	411,233	$ 1,546,238.25
December 20, 2013	26,007	$ 97,788.39
Total	**1,253,720**	**$ 4,713,993.61**

Exhibit 10.22

EMPLOYMENT AGREEMENT

between

Mind-NRG SA	**Company**
Switzerland	
and	
Remy Luthringer	**Employee**

The Company and the Employee are also referred to as "**Party**" or "**Parties**".

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EMPLOYMENT AGREEMENT

1. BEGINNING OF EMPLOYMENT

The employment relationship (the “Employment”) of the Employee created pursuant to this employment agreement (the “Employment Agreement”) starts on May 1, 2014 (the “**Commencement Date**”).

2. POSITION

a. Function

The Employee shall assume the function as Executive Vice President and Head of Research and Development (R&D).

b. Duties and Responsibilities

It is understood that the duties and responsibilities arising out of the above function includes all tasks customarily or reasonably incidental to such function.

The Company may implement organisational regulations (the “**Organisational Regulations**”) setting out the duties and responsibilities of the Employee in further detail. The Company may change the duties and responsibilities of the Employee from time to time and may assign to the Employee any additional or new duties or responsibilities as deemed reasonable and appropriate.

The Employee will report to the Company’s President and Chief Executive Officer (“CEO”), and shall perform such duties consistent with his position as Head of Research and Development (R&D) and as may be assigned to him by the CEO.

In fulfilment of his duties, the Employee may have to act as officer, director or in any other corporate function within the Company or in direct or indirect subsidiaries, shareholders or other companies associated with the Company (the “**Affiliates**”, the Company and the Affiliates together the “**Group**”).

Upon consultation with the Employee, the Company may assign to the Employee any additional or new duties or responsibilities, consistent with his position as Head of R&D, as deemed reasonable or appropriate by the Company in the course and fulfilment of its business.

The Employee shall carefully perform all work assigned to the Employee, and loyally safeguard the Company's legitimate interests. The Employee agrees to devote substantially all of his working time, attention and energies to the Group.

c. Work for third Parties

While he remains employed, the Employee shall not work for any third party or engage in any other business activity that is in conflict with his duties and obligations to the Group; provided, however, that, for the avoidance of doubt, he may (i) manage his passive personal investments, (ii) continue his current involvement with Index, provided it does not interfere with his duties and responsibilities on behalf of the Company, (iii) with advance written approval from the Company, serve on industry, trade, civic, charitable or non-profit corporate boards or committees, (iv) with advance written approval of the Company, serve on outside for-profit corporate boards or committees, and (v) with advance written approval, serve as a consultant to for-profit entities.

3. PLACE OF WORK

The Employee's principal place of work shall be in Geneva at the main office of the Company. Nevertheless, the Employee understands and agrees that he may, in the course of the Employment and where reasonably requested by the Company, be required to travel for business to other places and countries within the European Union and the United States in order to perform his obligations and duties under the Employment Agreement.

4. COMPENSATION

a. Base Salary

The Employee shall receive an annual base salary of CHF 302,273 (the "**Base Salary**") payable in twelve monthly instalments at the end of the month (in accordance with the Company's normal payroll practice), plus any mandatory contributions for family and children allowances.

The Base Salary will be subject to review and adjustment by the Company from time to time.

b. Annual Bonus

The Employee shall be entitled to a discretionary bonus payment for each calendar year that ends during the Employment, commencing with the 2014 calendar year, with a target amount at 50% of the Base Salary paid in such calendar year (the "**Annual Bonus**"). The 2014 target Annual Bonus amount is CHF 160,000 and, if approved, shall not be prorated as of the Commencement Date. The targets for 2014 shall be agreed to in writing by the Employee and Company. After 2014, the target amount of the Annual Bonus as well as the targets shall be defined in January of the respective calendar year in an agreement between the Company and the Employee. The targets for 2014 shall be agreed to in writing by the Employee and Company.

Whether to grant an Annual 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 ("Board") and specific annual objectives for your position set by the Board or the CEO.

c. Option Grant

Provided the Employee continues to be employed by the Company on the date (the "**Pricing Date**") on which the IPO is priced pursuant to a definitive agreement between the Parent and an underwriter (the "**Underwriting Agreement**"), the Employee will be granted on such date two, options to purchase the number of shares of common stock of the Parent,, with an exercise price per share equal to the price per share at which the Parent common stock is issued to the public in the IPO, as follows:.

- An option to purchase 1,546,906 shares of common stock of the Parent, fully vested at the time of grant (the "**First Option**"). The number of shares of Parent common subject to the First Option shall be adjusted for any stock split, reverse stock split or other adjustment event set forth in the Plan that occurs on or prior to the Pricing Date.

- An option to purchase a number of shares of common stock of the Parent equal to 1 % of the fully diluted outstanding shares of common stock of the Parent expected to be outstanding on the date immediately following the IPO Closing Date (the "**Second Option")**. Twenty-five percent (25%) of the shares subject to the Second Option will vest upon the Employee's completion of the twelve month period of employment with the Company measured from November 12, 2013 and the remaining 75% of the shares subject to the Second Option will vest in a series of twelve (12) successive equal quarterly instalments upon the Employee's completion of each additional quarter of employment with the Company over the three (3) year period thereafter. In the case where the Company dismisses the Employee 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, then in addition to any option shares in respect of which the Second Option shall have vested, the number of option shares in which, but for such termination, the Employee would have become vested during the twelve (12)-month period measured from the date of termination shall automatically vest on such termination of employment. For purposes of the Second Option, the number of fully diluted outstanding shares of common stock of the Parent expected to be outstanding on the date immediately following the IPO Closing Date shall be equal to the sum of (i) the number of fully diluted shares of common stock of the Parent outstanding on the Pricing Date prior to execution of the Underwriting Agreement and (ii) the number of shares of common stock of the Parent to be sold in the IPO (as set forth in the Underwriting Agreement).

Each option will be granted under Parent's equity incentive plan (the "**Plan**") and will be evidenced by a standard stock option agreement (the "Option Agreement") thereunder, and will be subject to the terms and conditions of the Option Agreement and such Plan.

