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As confidentially submitted to the Securities and Exchange Commission on February 14, 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	**2834**	**26-0784194**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

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

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

Copies to:

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

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

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. o

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. o

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. o

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. o

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 o
Non-accelerated filer ☒ (Do not check if a smaller reporting company)

Accelerated filer o
Smaller reporting company o

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	$	$

(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 , 2014.

PRELIMINARY PROSPECTUS

Shares

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 intend to apply to list our common stock on The NASDAQ Global Market under the symbol " ." 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

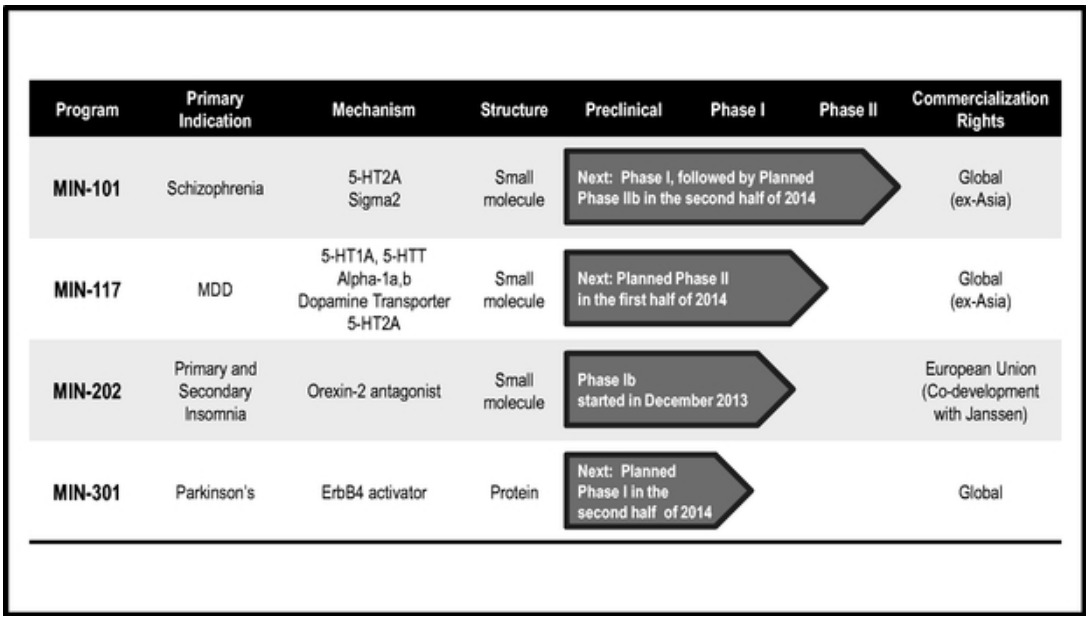
The following summary highlights information contained elsewhere in this prospectus and is qualified in its entirety by the more detailed information an financial statements included elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. Before you decide to invest in our common stock, you should read and carefully consider the following summary together with th entire prospectus, including the financial statements and the related notes thereto appearing elsewhere in this prospectus and the matters discussed i 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 prospectu 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 developmen 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 developin 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 treatmer 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 therapie has significant limitations in addressing the needs of patients. We have pursued the development of our product candidates based on our deep knowledge of the pathophysiology of neuropsychiatric diseases, the pharmacology of our portfolio of compounds and the limitations of current therapies. We believe our product candidates each represent a differentiated treatment option that could overcome the limitations of current therapies and address the unmet needs of patients and their families.



Our product candidates include:

- ***MIN-101***, an innovative molecule behaving as an antagonist of 5-HT2A and sigma2 receptors, which we are developing for the treatmen 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 currer therapies, we believe 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 effect associated with existing therapies. 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 treate successfully with the currently available therapies. In a Phase IIa clinical trial, a statistically significant improvement of negative symptom 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 and had no significant negative impact on sleep. 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 fa to respond or only partially respond to existing treatment options. Due to their mechanisms of action, some current treatment options tak 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 dysfunctior and sleep disorders, that lead many patients to discontinue therapy. We believe that the results of two Phase I clinical trials of MIN-117 ir 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 first 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. 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 activat 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 initiated.

- ***MIN-301***, a recombinant form of the Neuregulin-1b1, or NRG-1b1, 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, approximatel $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 th 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 second half of 2014 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 relatin 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 neve 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, w 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 o 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 estimate 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	" "

Unless otherwise indicated, all information in this prospectus reflects and assumes the following:

The number of shares of our common stock outstanding immediately after this offering is based on 31,044,452 shares of common stock outstanding as of February 14, 2014 and excludes:

- 2,263,661 shares of common stock issuable upon the exercise of options outstanding as of February 14, 2014, with an exercise price of $2.71 per share; and
- 9,050,979 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 €519 thousand (or $702 thousand, 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 closin 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 February 14, 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 September 30, 2013 which was 1.3535.

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 th prospectus.

We have derived our statements of operations data for the two years ended December 31, 2012 from our audited financial statements included elsewhere in this prospectus. We have derived our statements of operations data for the nine months ended September 30, 2012 and 2013 and the summary balance sheet data as at September 30, 2013 from our unaudited interim financial statements included elsewhere in this prospectus. The unaudited financial statements include, in the opinion of management, all adjustments consisting of only normal recurring adjustments that management considers necessary for a fair presentation of the financial information set forth in those statements. 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, 2012 and the nine months ended September 30, 2013 includes our historical results of operations, after giving pro forma effect to the following transactions, as if they occurred on January 1, 2012, (i) the Sonkei Merger and (ii) the Mind-NRG Acquisition. The summary unaudited pro forma condensed combined balance sheet give pro forma effect to these transactions as if they occurred on September 30, 2013.

The summary unaudited pro forma as adjusted condensed combined balance sheet gives pro forma effect to these transactions as if they occurred on September 30, 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 €500 thousand (or $677 thousand, 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 Sonkei Merger and 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,		NINE MONTHS ENDED SEPTEMBER 30,		PRO FORMA FOR YEAR ENDED DECEMBER 31,	PRO FORMA FOR NINE MONTHS ENDED SEPTEMBER 30,
	2011	2012	2012	2013	2012	2013
	(in thousands, except share and per share data)					
Statement of Operations Data:						
Expenses:						
Research and development	$ 593	$ 550	$ 434	$ 544	$ 1,672	$ 1,611
General and administrative	535	1,031	853	588	1,746	1,092
Total expenses	1,128	1,581	1,287	1,132	3,418	2,703
Foreign exchange (gains)/losses and other, net	(5)	1	(1)	3	(3)	(21)
Net loss	$ 1,123	$ 1,582	$ 1,286	$ 1,135	$ 3,415	$ 2,682
Per Share Data						
Net loss per share — basic and diluted	$ 0.10	$ 0.13	$ 0.11	$ 0.08	$ 0.13	$ 0.10
Weighted average shares outstanding — basic and diluted	10,872,329	11,854,198	11,738,785	13,516,923	25,521,514	27,184,239

	SEPTEMBER 30, 2013		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
	(in thousands)		
Balance Sheet Data:			
Cash and cash equivalents	$ 1,100	$ 3,428	$
Total assets	1,102	39,531	
Accrued expenses and other liabilities	369	1,909	
Total liabilities	369	1,909	
Total stockholders' equity	733	37,622	
Total liabilities and stockholders' equity	$ 1,102	$ 39,531	$

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, 2012, and the nine months ended September 30, 2013, we reported a net loss of $1.6 million and $1.1 million, respectively, and a combined pro forma net loss of $3.4 million and $2.7 million, respectively, after giving effect to the Sonkei Merger and the Mind-NRG Acquisition, as if such transactions occurred on January 1, 2012 as described under "Unaudited Pro Forma Condensed Combined Financial Statements." As of September 30, 2013, we had an accumulated deficit of $15.7 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 September 30, 2013, we had cash and cash equivalents of $1.1 million. We believe that the net proceeds from this offering, the Janssen Transactions, the concurrent private placement to the former Mind-NRG shareholders and our existing cash and cash equivalents, will fund our projected operating requirements through 2015. In particular, we expect these funds will allow us to complete our planned Phase II clinical development for our two lead product candidates, MIN-101 and MIN-117, as well as to complete the planned Phase II clinical development of MIN-202 with Janssen and our Phase I clinical development of MIN-301. However, circumstances may cause us to consume capital more rapidly than we currently anticipate. We will require significant additional capital to fund Phase III clinical trials of our lead product candidates, and to obtain regulatory approval for, and to commercialize, our product candidates.

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

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

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

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

Our recurring losses from operations raise substantial doubt about our ability to continue as a going concern, and as a result, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as of and for the year ended December 31, 2012 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.

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. 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. We have not conducted analysis to determine whether any such limitations currently apply. Further, state NOL carryforwards may be similarly limited. It is also possible that future changes in ownership could similarly limit our ability to utilize NOL carryforwards. 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.

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 New Drug Application, or NDA, requires a payment of a significant NDA user fee upon submission. The filing of an NDA 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 (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 it 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 that we perform and complete, 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.

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 institutional review board, or 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 side effects 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 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, and the discontinuation rate of current drugs for schizophrenia is high. Also, 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 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, 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.

