

PROSPECTUS SUPPLEMENT NO. 2

12,563,322 Shares



Common Stock

This prospectus supplement (this "Supplement") supplements and amends the prospectus (the "Prospectus") relating to the sale of up to 6,281,661 shares of our common stock that we sold to the selling stockholders and 6,281,661 shares of common stock that are issuable upon the exercise of outstanding warrants to purchase our common stock issued to the selling stockholders in connection with a private placement completed on March 18, 2015. We will not receive any proceeds from the sale of these shares by the selling stockholders.

This Supplement does not relate to our issuance of additional shares of common stock beyond the 12,563,322 originally covered by the Prospectus.

This Supplement should be read in conjunction with, and may not be delivered or utilized without, the Prospectus, which is to be delivered with this Supplement. This Supplement is qualified by reference to the Prospectus, except to the extent that the information in this Supplement updates and supersedes the information contained in the Prospectus.

Our common stock is traded on the NASDAQ Global Market under the symbol "NERV." On April 8, 2016, the closing sale price of our common stock on the NASDAQ Global Market was \$6.19 per share. You are urged to obtain current market quotations for the common stock.

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 risks.
See "Risk Factors" beginning on page 4 of the Prospectus.**

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

The date of this prospectus supplement is April 11, 2016.

SELLING STOCKHOLDERS

The information in the table appearing under the caption “Selling Stockholders” commencing on page 7 of the Prospectus is hereby supplemented and amended by adding the information below with respect to selling stockholders not previously listed in the Prospectus, and by superseding the information with respect to the selling stockholders identified below that were previously listed in the Prospectus with the information below.

This information has been updated only to reflect the assignment by Highland Capital Healthcare Partners (Master), L.P. to Highland Capital Management, L.P. of a warrant to purchase 60,790 shares of our common stock.

We have prepared the table below based on information provided to us by or on behalf of the selling stockholders on or prior to April 7, 2016. Since the date on which we were provided with the information regarding their security ownership in Minerva Neurosciences, Inc., selling stockholders may have acquired, sold, transferred or otherwise disposed of all or a portion of their securities. Accordingly, the information provided herein for any particular selling stockholder may understate or overstate, as the case may be, such stockholder’s current ownership.

Name and Address	Prior to Offering ⁽¹⁾		Number of Shares Offered	After Offering ⁽¹⁾	
	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned		Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Highland Long/Short Healthcare Fund 300 Crescent Court, Suite 700, Dallas, TX 75201(2)	2,431,610	8.34%	2,310,030	0	0.00%
Highland Capital Management, L.P. 300 Crescent Court, Suite 700, Dallas, TX 75201(2)	2,431,610	8.34%	60,790	0	0.00%
Highland Capital Healthcare Partners (Master), L.P. 300 Crescent Court, Suite 700, Dallas, TX 75201(2)	2,431,610	8.34%	60,790	0	0.00%

- (1) This table is based upon information supplied by the selling stockholders, which information may not be accurate as of April 11, 2016. We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the selling stockholders named in the table above have sole voting and investment power with respect to all shares of common stock that they beneficially own, subject to applicable community property laws. Applicable percentages are based on 27,942,145 shares outstanding on April 7, 2016, adjusted as required by rules promulgated by the SEC.
- (2) The number of shares beneficially owned prior to this offering includes (a) 1,155,015 shares of common stock and immediately exercisable warrants to purchase 1,155,015 shares of common stock held by Highland Long/Short Healthcare Fund, (b) 60,790 shares of common stock held by Highland Capital Healthcare Partners (Master), L.P. and (c) immediately exercisable warrants to purchase 60,790 shares of common stock held by Highland Capital Management, L.P.