"**IPO**" means the initial sale of the equity securities of the Parent to the public pursuant to an effective registration under the Securities Act of 1933. "**IPO Closing Date**" means the closing of the IPO. "**Parent**" means Minerva, Neurosciences, Inc.

d. Benefit Programs

The Employee may be given the opportunity by the Company to be eligible to participate in benefit programs that the Company/Group establishes and makes available to similarly situated employees from time to time ("**Benefit Programs**"), provided that the Employee is eligible under (and subject to all provisions of) the plan documents governing those programs ("**Participation**"). Such benefits may include participation in group medical, dental, and vision insurance programs, and term life insurance. The benefits made available by the Company/Group, and the rules, terms, and conditions for participation in such benefit plans, may be changed by the Company/Group at any time without advance notice. Any Participation is in the full discretion of the Company or the Affiliate issuing such Benefit Programs.

e. **Acknowledgements of the Employee**

i. **Nature of Additional Payments**

The Employee acknowledges and agrees that any entitlements granted and payments made in addition to the Base Salary, including, but not limited to any bonuses, participations, or gratuities of the Company or an Affiliate (the "**Additional Payments**") are not part of the salary legally or contractually owed by the Company and are made at full discretion of the Company or the Affiliate granting such bonus, participation or gratuity, respectively. Any Additional Payments shall not create any obligation of the Company or Affiliate to make such Additional Payments in future and shall not create any right or entitlement of the Employee to such Additional Payments in future even if paid over consecutive years and without express reservation.

ii. **Conditionality**

The vesting and payment of any Additional Payments, if any, are subject to the following conditions being cumulatively fulfilled on the respective due dates:

- the Employment Agreement has not ended (e.g. by notice of termination issued either by the Company or the Employee, mutual agreement, retirement, death, disability or otherwise);
- no notice of termination has been given under this Employment Agreement by either the Employee or the Company;
- the Employee is not in a material breach of any of his obligations under the Employment Agreement;

iii. **No Other Compensation**

The Employee acknowledges and agrees he shall not be entitled to any other compensation or benefit of any nature from the Company except as expressly provided in this Employment Agreement.

iv. **Deductions**

From the salary (as defined by the applicable laws and regulations, which may include bonuses, allowances, participations and other benefits in addition to the Base Salary) any portions of Employee's social security contributions (AHV (Old-age and surviving dependents insurance)/IV (Disability insurance)/EO (Wage compensation), ALV (Unemployment insurance), UV (Accidence insurance), premiums to pension schemes (cp. Regulations of the pension fund) and withholding taxes, if any, will be deducted and withheld by the Company from the payments made to the Employee.

f. Director and Officer Insurance (D&O)

D&O insurance is conducted by the Employee and the insurance premium is paid by the Company.

5. EXPENSES

The Employee shall be entitled to lump sum expenses in the amount of CHF 17,727 per year, payable in twelve (12) monthly instalments at the end of the month, covering all out-of-pocket business expenses each not exceeding CHF 50. Other than that, the Employee shall be entitled to reimbursement by the Company of out-of-pocket business expenses reasonably incurred by the Employee during the Employment in the performance of the Employee's duties under this Employment Agreement exceeding CHF 50. However the reimbursement is subject to (i) the submission of relevant vouchers and receipts and (ii) the compliance with the reimbursement policies of the Company possibly established and amended from time to time. Until the Company secures benefits for its employees and provided he is employed pursuant to this Employment Agreement, Employee shall receive a reimbursement of CHF 500 per month for maintenance of health insurance.

6. WORKING TIME

The weekly working hours for the Employee are at least 42 hours per week.

The Employee shall work extra hours and overtime, if required and to the extent such work can reasonably be expected in good faith.

The Base Salary as defined in Section 4.a hereunder includes any and all remuneration for such overtime, and the Employee shall have no entitlement to additional compensation for such overtime, whether in cash nor in kind.

7. VACATION

The Employee is entitled to twenty-five (25) business days of vacation per calendar year.

The Company has the right to determine when the Employee shall take vacation. However, the Company shall take the Employees requests in due consideration. If the Employee requests to take vacation he shall reasonably prior to the in-tended vacation inform the responsible executive. In any event the Employee shall provide for suitable internal representation and he shall care for the ongoing service of important affairs during his vacation.

The vacation entitlement is based on one complete calendar year. For the year in which the Employment relationship begins or ends, the vacation entitlement is calculated pro rata temporis.

8. HOLIDAYS AND COMPELLING ABSENCE

a. Holidays

On federal and cantonal Holidays the Employee is not obliged to work. The Employee is not entitled for any compensation for such holidays when such holidays are on weekends.

b. Compelling Absences

To the extent necessary or required, Employees are eligible to take time off for compelling reasons (as specified below).

Compelling Absences include, but are not limited to, the following events for which the time off as set forth below apply (stated in business days):

- Marriage of Employee: 2 days
- Attendance of wedding of a family member or close relative: 1 day
- Birth of Employee's child: 2 days
- Death or illness of:
    - close family member or person living in the same household: 3 days
    - other family member: 2 day

- close relative or friend: 1 day

- Moving: 1 day
- Medical or dental care: as required
- Public duties: as required

Compelling Absences do not constitute a ground for a deduction of the Employees' entitlements to the Base Salary or vacation, unless the absence exceeds the time period as set forth above.

9. TERMINATION

a. Termination

The Employment may be terminated by a written notice with a 6 month notice period, unless otherwise agreed in the Employment Agreement:

Upon observance of the notice period, termination shall be effective as of the end of each business day (Monday to Friday).

The Employment is being terminated automatically at the end of the month in which the Employee reaches the retirement age according to the federal law of old-age and surviving dependents insurance (AHVG).

b. Termination for Valid Reasons

The Employment Agreement may be terminated by either Party for valid reasons pursuant to Article 337 of the Swiss Code of Obligations at any time.

c. Return of Documents and Material

Upon termination of this Employment Agreement for any reason or earlier at the Company's first request, the Employee shall return to the Company any material, all files and any documents related to the business of the Group in his possession or open to his access, including all keys, access documents, computers, laptops, mobiles, designs, customer and price lists, printed material, documents, sketches, notes, drafts as well as copies thereof, regardless whether or not the same are originally furnished by the Company, an Affiliate or third party.