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 or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning 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;
- suspend or withdraw regulatory approval;
- suspend 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. 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 GMA'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.

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. We expect that if our product candidates are approved, they will be priced at a significant premium over competitive generic, including branded generic, products. 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, or 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;
- 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 prescribed 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 drug 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 both branded and generic 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. 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 Supply Chain 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 product 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, manufacturers will have drug product investigation, quarantine, disposition, and 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.

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 February 14, 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, 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, 2011 and 2012 and the nine months ended September 30, 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, fair value and foreign currencies, (3) lack of financial statement disclosure controls, (4) lack of review or expense cutoff and (5) 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, 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, 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 regulatory sanctions 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 of 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 NDA 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 holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures 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 patient 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. Some of these licenses give us the right to prepare, file and prosecute patent applications and maintain and enforce patents we have licensed, and other licenses may not give us such rights.

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. Although we believe the data from these third-party sources are reliable, we have not independently verified any third-party information. 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 September 30, 2013, we had cash and cash equivalents of $1.1 million. We currently estimate that we will use the net proceeds from this offering and the Private Placement Transactions, together with our existing cash and cash equivalents, as follows:

- 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;
- €500 thousand (or $677 thousand, 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 September 30, 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 $.

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 September 30, 2013:

- on an actual basis;
- on a pro forma basis to reflect (i) the Sonkei Merger, whereby we issued 8,481,788 shares of our common stock which had an estimated fair value of approximately $23.0 million to acquire all of the outstanding equity securities of Sonkei; (ii) the Mind-NRG Acquisition, whereby we issued 5,185,528 shares of our common stock which had an estimated fair value of approximately $14.1 million to acquire all of the outstanding equity securities of Mind-NRG; (iii) the issuance and assumption of the 2013 Notes; and (iv) the assumption of the $ Mind-NRG Debt; 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 €500 thousand (or $677 thousand, 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 SEPTEMBER 30, 2013		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
		(in thousands)	
Cash and cash equivalents	$ 1,100	$	$
Long-term debt, including current portion	—		
Stockholders' equity:			
Common stock, $0.0001 par value; 45,000,000 shares authorized, 17,193,590[(1)] issued and outstanding actual; 45,000,000 shares authorized and 30,860,906 shares issued and outstanding pro forma; shares authorized and shares issued and outstanding pro forma as adjusted	1		
Additional paid-in capital	16,435		
Accumulated deficit	(15,703)		
Total stockholders' equity	733		
Total capitalization	$ 733	$	$

(1) This figure includes 2,875,000 shares that are not considered outstanding for accounting purposes in our financial statements.

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 February 14, 2014 with an exercise price of $2.71 per share; and
- 9,050,979 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 September 30, 2013 was $0.7 million, or $0.06 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 September 30, 2013 was approximately $ million, or approximately $ per share. Pro forma net tangible book value and pro forma net tangible book value per share give effect to (i) the Sonkei Merger, whereby we issued 8,481,788 shares of our common stock which had a fair value of approximately $23.0 million to acquire all of the outstanding equity securities of Sonkei; (ii) the Mind-NRG Acquisition, whereby we issued 5,185,528 shares of our common stock which had a fair value of approximately $14.1 million to acquire all of the outstanding equity securities of Mind-NRG; (iii) the issuance and assumption of the 2013 Notes; and (iv) the assumption of the Mind-NRG Debt.

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 €500 thousand (or $677 thousand, 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 September 30, 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 September 30, 2013	$ 0.06	
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 September 30, 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 September 30, 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 PER SHARE
	NUMBER	PERCENT	AMOUNT	PERCENT	
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 17,193,590 shares of our common stock outstanding as of September 30, 2013, and exclude the following:

- 2,263,661 shares of common stock issuable upon the exercise of stock options outstanding as of February 14, 2014 with an exercise price of $2.71 per share; and

- 9,050,979 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 our selected balance sheet data as of December 31, 2012 and 2011 from our audited financial statements included elsewhere in this prospectus. We have derived our statements of operations data for the nine months ended September 30, 2012 and 2013 and the selected balance sheet data as at September 30, 2013 from our unaudited interim financial statements included elsewhere in this prospectus. The unaudited financial statements include, in the opinion of management, all adjustments consisting of only normal recurring adjustments that management considers necessary for a fair presentation of the financial information set forth in those statements. 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 impact of the Sonkei Merger, 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 September 30, 2013. Please see "Summary Historical Financial Data," "Capitalization," "Unaudited Pro Forma Condensed Combined Financial Statements" and the Sonkei and Mind-NRG financial statements included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31,		NINE MONTHS ENDED SEPTEMBER 30,	
	2011	2012	2012	2013
	(in thousands, except share and per share data)			
Statement of Operations Data:				
Expenses				
Research and development	$ 593	$ 550	$ 434	$ 544
General and administrative	535	1,031	853	588
Total expenses	1,128	1,581	1,287	1,132
Foreign exchange (gains)/losses and other, net	(5)	1	(1)	3
Net loss	$ 1,123	$ 1,582	$ 1,286	$ 1,135
Per Share Data:				
Net loss per share — basic and diluted	$ 0.10	$ 0.13	$ 0.11	$ 0.08
Weighted average shares outstanding — basic and diluted	10,872,329	11,854,198	11,738,785	13,516,923

	DECEMBER 31,		SEPTEMBER 30,
	2011	2012	2013
	(in thousands)		
Selected Balance Sheet Data:			
Cash and cash equivalents	$ 209	$ 200	$ 1,100
Total assets	243	209	1,102
Accrued expenses and other liabilities	130	190	369
Total liabilities	130	190	369
Total stockholders' equity	113	19	733
Total liabilities and stockholders' equity	$ 243	$ 209	$ 1,102

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, 2012 and the nine months ended September 30, 2013 and the unaudited pro forma condensed combined balance sheet as of September 30, 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 "Pro Forma for Sonkei Merger" in the unaudited pro forma condensed combined financial statements); and
- the February 2014 Mind-NRG Acquisition, including the €500 thousand (or $677 thousand, as converted) ProteoSys License Fee liability, (presented as "Pro Forma for Mind-NRG Acquisition" in the unaudited pro forma condensed combined financial statements).

The unaudited pro forma condensed combined statements of operations for the year ended December 31, 2012 and the nine months ended September 30, 2013 reflect the above transactions as if they occurred on January 1, 2012. The unaudited pro forma condensed combined balance sheet gives pro forma effect to the above transactions as if they had occurred on September 30, 2013.

The historical financial information has been adjusted to give pro forma effect to events that are directly attributable to the transactions described above, have an ongoing effect on our statements of operations and are factually supportable. 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 both transactions was 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 transactions been completed as of January 1, 2012 or September 30, 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 transactions. Further, the unaudited pro forma condensed combined financial information does not include the (i) €518 thousand (or $702 thousand, as converted) of convertible promissory notes assumed by us in the Sonkei Merger, or the Sonkei Notes; and (ii) $ Mind-NRG Debt assumed by us in the Mind-NRG Acquisition as such working capital borrowings were not outstanding as of September 30, 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 September 30, 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, 2012			
	HISTORICAL MINERVA NEUROSCIENCES, INC.	HISTORICAL 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	$ 550	$ 486	$ 636	$ 1,672
General and administrative	1,031	555	160	1,746
Total expenses	1,581	1,041	796	3,418
Foreign exchange (gains)/losses and other, net	1	(3)	(1)	(3)
Net loss	$ 1,582	$ 1,038	$ 795	$ 3,415
Per Share Data:				
Net loss per share — basic and diluted	$ 0.13			$ 0.13
Weighted average shares outstanding — basic and diluted	11,854,198			25,521,514

	NINE MONTHS ENDED SEPTEMBER 30, 2013			
	HISTORICAL MINERVA NEUROSCIENCES, INC.	HISTORICAL 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	$ 544	$ 328	$ 739	$ 1,611
General and administrative	588	186	318	1,092
Total expenses	1,132	514	1,057	2,703
Foreign exchange (gains)/losses and other, net	3	(2)	(22)	(21)
Net loss	$ 1,135	$ 512	$ 1,035	$ 2,682
Per Share Data:				
Net loss per share — basic and diluted	$ 0.08			$ 0.10
Weighted average shares outstanding — basic and diluted	13,516,923			27,184,239

	SEPTEMBER 30, 2013			
	HISTORICAL MINERVA	ADJUSTMENT FOR SONKEI MERGER	ADJUSTMENT FOR MIND-NRG ACQUISITION	PRO FORMA FOR SONKEI MERGER AND MIND-NRG ACQUISITION
	(in thousands) (unaudited)			
Balance Sheet Data:				
Cash and cash equivalents	$ 1,100	$ 5	$ 2,323	$ 3,428
Prepaid expenses	2	2	8	12
Current Assets	**1,102**	**7**	**2,331**	**3,440**
In-process research & development	—	21,500	11,900	33,400
Goodwill	—	1,780	911	2,691
Total Assets	**$ 1,102**	**$ 23,287**	**$ 15,142**	**$ 39,531**
Accrued expenses and other liabilities	369	351	1,189	1,909
Total Liabilities	**$ 369**	**$ 351**	**$ 1,189**	**$ 1,909**
Stockholders' Equity				
Common stock	1	1	1	3
Additional paid-in capital	16,435	22,985	14,052	53,472
Deficit accumulated during the development stage	(15,703)	(50)	(100)	(15,853)
Total Stockholders' Equity	**733**	**22,936**	**13,953**	**37,622**
Total Liabilities and Stockholders' Equity	**$ 1,102**	**$ 23,287**	**$ 15,142**	**$ 39,531**

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, 2012 are derived from our audited financial statements included elsewhere in this prospectus. The historical Minerva statement of operations data for the nine months ended September 30, 2013 and condensed consolidated balance sheet data as of September 30, 2013 are derived from our unaudited financial statements also included elsewhere in this prospectus.