If the Employee shall have made copies of any documents or information, he shall immediately destroy or delete such documents, or return them to the Company, at the Company's discretion.

d. Future Cooperation

The Employee agrees that upon the Company's reasonable request following the termination of the Employment, the Employee 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. The Employee will be entitled only to reimbursement for reasonable out-of-pocket expenses (including travel expenses) incurred in connection with providing such assistance.

10. PENSION

Once the Employee becomes subject to the Swiss social security system (see Section 4.e.iii), the Employee will be participating in the Company's pension scheme pursuant to the regulations of such pension scheme, as amended from time to time.

All contributions and premiums of the Swiss pension scheme will be split equally between the Employee and the Company.

11. ILLNESS, ACCIDENT AND DEATH

a. Medical Certificate

If the Employee's absence exceeds three business days, the Employee shall, as soon as practicable furnish a medical certificate. However, the Company reserves the right to demand for a medical certificate in case of any absence, irrespective of the length of the absence. The Company is entitled to ask the Employee to consult a medical examiner at the Company's expense.

b. Daily Allowance Insurance

a. Illness

If the Employee is prevented from performing the Employee's duties due to illness (not deliberately self-inflicted by the Employee, then the Company will continue to pay the Base Salary pursuant to the collective daily allowance insurance for illness (*Kranken-Taggeldversicherung*) of the Company, provided that the conditions of the collective daily allowance insurance for illness are being met and that the Employee complies with the conditions of the collective daily allowance insurance for illness and with the directives of the Company. In principle, the daily allowance for illness insurance provides for the following coverage:

- During an initial waiting period of 30 days there is no insurance coverage, but 100% of the Base Salary shall be paid by the Company to the Employee, in accordance to Section 4.a.
- After the initial waiting period of 30 days, 90 % of the Base Salary will be covered for up to 720 days of absence in aggregate within any period of 900 days in total.

For the avoidance of doubt, after the initial waiting period of 30 days, any and all entitlements to compensation from the Company pursuant to Section 5 cease, including any entitlement to Additional Payments.

b. Accident

If the Employee is prevented from performing the Employee's duties due to an accident (not deliberately self-inflicted by the Employee), then the Company will continue to pay the base salary pursuant to the collective daily allowance insurance for accident (*Unfall-Taggeldversicherung*) of the Company, provided that the conditions of the collective daily allowance insurance for accident are being met and that the Employee complies with the conditions of the collective daily allowance insurance for accident and with the directives of the Company. In principle, the daily allowance insurance for accident provides for the following coverage:

- During an initial waiting period of 2 days there is no insurance coverage, but 100% of the Base Salary shall be paid from the Company to the Employee, in accordance to Section 4.a
- After the initial waiting period of 2 days, 90 % of the Base Salary until recovery or declaration of permanent disability.

For the avoidance of doubt, after the initial waiting period of 2 days, any and all entitlements to compensation from the Company pursuant to Section 4 cease, including any entitlement to Additional Payments.

The insurance premiums for the daily allowance insurance for occupational accident shall be paid by the Company. The insurance premiums for the daily allowance insurance for non-occupational accidents shall be paid by the Company.

c. Medical Costs for Occupational and Non-occupational Accidents

During the Employment the Employee is insured for occupational and non-occupational accidents. Premiums for occupational accident insurance and occupational sickness insurance are paid by the Company. Premiums for non-occupational accident insurance are paid by the Employee.

d. Medical Costs for Illness

The Employee is responsible to obtain a health insurance policy according to the applicable Swiss law at his own expense. The Company does not cover any medical costs of the Employee whatsoever.

12. INTELLECTUAL PROPERTY RIGHTS

The Company is entitled to all work results and all intellectual property and all related rights created by the Employee in the course of or in connection with the employment (notwithstanding whether in pursuance or fulfilment of a contractual duty or not, whether individually or with the assistance of any other individual or entity) ("**Work And Intellectual Property Rights**"), and all such Work And Intellectual Property Rights vest irrevocably to the maximum extent legally possible in the Company, including the right to sue for present, past and future infringements of any of the foregoing.

This transfer and assignment of work results, intellectual property and related rights is worldwide, unlimited in time, unrestricted in scope and encompasses all rights and exploitations, whether currently known or arising in the future. To the extent certain jurisdictions do not provide for the assignability of work results or intellectual property and related rights, the Employee grants to the Company a worldwide, irrevocable, exclusive, transferable and sublicensable, royalty-free, unlimited and unrestricted license to use, modify, develop and exploit such work results, intellectual property and related rights. Compensation for the transfer of these Intellectual

Property Rights or their licensing, respectively, is included in the Base Salary according to Section 4(a).

To the extent permitted by law, the Employee agrees not to put forward any claim regarding possible moral rights in connection with any work under this section.

The Employee will, upon first demand of the Company, execute any documents, declarations, deeds of assignment or similar as may be requested by the Company for evidence or perfection of the above transfer and assignment.

In case of any inventions made during the performance of the Employment but out of the scope of the Employee's contractual duties (which accrue with the Company pursuant to the first paragraph of this Section), the Employee shall have a right to compensation for such invention unless the Company releases such invention to the Employee.

13. DATA PROTECTION AND PRIVACY

The Company will comply with the Swiss Data Protection Act. The Company will only collect personal data of the Employee insofar as necessary for the execution and performance of the Employment and the obligations resulting therefrom or if required to do so by law.

The Employee herewith agrees that personal data may be transferred Affiliates and further third parties within and outside of Switzerland if such transfer is required in connection with the Employment, the execution of the Employment Agreement, the performance of any obligations resulting from the Employment, the work organization of the Company or otherwise required by Swiss law or the laws of any other relevant jurisdiction. The Company shall ensure that personal data will be secured against unauthorized access if a transfer is contemplated. The Employee has the right to withdraw his consent at any time.

14. CONFIDENTIALITY

The Employee will have access to trade secrets and other confidential and proprietary information relating to the business and operations of the Company, other group companies and their clients ("**Confidential Information**"). Confidential Information includes 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 in formation which are non-public in nature and which are treated as confidential or trade secret information by the Company. Such Confidential Information constitutes a unique and valuable asset of the Company and other group companies and their acquisition required great time and expense. The disclosure or any other use of Confidential Information, other than for the sole benefit of the Company or another group company, would be wrongful and would cause irreparable harm to the Company or an Affiliate.

Information that enters the public domain, other than through the breach of the Employee of his obligations under this Employment Agreement are no Confidential Information in the meaning of this Employment Agreement.

The Employee is under a strict duty to keep all Confidential Information strictly and permanently confidential and, accordingly, shall not during the Employment or after termination of the Employment directly or indirectly use for any purpose other than for the sole benefit of the Company or an Affiliate, or disclose or permit to be disclosed to any third person or entity, any Confidential Information without first obtaining the written consent of the responsible executive and the party concerned, if applicable, except if required to do so by law.

The Employee may not make any statement to the media, as far as he is not authorized to do so by the responsible executive.

The Company reserves the right to claim compensation for damages as well as the right to the remedy of specific performance.

15. NON-COMPETITION AND NON-SOLICITATION

The Employee agrees that during the Employment and for a period of one year after termination of the Employment, he will not directly, indirectly, once, occasionally or professionally, under his name or under a third party name, on be-half of his own or on behalf of third parties compete with the Company or an Affiliate within the scope 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 and non-solicitation covenant are therefore not appropriate. This provision shall not apply in cases where the Company dismisses the Employee with regular notice as set forth in Article 335b et 335.c of the Swiss Code of Obligations or with immediate effect without good cause as set forth in Article 337 of the Swiss Code of Obligations.

The Employee furthermore agrees that he will not participate in any way in any enterprise competing with the Company or an Affiliate, and he also agrees not to found or assist any business being active in the Restricted Business, unless otherwise provided by this Employment Agreement.

These restrictions shall not prevent the Employee from (a) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that the services of the Employee for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (b) holding five percent (5%) of the securities of any publicly traded entity.

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

In the event the Employee breaches any of the obligations pursuant to this Section 15 a penalty of CHF 302,273 shall be owed by the Employee to the Company for any such breach. However, the payment of the penalty does not release the Employee from further complying with the respective obligation. In addition, the Company reserves the right to claim compensation for damages as well as the right to the remedy of specific performance.

16. REMEDIES AND ENFORCEABILITY

The Employee agrees that Company and its Affiliates' remedies at law for any breach or threatened breach by you of any of the provisions of Section 14 and/or 15 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 16 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.

It is expressly understood and agreed that although the Parties consider the restrictions contained in Section 14 and/or 15 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 Section 14 and/or 15 is an unenforceable restriction on the activities of the Employee, the provisions of Section 14 and/or 15 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.

17. COMPANY POLICIES AND PROCEDURES

The Employee will at all times comply with all policies and procedures of the Company and the Company.

18. MISCELLANEOUS

a. Entire Agreement

This Employment Agreement constitutes the complete Employment Agreement between the Parties regarding its subject matter and supersedes all prior oral and/or written agreements, representations and/or communications, concerning the subject matter hereof.

b. Severability

Should any of the provisions of this Employment Agreement be or become legally invalid, such invalidity shall not affect the validity of the remaining other provisions. Any gap resulting from such invalidity shall be filled by a provision consistent with the spirit and purpose of the Employment Agreement.

c. Amendments

Any amendments or supplementation of this Employment Agreement shall require written form. The written form may be dispensed only in writing.

d. Governing Law and Jurisdiction

This Employment Agreement shall be construed in accordance with and governed by Swiss law (without giving effect to the principles of conflicts of law).

Any dispute, controversy or claim arising out of or in connection with this Employment Agreement, including the validity, invalidity, breach or termination thereof, and including tort claims, shall be exclusively submitted to and determined by the ordinary courts at the domicile of the defendant party or where the Employee normally performs his duties.

e. Notices

All notices and other communications provided for in this Employment Agreement shall be in writing.

f. Execution

The Parties have duly executed this Agreement in two originals.

g. 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.

Signatures

	/s/ Rogerio Vivaldi Coelho
Company	**Mind-NRG**
Boston, April 8, 2014	Rogerio Vivaldi Coelho
Place, date	[name] [title] President and CEO
Place, date	[name] [title]
Remy Luthringer	
Geneva, 08 April 2014	/s/ Remy Luthringer
Place, date	[name]

Exhibit 10.23

EMPLOYMENT AGREEMENT

between

Mind-NRG SA **Company**
Switzerland

and

Geoff Race **Employee**

The Company and the Employee are also referred to as "**Party**" or "**Parties**".

TABLE OF CONTENTS

EMPLOYMENT AGREEMENT

1. BEGINNING OF EMPLOYMENT

The employment relationship (the “Employment”) of the Employee created pursuant to this employment agreement (the “Employment Agreement”) shall start on May 1, 2014 (the “**Commencement Date**”) and the Employee’s period of continuous employment with the Company for statutory purposes will begin on that date.

2. POSITION

a. Job title

The Employee shall assume the function as Executive Vice President and Chief Financial Officer of the Company and its parent, Minerva Neurosciences, Inc. (“ the Parent”).

b. Duties and Responsibilities

It is understood that the duties and responsibilities arising out of the above function includes all tasks customarily or reasonably incidental to such function and those expressly mentioned in this Employment Agreement.

The Company may change the duties and responsibilities of the Employee from time to time and may assign to the Employee any additional or new duties or responsibilities as deemed reasonable and appropriate subject to the Employee’s prior consent.

The Employee will report to the Company’s President and Chief Executive Officer (“CEO”), and shall perform such duties consistent with his position as Chief Financial Officer of the Company and the Parent and as may reasonably be assigned to him by the CEO and/or the Board of Directors of the Company and/or of the Parent (the “**Board**”).