The following transactions are reflected in the unaudited pro forma condensed combined financial statements:

- Effective November 12, 2013, we acquired all of the outstanding common stock 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 our common stock. See Note 2.

- 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.

For further information about these transactions, see Note 9 to our consolidated financial statements included elsewhere in this prospectus.

The historical Sonkei and Mind-NRG statement of operations data for the year ended December 31, 2012 are derived from audited financial statements included elsewhere in this prospectus. The historical Sonkei and Mind-NRG statement of operations data for the nine months ended September 30, 2013 were derived from unaudited 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 (i) €518 thousand (or $702 thousand, as converted) of Sonkei Notes and (ii) $ Mind-NRG Debt we assumed in the Mind-NRG Acquisition, as such working capital borrowings were not outstanding as of September 30, 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 September 30, 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 — Year ended December 31, 2012 and Nine Months Ended September 30, 2013

The historical results of operations required no purchase accounting adjustments to be reflected as if the Sonkei Merger occurred on January 1, 2012 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.

3. Unaudited Pro Forma Condensed Combined Statement of Operations for the Mind-NRG Acquisition — Year ended December 31, 2012 and Nine Months Ended September 30, 2013

The historical results of operations required no purchase accounting adjustments to be reflected as if the Mind-NRG Acquisition occurred on January 1, 2012 since, based upon our assessment of the assets acquired in the transaction, there were no amortizable intangible assets acquired (see Note 5), 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 each period presented which was 1.29 and 1.32 for the year ended December 31, 2012 and the nine months ended September 30, 2013, respectively.

4. Unaudited Pro Forma Condensed Combined Balance Sheet for the Sonkei Merger at September 30, 2013

Pro forma adjustments for the Sonkei Merger as of September 30, 2013 consist of the following:

- In connection with the Sonkei Merger, 8,481,788 shares of Minerva common stock were issued to the holders of all equity securities in Sonkei. The fair value of the shares issued is approximately $23.0 million. The fair value of the common stock 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 $21.5 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.

The following table shows the preliminary purchase price, estimated acquisition-date fair values of the to-be-acquired assets and liabilities assumed, and calculation of goodwill for the Sonkei Merger, as of September 30, 2013, the date of our most recent balance sheet.

Purchase Price Allocation **(in thousands)**	
Fair value of common stock issued	$ 22,986
Total purchase price	$ 22,986
Net tangible assets acquired	$ 7
Total liabilities assumed	(301)
In-process research and development	21,500
Goodwill	1,780
Total purchase price allocation	$ 22,986

The following table reconciles the historical Sonkei balance sheet and the purchase accounting adjustments as if the Sonkei Merger took place on September 30, 2013. The historical Sonkei condensed consolidated balance sheet data are derived from the unaudited Sonkei financial statements included elsewhere in this prospectus.

The purchase accounting adjustments below includes an estimated $50 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 SONKEI	PURCHASE ACCOUNTING ADJUSTMENTS	ADJUSTMENT FOR SONKEI MERGER
		(in thousands)	
Cash and cash equivalents	$ 5	—	$ 5
Prepaid expenses	2	—	2
In-process research and development	—	$ 21,500	21,500
Goodwill	—	1,780	1,780
Total assets	**$ 7**	**$ 23,280**	**$ 23,287**
Accrued expenses and other liabilities	$ 301	$ 50	$ 351
Common stock	1	—	1
Additional paid-in capital	6,964	16,021	22,985
Deficit accumulated during the development stage	(7,259)	7,209	(50)
Total stockholders' equity	**(294)**	**23,230**	**22,936**
Total liabilities and stockholders' equity	**$ 7**	**$ 23,280**	**$ 23,287**

The purchase price allocation is subject to completion of our analysis of the fair value of the assets and liabilities of Sonkei as of the date of the acquisition. The purchase price allocation below is preliminary based on September 30, 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.

5. Unaudited Pro Forma Condensed Balance Sheet for the Mind-NRG Acquisition at September 30, 2013

Pro forma adjustments for the Mind-NRG Acquisition as of September 30, 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 $14.1 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 $11.9 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.

- 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 1.35 at September 30, 2013.

- The license payment to ProteoSys of €500 thousand (or $677 thousand, as converted) is considered an assumed liability at the date of the acquisition.

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 September 30, 2013, the date of our most recent balance sheet.

Purchase Price Allocation (in thousands)	
Fair value of common stock issued	$ 14,053
Total purchase price	$ 14,053
Net tangible assets acquired	$ 2,331
Total liabilities assumed	(1,089)
In-process research and development	11,900
Goodwill	911
Total purchase price allocation	$ 14,053

The following table reconciles the historical Mind-NRG balance sheet and the purchase accounting adjustments as if the Mind-NRG Acquisition took place on September 30, 2013. The historical Mind-NRG condensed consolidated balance sheet data are derived from the unaudited 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	$ 2,323	—	$ 2,323
Prepaid expenses	8	—	8
In-process research and development	—	$ 11,900	11,900
Goodwill	—	911	911
Total assets	**$ 2,331**	**$ 12,811**	**$ 15,142**
Accrued expenses and other liabilities	$ 412	$ 777	$ 1,189
Common and preferred stock	380	(379)	1
Additional paid-in capital	5,580	8,472	14,052
Deficit accumulated during the development stage	(4,041)	3,941	(100)
Total stockholders' equity	**1,919**	**12,034**	**13,953**
Total liabilities and stockholders' equity	**$ 2,331**	**$ 12,811**	**$ 15,142**

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 September 30, 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. 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 notes. Likewise, Sonkei raised capital to fund the development of MIN-117 through the sale of common stock and convertible 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, 2012, and the nine months ended September 30, 2013, we reported a net loss of approximately $1.6 million and $1.1 million, respectively, and a combined pro forma net loss of approximately $3.4 million and $2.7 million, respectively, after giving effect to the Sonkei Merger and the Mind-NRG Acquisition, as if those transactions occurred at the commencement of those periods. As of September 30, 2013, we had an accumulated deficit of approximately $15.7 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 Sonkei Merger and Mind-NRG Acquisition.

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,		NINE MONTHS ENDED SEPTEMBER 30,	
	2011	2012	2012	2013
	(dollars in thousands)			
MIN-101	$ 593	$ 550	$ 434	$ 544
MIN-117[(1)]	279	486	393	328
MIN-301[(2)]	1,060	635	363	739

(1) The research and development expense for MIN-117 is derived from the audited and unaudited financial statements of Sonkei included elsewhere in this prospectus.

(2) The research and development expense for MIN-301 is derived from the audited and unaudited 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 1.3924, 1.2858, 1.2820, and 1.3169 for the years ended December 31, 2011 and 2012 and the nine months ended September 30, 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 September 2013. Our general and administrative expense in 2012 also includes stock-based compensation expense with respect to option and warrant grants.

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 expect to 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, 2012, we had approximately $11.0 million of federal net operating loss carryforwards. These federal net operating loss carryforwards will begin to expire at various dates beginning in 2027, 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, 2012. 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 in connection with the shares to be issued to JJDC in a concurrent private placement 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 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 — Events Occurring After September 30, 2013

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 September 30, 2013, such costs were negligible. Such costs are expected to significantly increase for us for the quarter ended December 31, 2013 and through February 2014.

We acquired Sonkei in November 2013, and the fair value of the 8,481,788 shares of common stock issued to the stockholders of Sonkei was approximately $23.0 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. As part of the acquisition, we also assumed €519 thousand (or $702 thousand, 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 $14.1 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. In connection with the acquisition, we assumed the $ Mind-NRG Debt provided by certain of our stockholders in connection with the Mind-NRG Acquisition. The Mind-NRG Debt 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 €500 thousand (or $677 thousand, 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 impact of the Sonkei Merger, Mind-NRG Acquisition or any of the transactions occurring at the closing of this offering. Each of these events occurred or will occur after September 30, 2013. Please see "Unaudited Pro Forma Condensed Consolidated Financial Statements" and the Sonkei and Mind-NRG financial statements included elsewhere in this prospectus.