Upon consultation with the Employee and subject always to the Employee’s prior agreement (not to be unreasonably withheld or delayed), the Company may: (i) require the Employee to act as officer, director or in any other corporate function within the Company or in direct or indirect subsidiaries, shareholders or other companies associated with the Company (the "**Affiliates**", the Company and the Affiliates together the "**Group**"), (ii) assign to the Employee any additional or new duties or responsibilities as deemed reasonable or appropriate by the Company in the course and fulfilment of its business.

The Employee shall carefully perform all work assigned to the Employee, and loyally safeguard the Company's legitimate interests. The Employee agrees to devote substantially all of his working time, attention and energies to the Group.

If and to the extent that the Employee shall be or become a director of the Company, the Parent or any Affiliate as defined in this Employment Agreement the Company shall procure that directors and officers liability insurance is put in place consistent with the indemnification provisions in the By-Laws of the Parent.

c. Work for third Parties

While he remains employed by the Company, the Employee shall not work for any third party or engage in any other business activity that is in conflict with his duties and obligations to the Group; provided, however, that, for the avoidance of doubt, he may (i) manage his passive personal investments, (ii) with advance written approval from the Company, serve on industry, trade, civic, charitable or non-profit corporate boards or committees, (iii) with advance written approval of the Company, serve on outside for-profit corporate boards or committees, and (iv) with advance written approval of the Company (which is not to be unreasonably withheld or delayed), serve as a consultant to for-profit entities.

3. PLACE OF WORK

The Employee's principal place of work shall be in Cambridge UK. Nevertheless, the Employee understands and agrees that he may, in the course of the Employment and where reasonably requested by the Company, be required to travel to and work in other places and countries within the European Union and the United States in order to perform his obligations and duties under the Employment Agreement.

4. COMPENSATION

a. Base Salary

The Employee shall receive an annual base salary of USD 315,000 gross (the "**Base Salary**"), payable in twelve monthly instalments at the end of each month (in accordance with the Company's normal payroll practice), plus any mandatory contributions for family and children allowances.

The Base Salary will be subject to review by the Company on the anniversary of the Employee's Commencement Date. There is no obligation to award an increase nor any entitlement to reduce the Base Salary.

b. Annual Bonus

The Employee shall be eligible for a discretionary bonus payment for each calendar year that ends during the Employment, commencing with the 2014 calendar year, in an amount up to 50% of the Base Salary paid in such calendar year (the "**Annual Bonus**"). The amount of the Annual Bonus as well as the targets shall be defined in January of the respective calendar year or as soon as possible afterwards in an agreement between the Company and the Employee. The Company may in its absolute discretion pay the Employee the Annual Bonus of such amount and at such intervals as the Company may in its absolute discretion determine, taking into account a variety of factors including, but not limited to, achievement of objectives established by the Board for the Company and specific annual performance objectives for the Employee's position as set by the CEO. If the Company makes a bonus payment to the Employee in respect of one calendar year, it shall not be obliged to make subsequent bonus payments in respect of any subsequent calendar year. The Company may alter the terms of any bonus targets or withdraw them altogether without prior notice. The Employee shall have no right to the Annual Bonus (or a pro-rated Annual Bonus) if his employment terminates for any reason or he is under notice of termination (whether given by or received by him) at or prior to the date when the Annual Bonus might otherwise have been payable. Any bonus payment shall not be pensionable.

Notwithstanding the foregoing provisions, subject to the Employee's employment through the closing of the Parent's Initial Public Offering (the "**IPO Closing Date**"), the Employee shall be paid a one-time only payment of USD 175,000 within seven (7) days of the IPO Closing Date. "**IPO**" shall mean the initial sale of the equity securities of the Parent to the public pursuant to an effective registration under the Securities Act of 1933.

c. Option Grant

Provided the Employee continues to be employed by the Company on the date (the "**Pricing Date**") on which the IPO is priced pursuant to a definitive agreement between the Parent and an underwriter (the "**Underwriting Agreement**"), the Employee will be granted on such date, two options to purchase the number of shares of common stock of the Parent, with an exercise price per share equal to the price per share at which the Parent common stock is issued to the public in the IPO, as follows:

- An option to purchase 340,000 shares of common stock of the Parent, fully vested at the time of grant (the "**First Option**"). The number of shares of Parent common subject to the First Option shall be adjusted for any stock split, reverse stock split or other adjustment event set forth in the Plan that occurs on or prior to the Pricing Date. In the event of termination of the Employee's employment by the Company other than for one of the grounds set forth in Sections 8(a)(i) through 8(a)(vi) of the Employment Agreement, the First Option shall remain exercisable for a period of 12 months following the date of such termination, but in no event later than the expiration of the term of the First Option as set forth in the documents evidencing the First Option. However, if the Employee resigns from the Company, the First Option shall not remain exercisable for a period of 12 months following the termination of employment.

- An option to purchase a number of shares of common stock of the Parent equal to 1.2% of the fully diluted outstanding shares of common stock of the Parent expected to be outstanding on the date immediately following the IPO Closing Date (the "**Second Option**"). Twenty-five percent (25%) of the shares subject to the Second Option will vest upon the Employee's completion of the twelve month period of employment with the Company measured from November 12, 2013 and the remaining 75% of the shares subject to the Second Option will vest in a series of twelve (12) successive equal quarterly instalments upon the Employee's completion of each additional quarter of employment with the Company over the three-year period thereafter. In the event of termination of the Employee's employment by the Company other than for one of the grounds set forth in Sections 8(a)(i) through 8(a)(vi) of the Employment Agreement, then (i) in addition to any option shares in respect of which the Second Option shall have vested, 25% of the shares in respect of which the Second Option shall not then have vested shall automatically vest on such termination of employment and (ii) to the extent then vested, the Second Option will remain exercisable for a period of 12 months following the date of such termination, but in no event later than the expiration of the term of the Second Option as set forth in the documents evidencing the Second Option. However, if the Employee resigns from the Company, the Second Option, to the extent then vested, shall not remain exercisable for a period of 12 months following the termination of employment. For purposes of the Second Option, the number of fully diluted outstanding shares of common stock of the Parent expected to be outstanding on the date immediately following the IPO Closing Date shall be equal to the sum of (i) the number of fully diluted shares of common stock of the Parent out standing on the Pricing Date prior to execution of the Underwriting Agreement and (ii) the number of shares of common stock of the Parent to be sold in the IPO (as set forth in the Underwriting Agreement).

Each option will be granted under Parent's equity incentive plan (the "**Plan**") and will be evidenced by a standard stock option agreement (the "**Option Agreement**") thereunder, and will be subject to the terms and conditions of the Option Agreement and such Plan.

d. Benefit Programs

The Employee may be given the opportunity by the Company to be eligible to participate in benefit programs that the Company/Group establishes and makes available to similarly situated employees from time to time ("**Benefit Programs**"), provided that the Employee is eligible under (and subject to all provisions of) the plan documents governing those programs ("**Participation**"). Such benefits may include participation in group medical, dental, and vision insurance programs, and term life insurance as well as appropriate sick pay provisions and pension contributions. The benefits made available by the Company/Group, and the rules, terms, and conditions for participation in such benefit plans, may be changed by the Company/Group at any time without advance notice. Any Participation is in the full discretion of the Company or the Affiliate issuing such Benefit Programs.

e. Acknowledgements of the Employee

i. Nature of Additional Payments

The Employee acknowledges and agrees that any entitlements granted and payments made in addition to the Base Salary and the Benefit Programs referred to in this Employment Agreement, including, but not limited to any bonuses, participations, or gratuities of the Company or an Affiliate (the "**Additional Payments**") are not part of the salary legally or contractually owed by the Company and are made at full discretion of the Company or the Affiliate granting such bonus, participation or gratuity, respectively. Any Additional Payments shall not create any obligation of the Company or Affiliate to make such Additional Payments in future and shall not create any right or entitlement of the Employee to such Additional Payments in future even if paid over consecutive years and without express reservation.

ii. Conditionality

The vesting and payment of any Additional Payments, if any, are subject to the following conditions being cumulatively fulfilled on the respective due dates:

- the Employment Agreement has not ended (e.g. by notice of termination issued either by the Company or the Employee, mutual agreement, retirement, death, disability or otherwise);
- no notice of termination has been given under this Employment Agreement by either the Employee or the Company;
- the Employee is not in a material breach of any of his obligations under the Employment Agreement;

iii. No other Compensation

The Employee acknowledges and agrees that he shall not be entitled to receive any other compensation or benefit of any nature from the Company except as expressly provided for in this Employment Agreement.

iv. Deductions

The Company will be entitled to deduct from the Employee's salary (or any other amount payable to the Employee by the Company): (i) any amount required by law to be deducted including income tax and national insurance contributions; (ii) any sum that the Employee has previously agreed in writing may be deducted; (iii) any sums which are due from the Employee to the Company including (but not limited to) outstanding loans, advances and overpayments of salary, sick pay or expenses.

5. EXPENSES

The Employee shall be entitled to reimbursement by the Company of all out-of-pocket business expenses reasonably incurred by the Employee during the Employment in the performance of the Employee's duties under this Employment Agreement. However the reimbursement is subject to (i) the submission of relevant vouchers and receipts and (ii) the compliance with the reimbursement policies of the Company as notified to the Employee by the Company from time to time.

6. WORKING TIME

The weekly working hours for the Employee are at least 42 hours per week.

The Employee shall work such extra hours and overtime, if required and to the extent such work can reasonably be expected in good faith.

The Base Salary as defined in Section 4.a hereunder includes any and all remuneration for such overtime, and the Employee shall have no entitlement to additional compensation for such overtime, whether in cash or in kind.

7. Holidays

The Employee is entitled to twenty-five (25) days paid holiday per calendar year which he shall be entitled to take at such times as shall be approved by the Company, such approval not to be unreasonably withheld or delayed, together with the usual public holidays in England and Wales.

The Company has the right to determine when the Employee shall take holiday by giving the Employee sufficient notice as is required under the Working Time Regulations 1998 (as amended from time to time). However, the Company shall take the Employee's requests in due consideration. If the Employee requests to take holiday he shall reasonably prior to the in-tended holiday inform the responsible executive. In any event the Employee shall provide for suitable internal representation and he shall care for the ongoing service of important affairs during his holiday.

The holiday entitlement is based on one complete calendar year. For the year in which the Employment relationship begins or ends, the holiday entitlement is calculated on a pro rata basis. Upon termination of employment, the Employee shall either be entitled to salary in lieu of any outstanding pro rata holiday entitlement as accrued at the date of such termination or be required to repay to the Company any salary received in respect of holiday taken in excess of his pro rata entitlement, such payment to be calculated on the basis of 1/260th of the Base Salary payable to the Employee pursuant to section 5 for each day of outstanding or excess holiday entitlement as appropriate.

8. TERMINATION

a. Termination

The Employment shall be terminated by either party on 6 months' written notice. Upon observance of the notice period, termination shall be effective as of the end of each business day (Monday to Friday) and save where the Employee resigns or his employment is terminated by the Company for one of the grounds set forth in Sections 8(a)(i) through to 8(a)(vi) below, any option shares in respect of the Second Option will continue to vest during the notice period (whether or not the Employee serves this on Garden Leave).

The Company may, in its sole and absolute discretion, terminate the Employee's employment at any time and with immediate effect. If the Company exercises its discretion to terminate the Employee's employment in this way, the Employee shall be entitled to receive payment in lieu of notice ("Payment in Lieu"). This Payment in Lieu will be equal to the Base Salary and pension contributions which the Employee would have been entitled to receive under section 4.a (or if notice has already been given, during the remainder of the notice period) less income tax and Employee National Insurance contributions as required by law. The Payment in Lieu shall not include an amount for any bonus, any other contractual benefits or any holiday entitlement, which might have otherwise been due to the Employee during the period for which the Payment in Lieu is due.