Comparison of the Nine Months Ended September 30, 2012 and September 30, 2013

	NINE MONTHS ENDED SEPTEMBER 30,	
	2012	2013
	(dollars in thousands)	
Expenses		
Research and Development	$ 434	$ 544
General and Administrative	853	588
Total Expenses	1,287	1,132
Foreign exchange (gains)/losses and other, net	(1)	3
Net Loss	$ 1,286	$ 1,135

Research and Development Expenses

Research and development expenses were $544 thousand for the period ended September 30, 2013, compared to $434 thousand for the same period in 2012, an increase of $110 thousand or 25%. This increase was primarily attributable to higher costs paid to regulatory consultants as compared to 2012.

General and Administrative Expenses

General and administrative expenses were $588 thousand for the period ended September 30, 2013 compared to $853 thousand for the same period in 2012, representing a decrease of $265 thousand or 31%. The 2012 period included a charge to operations for the shares purchased by Mr. Race, our Chief Financial Officer, at a discount of $533 thousand. The decrease in general and administrative expenses in 2013 is mainly due to the non-recurrence of the share issuance to Mr. Race offset by increases in professional fees.

Foreign Exchange (Gains)/Losses and Other, Net

Foreign exchange (gains)/losses and other, net was a $3 thousand loss for the period ended September 30, 2013 compared to a $1 thousand gain for the same period in 2012, representing a decrease of $4 thousand. The decrease is primarily the result of change in the foreign currency rates as applicable to clinical services vendors where such fees are denominated in Euros.

Comparison of the Year Ended December 31, 2011 and December 31, 2012

	YEARS ENDED DECEMBER 31,	
	2011	2012
	(dollars in thousands)	
Expenses		
Research and development	$ 593	$ 550
General and administrative	535	1,031
Total expenses	1,128	1,581
Foreign exchange (gains)/losses and other, net	(5)	1
Net loss	$ 1,123	$ 1,582

Research and Development Expenses

Research and development expenses were $550 thousand for the year ended December 31, 2012 compared to $593 thousand for the same period in 2011, an decrease of $43 thousand or 7%. This decrease was principally attributable lower costs paid to regulatory consultants in 2012 as compared to the 2011 period.

General and Administrative Expenses

General and administrative expenses were $1.0 million for the year ended December 31, 2012 compared to $535 thousand for the same period in 2011, representing an increase of $496 thousand or 93%. The 2012 year included a charge to operations for the stock-based compensation associated with the shares purchased by Mr. Race at a discount of $533 thousand.

Foreign Exchange (Gains)/Losses and Other, Net

Foreign exchange (gains)/losses and other, net was a loss of $1 thousand for the year ended December 31, 2012 compared to a gain of $5 thousand for the same period in 2011.

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 September 30, 2013, we had an accumulated deficit of approximately $15.7 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 September 30, 2013, we had $1.1 million in cash and cash equivalents.

We have raised capital to fund the development of MIN-101 primarily through common stock financings. From 2007 through 2012, 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 September 30, 2013, we raised approximately $12.1 million and $1.9 million, respectively, through the sale of these shares of common stock.

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 €518 thousand (or $702 thousand, 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 $ 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.

At December 31, 2013, we had $2.0 million of outstanding convertible promissory notes, as converted.

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 Sonkei Merger, Mind-NRG Acquisition,

or any of the transactions occurring at the closing of this offering. Each of these events occurred or will occur after September 30, 2013. Please see "Unaudited Pro Forma Condensed Combined Financial Statements" and the Sonkei and Mind-NRG financial statements included elsewhere in this prospectus.

	YEARS ENDED DECEMBER 31,		NINE MONTHS ENDED SEPTEMBER 30,	
	2011	2012	2012	2013
	(dollars in thousands)			
Net cash provided by (used in):				
Operating activities	$ (1,121)	$ (909)	$ (680)	$ (950)
Financing activities	400	900	600	1,850
Net increase (decrease) in cash	(721)	(9)	(80)	900

Net Cash Used in Operating Activities

Net cash used in operating activities of approximately $1.0 million during the nine months ended September 30, 2013 was primarily a result of our net loss of $1.1 million. Net cash used in operating activities of $680 thousand during the nine months ended September 30, 2012 was primarily a result of our net loss of $1.3 million, offset non-cash items of approximately $588 thousand for stock-based compensation.

Net cash used in operating activities of $909 thousand during the year ended December 31, 2012 was primarily a result of our net loss of $1.6 million for the period, offset by the add-back of non-cash expenses of approximately $588 thousand of stock-based compensation expenses. Net cash used in operating activities of $1.1 million during the year ended December 31, 2011 was primarily a result of our net loss of $1.1 million offset by the add-back of non-cash expenses of approximately $63 thousand for stock-based compensation.

Net Cash Provided by Investing Activities

We had no investing activities for any period since our inception.

Net Cash Provided by Financing Activities

Net cash provided by financing activities in the nine months ended September 30, 2013 consisted of approximately $1.9 million of net proceeds from the sale of common stock. Net cash provided by financing activities in the nine months ended September 30, 2012 consisted of approximately $600 thousand of net proceeds from the sale of common stock.

Net cash provided by financing activities in the year ended December 31, 2012 consisted of approximately $900 thousand of net proceeds from the sale of common stock. Net cash provided by financing activities in the year ended December 31, 2011 consisted of approximately $400 thousand from the sale of common stock.

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.

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

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

We had no contractual obligations as of December 31, 2012. 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.

In the fourth quarter of 2013, we entered into short term leases for offices in a shared office workspace. The lease commitments are less than $50 thousand.

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. We paid an initial license fee to MTPC 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 milestone payments upon achievement of a development milestone totaling $500 thousand, and certain commercial milestones, which could total up to $47.5 million. Payments under these agreements are not considered contractual obligations for the table above 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 development or commercial milestones.

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 increments by making an extension payment in connection with each one year extension. 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 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 an initial license fee to MTPC 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. Payments under these agreements 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 development or commercial milestones.

Under the MIN-117 License Agreement, we have to enroll a patient 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 one year increments by making an extension payment in connection with each one year extension. 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 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 (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.

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 €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.

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 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

We recognized research and development expenses totaling $63 thousand, $54 thousand and $2.0 million for the years ended December 31, 2011 and 2012, and for the period from April 23, 2007 (date of incorporation) through December 31, 2012, respectively.

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 non-recourse note payable in principal amount of $3.1 million (equivalent to approximately $1.06 per share, or the original price). The note payable is due in a single installment on February 28, 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, 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, 2012, 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 non-recourse 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 the nine months ended September 30, 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. 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.

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

At December 31, 2013, options to purchase 2,263,661 shares of our common stock were outstanding, none 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 2,972,737 shares issued subject to a non-recourse 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 September 30, 2013 has been limited to transactions described in the section of this prospectus titled "Consultant Equity Issuance" 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, including the above December 20, 2013 grants. 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 and November 12, 2013, or the Valuation Dates, which were based upon the dates of warrants issued pursuant to the above warrant agreement, the period ends reported in this prospectus, and the date of the issuance of shares in connection with the Sonkei Merger on November 11, 2013.

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 did not utilize the PWERM in the valuations discussed below, except for the November 12, 2013 valuation which utilized the PWERM valuation methodology because of the combination with Sonkei 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 September 2013 and November 2013 valuation 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.

In addition, we applied a discount to reflect the lack of marketability of our common stock. 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 bridge loans. 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.

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) issued.

- 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 bridge loans. 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 November 12, 2013 and February 9, 2014, the date of the Mind-NRG Acquisition, and concluded the change in fair value per share was insignificant as between these dates the expected valuation of the company had not changed.

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.

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 September 30, 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, 2011 and 2012 and September 30, 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, fair value and foreign currencies, (3) lack of financial statement disclosure controls, (4) lack of review of expense cutoff and (5) 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 February 14, 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 September 30, 2013 would not have had a material effect on the fair market value of our portfolio.

Our convertible bridge 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 do not hedge 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 do not expect significant continued expenditures of Euros in connection with the operations of Mind-NRG after the merger into us, as the management team will be based in the United States as will substantially all of the operations.

A 10% change in the euro-to-dollar exchange rate on September 30, 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 nine months ended September 30, 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 five early stage development companies, including Funxional Therapeutics Ltd. Our recently hired Chief Executive Officer, Dr. Rogerio Vivaldi, has been involved in commercializing 20 pharmaceutical products addressing unmet medical needs over the past 20 years and building Genzyme Inc. in Brazil and Latin America 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. 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 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 significant side effects on sleep. 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. 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 first 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. 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 recombinant form of the Neuregulin-1b1, or NRG-1b1, protein, for the treatment of 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 second half of 2014 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 first 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 the first half of 2014 (the first of which has been initiated) and to initiate a Phase I first-in-man study in the second half of 2014 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.

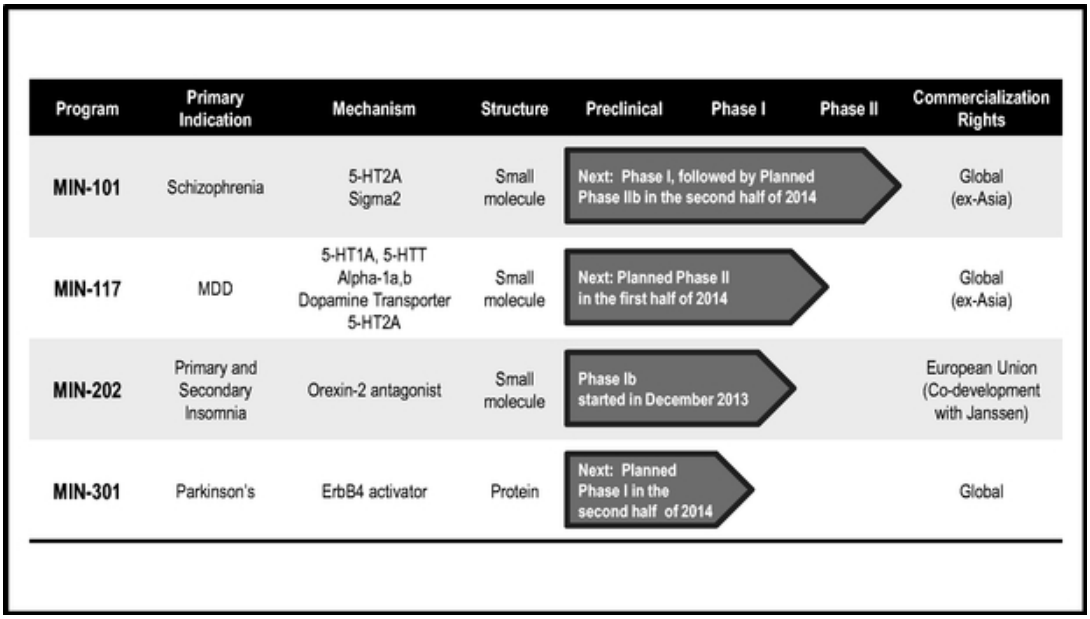
Our History

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



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. If approved, initially as a first line monotherapy and also plan to study its use as an adjunctive therapy as well, we believe that MIN-101, as a once-a-day tablet, could treat the majority of patients diagnosed with schizophrenia.

In a Phase IIa clinical trial conducted by Cyrenaic in 2009, MIN-101 suggested positive treatment effects and 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 first 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 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. 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.

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, 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

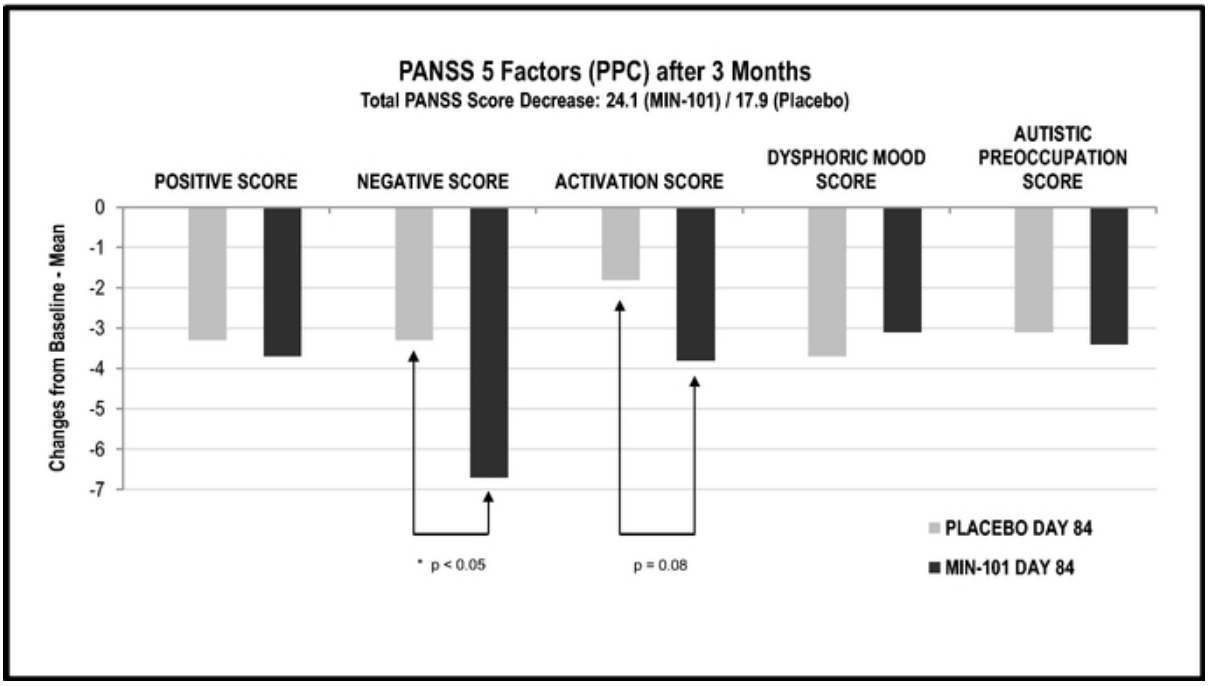
Phase II

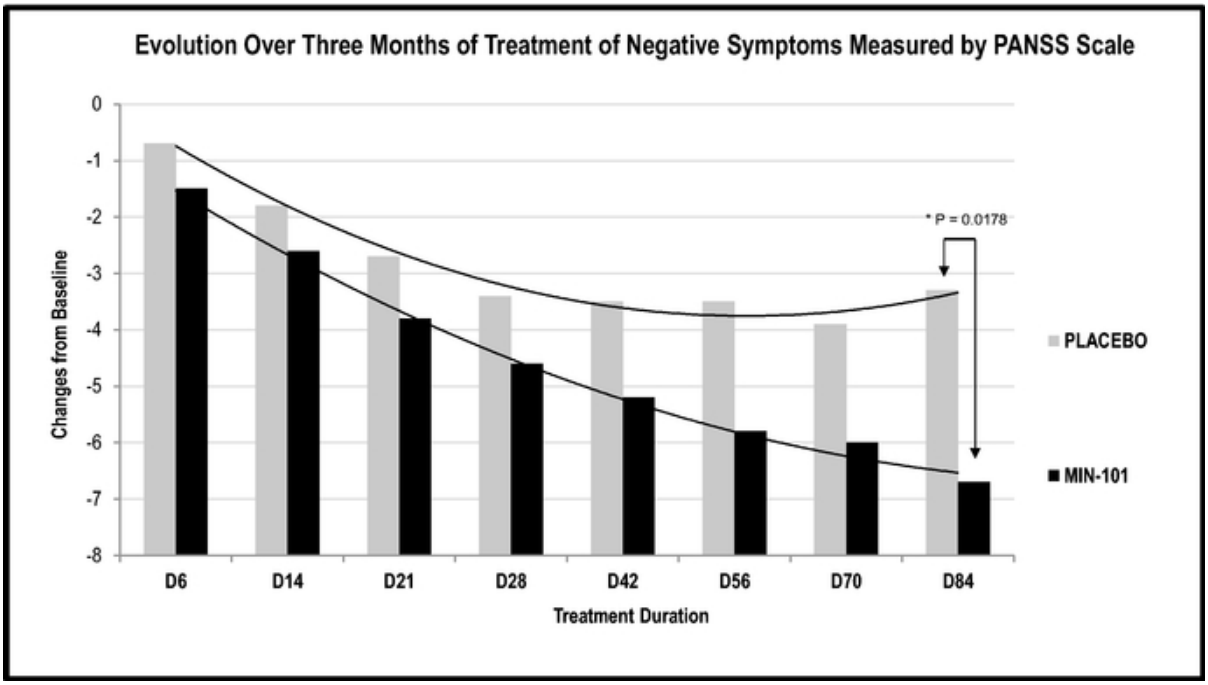
We completed a Phase IIa clinical trial of MIN-101 in 2009 in subjects suffering from schizophrenia. Enrolled subjects suffered from an acute episode necessitating hospitalization. They suffered from positive, negative and cognitive symptoms of the disease and had ceased to respond well to previously 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 elevated doses. As a Phase IIa clinical trial, this study was not powered to achieve statistically significant results. 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) or in five factors (positive, negative, activation, dysphoric mood and autistic thoughts).

Secondary 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.