The Company shall also be entitled, by notifying the Employee in writing, to terminate this Employment Agreement and the Employee's employment immediately from the date of such notification and without any payment by way of compensation, damages, Payment in Lieu or otherwise if the Employee:

(i) commits any act of gross misconduct;

(ii) commits any material or persistent breach of the terms of this Agreement including any wilful neglect or refusal to carry out any of his duties or to comply with any reasonable and lawful instructions given to him by the Board;

(iii) is convicted of any criminal offence (other than an offence under the Road Traffic Acts for which a penalty of imprisonment cannot be imposed);

(iv) commits any act which constitutes an offence by the Employee or the Company under the Bribery Act 2010 whether done for the Company's benefit or not;

(v) has a bankruptcy order made against him or enters into a voluntary arrangements with his creditors; and

(vi) is disqualified from holding office in the Company or any other company under the Insolvency Act 1986 or the Company Directors Disqualification Act 1986 or is disqualified or disbarred from membership of, or be subject to any serious disciplinary sanction by any professional or other body, which undermines the confidence of the Board in the Employee's continued employment with the Company.

The Company is under no obligation to provide the Employee with work during any notice period served hereunder and may, if either party serves notice to terminate the Employee's employment or if the Employee purports to terminate his employment without due notice (and the Company has not accepted the resignation):

(i) require the Employee to perform only a specified part of his normal duties and no other duties, or no duties whatsoever; and

(ii) exclude the Employee from any premises of the Company for up to six months in total ("Garden Leave").

During any period of Garden Leave the Executive shall:

(i) remain an employee of the Company;

(ii) save as otherwise permitted by this Employment Agreement not whether directly or indirectly, paid or unpaid, be engaged or concerned in any other actual or prospective business or profession or be or become and employee, agent, partner, consultant or director of any other person, company, firm or assist to have a financial interest in any such business or profession;

(iv) not have any contact or communication with any customer, client, supplier or employee of the Company;

(v) keep the Company informed of his whereabouts during working hours save when on holiday so that he can be called upon to perform any appropriate duties as required by the Company;

(vi) if the Company requests, resign from any office in the Company;

(vii) take any holiday which has accrued during the Garden Leave; and

(viii) continue to receive his salary and contractual benefits in the usual way.

b. Return of Documents and Material

Upon termination of this Employment Agreement for any reason or earlier at the Company's request, the Employee shall return to the Company any material, all files and any documents related to the business of the Group in his possession or open to his access, including all keys, access documents, computers, laptops, mobiles, designs, customer and price lists, printed material, documents, sketches, notes, drafts as well as copies thereof, regardless whether or not the same are originally furnished by the Company, an Affiliate or third party.

If the Employee shall have made copies of any documents or information, he shall immediately upon termination of this Employment Agreement for any reason or earlier at the Company's request destroy or delete such documents, or return them to the Company, at the Company's discretion.

9. PENSION

The Company will comply with its obligations under the Pensions Act 2008 from the date when these apply to the Employee. If these obligations apply, the Company may be required to automatically enrol the Employee into a qualifying pension scheme and to deduct minimum pension contributions from his salary.

A contracting-out certificate under the Pension Schemes Act 1993 is not in force for the Employee's employment.

10. ILLNESS, ACCIDENT AND DEATH

a. Medical Certificate

If the Employee's absence exceeds three business days, the Employee shall, as soon as practicable furnish a medical certificate. However, the Company reserves the right to demand for a medical certificate in case of any absence, irrespective of the length of the absence. The Company is entitled to ask the Employee to consult a medical examiner at the Company's expense.

b. Medical Costs for Occupational and Non-occupational Accidents

During the Employment the Employee is insured for occupational and non-occupational accidents. Premiums for occupational accident insurance and occupational sickness insurance are paid by the Company. Premiums for non-occupational accident insurance are paid by the Employee.

11. INTELLECTUAL PROPERTY RIGHTS

The Company is entitled to all work results and all intellectual property and all related rights created by the Employee in the course of or in connection with the employment (notwithstanding whether in pursuance or fulfilment of a contractual duty or not, whether individually or with the assistance of any other individual or entity) ("**Work And Intellectual Property Rights**"), and all such Work And Intellectual Property Rights vest irrevocably to the maximum extent legally possible in the Company, including the right to sue for present, past and future infringements of any of the foregoing.

This transfer and assignment of work results, intellectual property and related rights is worldwide, unlimited in time, unrestricted in scope and encompasses all rights and exploitations, whether currently known or arising in the future. To the extent certain jurisdictions do not provide for the assignability of work results or intellectual property and related rights, the Employee grants to the Company a worldwide, irrevocable, exclusive, transferable and sublicensable, royalty-free, unlimited and unrestricted license to use, modify, develop and exploit such work results, intellectual property and related rights. Compensation for the transfer of these Intellectual Property Rights or their licensing, respectively, is included in the Base Salary according to Section 4.a.

To the extent permitted by law, the Employee agrees not to put forward any claim regarding possible moral rights in connection with any work under this section.

The Employee will, upon first demand of the Company, execute any documents, declarations, deeds of assignment or similar as may be requested by the Company for evidence or perfection of the above transfer and assignment.

In case of any inventions made during the performance of the Employment but out of the scope of the Employee's contractual duties (which accrue with the Company pursuant to the first paragraph of this Section), the Employee shall have a right to compensation for such invention unless the Company releases such invention to the Employee.

12. DATA PROTECTION AND PRIVACY

The Company will comply with the Data Protection Act 1998. The Company expressly consents to the Company processing his data for legal, personnel, administrative and management purposes and in particular to the processing of any sensitive personal data (as defined in the Data Protection Act 1998).

The Employee expressly consents to the transfer of his personal data to any group company in Switzerland to any country or territory outside of the European Economic Area even where the country or territory in question does not maintain adequate data protection standards.

13. CONFIDENTIALITY

The Employee will have access to trade secrets and other confidential and proprietary information relating to the business and operations of the Company, other group companies and their clients ("**Confidential Information**"). Confidential Information includes 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. Such Confidential Information constitutes a unique and valuable asset of the Company and other group companies and their acquisition required great time and expense. The disclosure or any other use of Confidential Information, other than for the sole benefit of the Company or another group company, would be wrongful and would cause irreparable harm to the Company or an Affiliate.