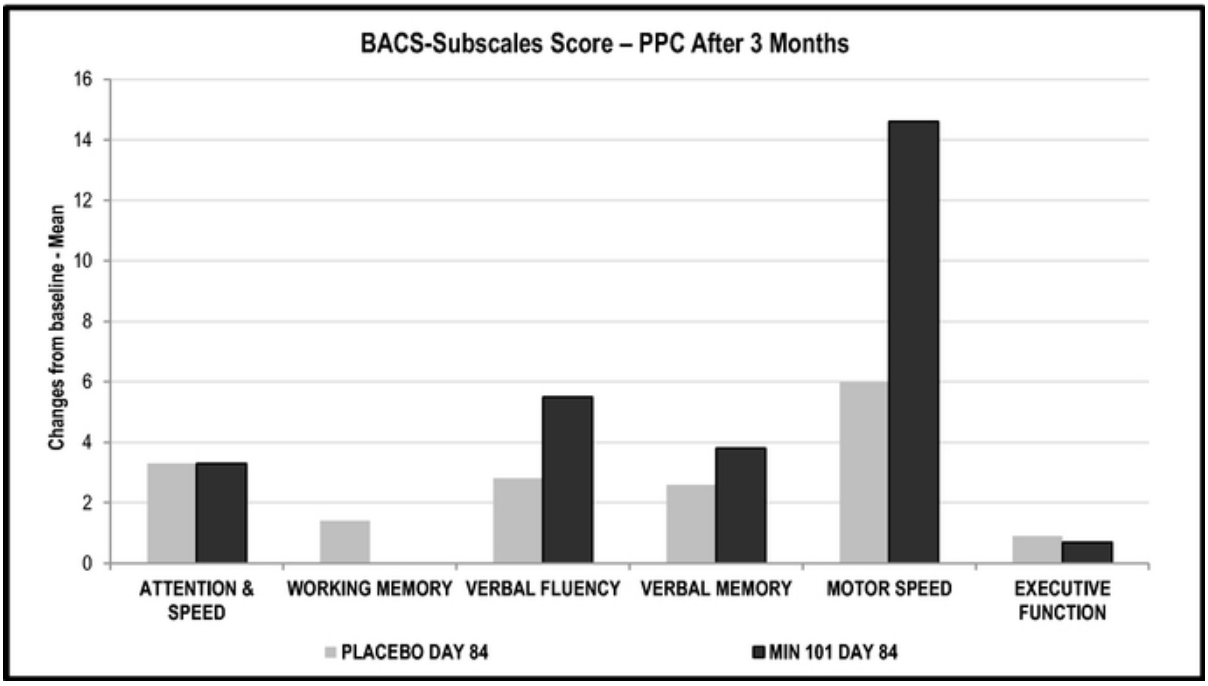
The results of the trial suggest that MIN-101 shows potential for the treatment of the positive, negative, and cognitive symptoms of schizophrenia, as well as sleep and overall psychopathology. Subjects treated with MIN-101 showed ongoing improvements in negative symptoms, as compared to baseline, throughout the duration of the trial. After three months of treatment, the MIN-101 group showed improvements in negative symptoms as compared to placebo as shown in the figures below. The negative symptom score was assessed using both the 3 factor and the 5 factor scores in both the per protocol set, or PPC and the full analysis set, or FAS. Statistical significance was reached in both the PPC and the FAS for the 5 favor negative score. The 3 factor negative scores were nearly statistically significant ((p=.0581 and p=.062 for the PPC and the FAS respectively). After one month, improvements on the PANSS negative symptoms scale were observed, although this was not statistically significant and the study's primary endpoint was not met. Statistical significance generally is considered to be reached when the p value is .05 or less. 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. Improvements seen on the PANSS scale are associated with improvements of cognitive symptoms.





The effects of MIN-101 on cognitive functioning were assessed using the Brief Assessment of Cognition in Schizophrenia, or BACS, scale after three months of treatment, as illustrated below. 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 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 no negative

effects on cognition, and suggest the compound may have a positive effect on processing speed, which is generally impaired by antipsychotic medication.



A small subset of subjects was also included in a sleep analysis using polysomnography, or PSG. 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. 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 QT/QTc interval, although at greater rates in the MIN-101 group. 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 with 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.

Phase I

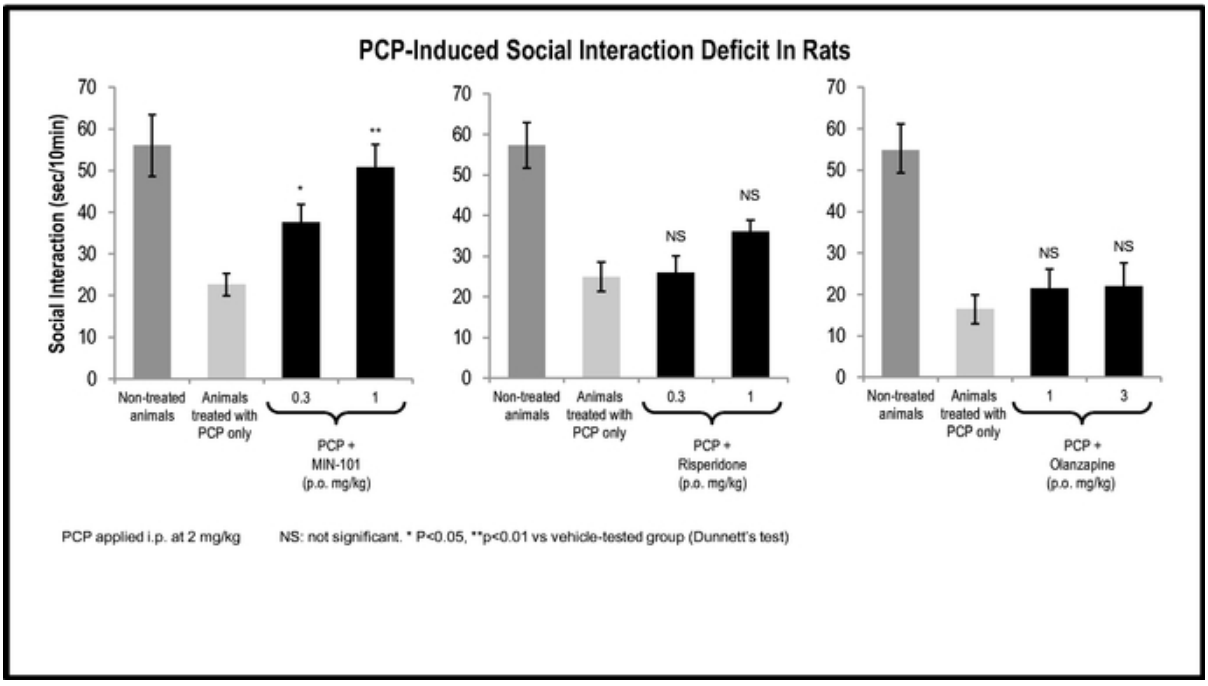
MIN-101 was studied in five Phase I clinical trials in healthy volunteers and one Phase I clinical trial in subjects with schizophrenia conducted by MTPC prior to the company licensing this compound. Overall, the

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, and/or other reasons, 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. Chemically-induced positive and negative symptoms in animals were reversed in a dose-dependent manner when administered with MIN-101. The figure below shows how MIN-101 was more effective at reducing 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.



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 the confirmatory Phase IIb clinical trial, which we plan to initiate 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 investigate the effects on sleep, cognition, anxiety and mood, as well as clinical and biological safety and drug plasma levels.

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. 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 first 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 serotonin-specific 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 the 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, MIN-117 was evaluated by MTPC and Sonkei in two Phase I clinical pharmacology studies in healthy volunteers. 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, specifically the compound's effect on sleep at doses comparable or above the anticipated therapeutic doses.

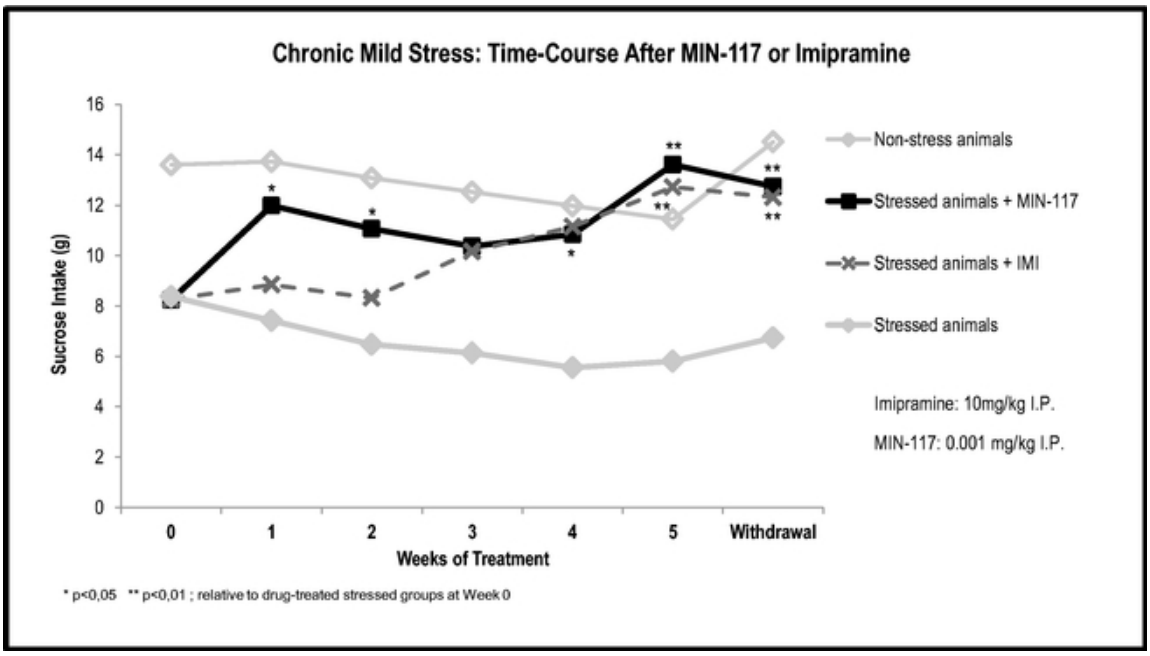
One Phase I study explored the impact of MIN-117 on mood, as measured by the Profile of Mood Disorders, emotion, as measured by the Emotional Visual Analogue Scale, cognitive function as measured by the Flanker/EEG task, and sleep as measured by PSG and Leeds Sleep Evaluation Questionnaire. Based upon 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) and well as the number of ocular movements during REM sleep (at the 7.5 mg dose). These results suggest, though further evaluation is needed for confirmation, that MIN-117 at the therapeutic doses may, in fact, promote REM sleep and impact REM density and activity with repeated dosing. This study 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.

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

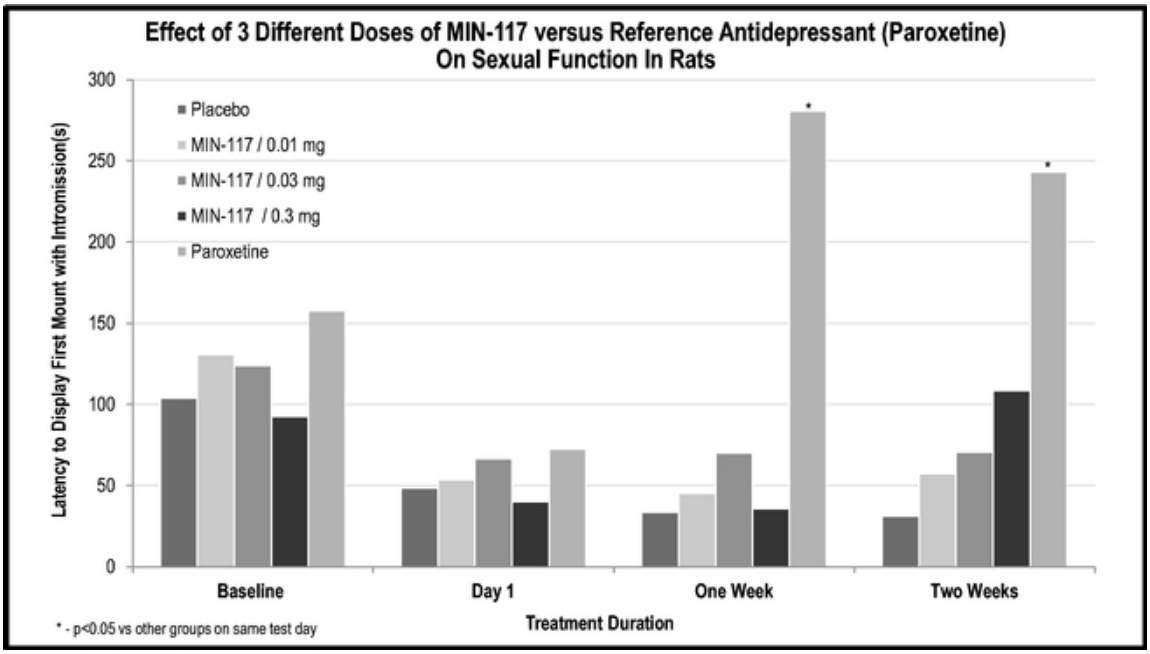
Extensive pre-clinical explorations of MIN-117 were conducted by MTPC. In terms of safety and toxicology, three-month toxicological studies were completed in rodents and non-rodents. These explorations showed the potential for a good safety and tolerability profile for MIN-117 at the intended therapeutic 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, 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. This study was notable for the fact that the onset of action and the effect on sucrose intake (compared to placebo) was rapid, and this effect reached statistical significance by the week one assessment. In the same study, Imipramine, a tricyclic molecule, showed reversal of sucrose intake suppression after three weeks of treatment. Faster efficacy is an important aspect of any drug for MDD because patients have an increased risk of suicide during the period prior to 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.



Development Strategy

We intend to conduct a Phase II clinical trial of MIN-117 in approximately 450 subjects suffering from MDD in the first 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. 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.

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 initiated, subject to receiving the necessary regulatory and ethical approvals in the European Union.

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

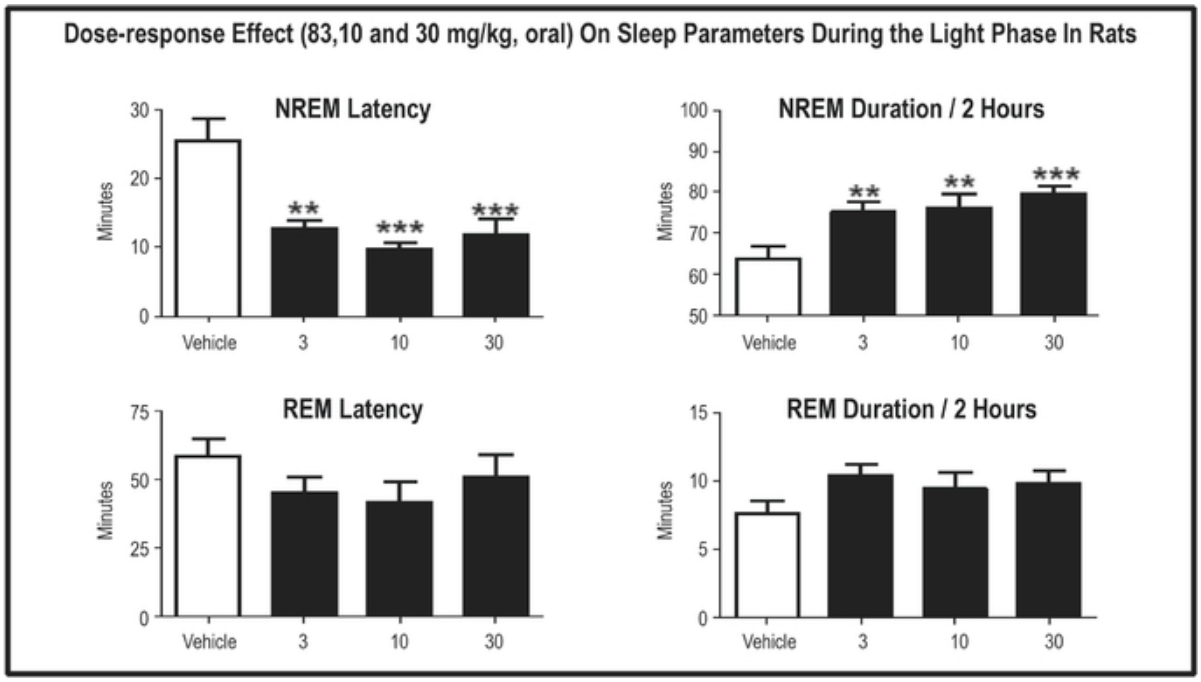
A single ascending dose trial of MIN-202 was carried out by Janssen in young healthy males in 2011. The safety and tolerability profile of the drug was good. In terms of PK characteristics, the time to maximum concentration was reached in 30 minutes and some sedative effects of the drug lasted from four 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 investigated the effect of MIN-202 in the 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.



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 recombinant form of the NRG-1b1 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 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 second half of 2014. 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. 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.

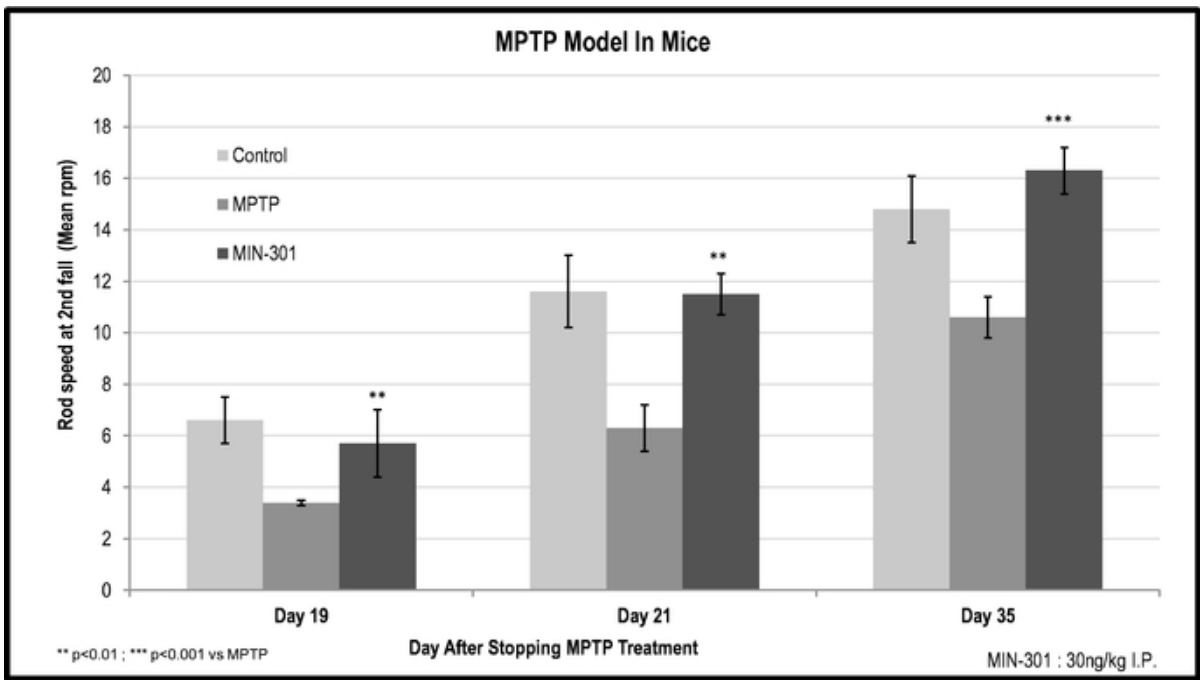
MIN-301 is a recombinant protein comprised of the extracellular domain of NRG-1b1. The NRG-1b1 protein is involved in brain maturation and offers an alternative mechanism of action for the treatment of Parkinson's disease. This protein demonstrates activation of the ErbB4 target in brain tissues, offering 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 MPTP models of Parkinson's disease, which 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 this study showed a good safety profile.