Information that enters the public domain, other than through the breach of the Employee of his obligations under this Employment Agreement are no Confidential Information in the meaning of this Employment Agreement.

The Employee is under a strict duty to keep all Confidential Information strictly and permanently confidential and, accordingly, shall not during the Employment or after termination of the Employment directly or indirectly use for any purpose other than for the sole benefit of the Company or an Affiliate, or disclose or permit to be disclosed to any third person or entity, any Confidential Information without first obtaining the written consent of the responsible executive and the party concerned, if applicable, except if required to do so by law.

The Employee may not make any statement to the media, as far as he is not authorised to do so by the responsible executive save in the proper performance of his duties.

The Company reserves the right to claim compensation for damages as well as the right to the remedy of specific performance.

14. NON-COMPETITION AND NON-SOLICITATION

The Employee agrees that during the Employment and for a period of one year after termination of the Employment he will not directly, indirectly, once, occasionally or professionally, under his name or under a third party name, on his own behalf or on behalf of third parties compete with the Company or an Affiliate within the scope 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 the Employee’s 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 and non-solicitation covenant are therefore not appropriate.

These restrictions shall not prevent the Employee from (a) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that the services of the Employee for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (b) holding five percent (5%) of the securities of any publicly traded entity.

During the Restricted Period, the Employee agrees not to, directly or indirectly, whether for the Employee's 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.

The Restricted Period shall be reduced by the amount of time during which, if at all, the Company places the Employee on Garden Leave.

15. REMEDIES AND ENFORCEABILITY

The Employee agrees that Company and its Affiliates' remedies at law for any breach or threatened breach by the Employee of any of the provisions of Section 13 and/or 14 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 Sections 5, 13, 14 or 15 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.

16. COMPANY POLICIES AND PROCEDURES

The Employee will at all times comply with all policies and procedures of the Company, which shall not form part of the Employee's contract of employment. Details of the Company's disciplinary and grievance procedures (which may apply from time to time) will be set out in separate documents available from Human Resources.

There are no collective agreements which directly affect the terms and conditions of the Employee's employment.

17. MISCELLANEOUS

a. Entire Agreement

This Employment Agreement constitutes the complete Employment Agreement between the Parties regarding its subject matter and supersedes all prior oral and/or written agreements, representations and/or communications, concerning the subject matter hereof.

b. Severability

Should any of the provisions of this Employment Agreement be or become legally invalid, such invalidity shall not affect the validity of the remaining other provisions. Any gap resulting from such invalidity shall be filled by a provision consistent with the spirit and purpose of the Employment Agreement.

c. Amendments

Any amendments or supplementation of this Employment Agreement shall require written form. The written form may be dispensed only in writing.

d. Governing Law and Jurisdiction

This Employment Agreement shall be construed in accordance with and governed by the laws of England and Wales.

Any dispute, controversy or claim arising out of or in connection with this Employment Agreement, including the validity, invalidity, breach or termination thereof, and including tort claims, shall be exclusively submitted to and determined by the ordinary courts at the domicile of the defendant party or where the Employee normally performs his duties.

e. Notices

All notices and other communications provided for in this Employment Agreement shall be in writing.

f. Execution

The Parties have duly executed this Agreement in two originals.

g. 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.

Sigantures

	/s/ Rogerio Vivaldi Coelho
Company	**Mind-NRG SA**
Place, date	[name] Geoff Race [title] CFO
/s/ Geoff Race	
Geoff Race	
Ort, Datum	[name] [title]

Exhibit 10.25

Execution Copy

December 11, 2013

Mr. Jan Van heek

Dear Jan:

On behalf of the Board of Directors (the "Board") of Minerva Neurosciences, Inc., a Delaware corporation (the "Company"), it is my pleasure to confirm that you have been offered appointment as a member of the Board.

1. Upon acceptance of this letter and subject to approval by the Board, you will be appointed as a non-employee director of the Board to serve until the next annual meeting of stockholders, and until your successor is duly elected and qualified. As a director, 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"). Following your appointment to the Board and in consideration of your role, the Company will grant to you an option (the "Option") to purchase such number of shares of the Company's Common Stock as represents one-quarter percent (0.25%) of the total outstanding capital stock of the Company immediately after the initial public offering (the "IPO"). The exercise price of the Option shall be equal to the price per share of the Company's Common Stock issued in connection with the IPO. The Options shall vest in equal monthly installments over a four (4) year period commencing on the date of your appointment to the Board. 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 $25,000 per year as a member of the Board and $10,000 as chairman of the audit committee, each to be paid on a quarterly basis. You will also be entitled to reasonable travel and out-of-pocket expenses in connection with your services as a member of the Board.

3. As a member of the Board, 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 to 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 a member of the Board and a chairman of the audit committee.

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 to the Board, please sign the enclosed duplicate of this letter in the space provided below and return it to the Company.

Very Truly Yours,

Minerva Neurosciences, Inc.

By: /s/ Rogerio Vivaldi Coelho, M.D., MBA
Name: Rogerio Vivaldi Coelho, M.D., MBA
Title: Chief Executive Officer

/s/ Jan van Heek
Name: Jan van Heek

Date: December 19, 2013

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Registration Statement on Form S-1 of our report dated April 9, 2014 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
April 9, 2014

Exhibit 23.3

CONSENT OF INDEPENDENT AUDITORS

We consent to the use in this Registration Statement of Minerva Neurosciences, Inc. on Form S-1 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 to1) 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
April 9, 2014

Exhibit 23.4

pwc

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, April 9, 2014

Exhibit 99.1

Consent of Director Nominee

I hereby consent, pursuant to Rule 438 under the Securities Act of 1933, to my being named in the Registration Statement on Form S-1 of Minerva Neurosciences, Inc. (the "Company") as a person who will become a director of the Company in connection with the initial public offering of the Company's common stock contemplated in the Registration Statement. I also consent to the filing of this consent as an exhibit to such Registration Statement and any amendments thereto.

/s/ Jan van Heek

Name: Jan van Heek

Date: April 9, 2014