In behavioral and functional animal models of Parkinson's disease using a rotarod treadmill as a functional read out, where 6-OH-dopamine and MPTP were used to induce Parkinson's disease-like symptoms, MIN-301 was able to reverse the functional impairments induced by both pharmacological tools. The data from the MPTP-induced motor deficit model reproduced below shows that those animals treated with MIN-301 (specifically the 30ng/kg dose) on all measurement days achieved greater recovery of function than those animals not treated with MIN-301.



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 second half of 2014, 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.

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.

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.

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 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 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.

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 Thorazine and Largactil (chlorpromazine) and Haldol (haloperidol), or second-generation "atypical antipsychotics," such as Clozaril (clozapine), Risperdal (risperidone), Seroquel (quetiapine), Zyprexa (olanzapine) and 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 Lexapro and Cipralex (escitalopram), Zoloft (sertraline), Paxil and Seroxat (paroxetine), Prozac (fluoxetine), Viibryd (vilazodone), Effexor (venlafaxine), Pristiq (desvenlafaxine), Cymbalta (duloxetine), Seroquel (quetiapine) and 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 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.

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. 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 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. Patent term extensions may be available in some countries.

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. Patent term extensions for regulatory delay under 35 U.S.C. § 156 may be available.

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 group of patents and patent applications has claims directed to isolated neuregulin-b 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, the corresponding EP Patent No. 1252186. These patents are estimated to expire no earlier than February 9, 2021. An application is pending in Canada.

A second group also includes patents and applications directed to methods of screening for agents. U.S. Patent No. 7,824,923 protects methods of screening for agents that increase or decrease the expression level of neuregulin-b isoforms. This patent expires no earlier than August 6, 2022. This family also includes two pending European applications, which if granted are also expected to expire no earlier than August 6, 2022.

A third group of applications has entered the national stage from PCT International Publication No. WO 2009/062750. EP Patent Application No. 2219662 has received a notice of an intent to grant from the European Patent Office. Corresponding U.S. Patent Application No. 12/742,983 is currently pending. Corresponding patent applications are also pending in Australia, Brazil, Canada, China, Japan, Mexico, and Russia.

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 family includes applications in the U.S., 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 a method of diagnosing a disease using the polypeptide.

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 our pharmaceutical products 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 (e.g., 10 years data exclusivity in Europe) and other foreign jurisdictions.

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 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 issuance of warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, debatement, injunctions, fines, refusal of government contracts, exclusion from participation in federal and state healthcare programs, restitution, disgorgement, civil penalties and criminal prosecution.

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 requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial, as well as 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 NDAs is additionally subject to a substantial application user fee, and the manufacturer and/or sponsor under an approved NDA 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, an NDA or supplement to an NDA 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, before approving a drug for which no active ingredient has previously been approved by the FDA, 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 an NDA. After the FDA evaluates the NDA 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 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 compared to available therapies. 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, warning 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 civil or criminal penalties.

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 Supply Chain 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 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; and/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, 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 prescribed 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 drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own 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 both branded and generic 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. 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 applicant does not challenge the listed patents or indicates that it is not seeking approval of a patented method of use, the ANDA or 505(b)(2) NDA application will not be approved until all the listed patents claiming the referenced product have expired.

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 or a decision in the infringement case that is favorable to the ANDA applicant.

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 use 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 an NDA 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 Orange Book listed patent protection cover the drug 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 owing to regulatory exclusivity or listed patents.

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 February 14, 2014, we had three full-time employees. 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, M.D., M.B.A.	50	Director, President and Chief Executive Officer
Geoff Race[(1)]	53	Chief Financial Officer
Joseph Reilly	39	Chief Business Officer
Remy Luthringer, Ph.D.[(1)]	53	Executive Vice President — Head of Research and Development
Non-Management Directors		
Marc D. Beer	49	Director, Chairman of the Board of Directors
Francesco de Rubertis, Ph.D.	44	Director
Michèle Ollier, M.D.	55	Director
Lorenzo Pellegrini, Ph.D.	46	Director
Robert R. Seltzer	38	Director

(1) Mr. Race and Mr. Luthringer will be appointed as Chief Financial Officer and Executive Vice President of Research and Development, respectively, contingent and effective 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, M.D., M.B.A. 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, prior to the completion of this offering, we intend to name him our Chief Financial Officer. 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 Chartered Institute of Management and holds an M.B.A. from Durham University Business School (UK).

Joseph Reilly Mr. Reilly has served as our Chief Business Officer since January 2014. Prior to joining Minerva, Mr. Reilly was Vice President and Head of Commercial Strategy and Operations at Genzyme, a Sanofi pharmaceutical company, from August 2012 to December 2013. In more than a decade at Genzyme, he also served as Vice President of Global Business Operations from July 2011 to August 2012, Vice President of Commercial Operations in the Personalized Genetic Health Division from March 2010 to July 2011 and Vice President of Business Unit Finance from November 2007 to March 2010. He earned a B.S. in Finance at Boston College and his M.S. in Finance from the Wallace E. Carroll Graduate School of Management at Boston College.

Remy Luthringer, Ph.D. Dr. Luthringer has provided consulting services to us since January 2011 and, prior to the completion of this offering, we intend to name him our Executive Vice President of Research and Development. 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).

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 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.

Francesco de Rubertis, Ph.D. 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, M.D. 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, Ph.D. 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. Our board of directors believes that Mr. Seltzer's perspective and the experience he brings as a board member of life sciences companies, combined with his knowledge of finance and transactions qualify him to serve as a member of our board of directors.

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 six directors. Each of our current directors was elected to serve as a member of our board of directors pursuant to an investor rights agreement, dated August 29, 2007, as amended on December 20, 2013, by and among us and certain of our stockholders. Pursuant to the investor rights agreement, Mr. Seltzer, Dr. Pellegrini, Dr. de Rubertis, Dr. Ollier, Dr. Vivaldi and Mr. Beer were selected to serve on our board of directors. 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 was selected as an independent director 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 , representing of our seven 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

Prior to the completion of this offering, our board of directors will establish an audit committee. Upon the completion of this offering, our audit committee will consist of . Our board of directors has determined that qualifies as an "audit committee financial expert" as such term is defined in Item 407(d)(5) of Regulation S-K and that are independent as independence is defined in Rule 10A-3 of the Exchange Act and under the NASDAQ listing standards. 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

Prior to completion of this offering, our board of directors will establish a Compensation Committee. Upon completion of this offering, our compensation committee will consist of Messrs. and , 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. Mr. is the chairman 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

Prior to completion of this offering, our board of directors will establish a nominating and corporate governance committee. Following the completion of this offering, our nominating and corporate governance committee will consist of . 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, M.D., M.B.A.[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, P.h.D.[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. Assumptions used in the calculation of these amounts are included in Note 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. Through our Swiss subsidiary, we intend to enter into an employment agreement with Mr. Race prior to the completion of this offering. In connection with his employment, we expect to formally appoint Mr. Race as an executive vice president and chief financial officer.

(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. Through our Swiss subsidiary, we intend to enter into an employment agreement with Dr. Luthringer prior to the completion of this offering. In connection with his employment, we expect to formally appoint Dr. Luthringer as an executive vice president and head of research and development.

(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 and is employed at-will.

Rogerio Vivaldi Coelho, M.D., M.B.A.

Dr. Vivaldi entered into an employment agreement with us on October 4, 2013, as amended on December 31, 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 below 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.

Pursuant to the terms of our 2013 Equity Incentive Plan, if one or more of the options granted to Dr. Vivaldi 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."

Geoff Race

Mr. Race 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. 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*."

Prior to the completion of this offering, we intend to enter into an employment agreement with Mr. Race through our Swiss subsidiary pursuant to which, among other things, we expect to employ Mr. Race as our executive vice president and chief financial officer.

Remy Luthringer, P.h.D.

Dr. Luthringer 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 are subject to non-recourse promissory notes to us, a call option in our favor and a put right in favor of Wint2felden. For further information regarding the non-recourse promissory notes, the call option and the put right, please see "Certain Relationships and Related Party Transactions."

Prior to the completion of this offering, we intend to enter into an employment agreement with Dr. Luthringer through our Swiss subsidiary pursuant to which, among other things, we expect to employ Dr. Luthringer as our executive vice president and head of research and development.

Confidentiality and Assignment Agreements

Each of our named executive officers has entered into a standard form agreement with respect to confidential information and assignment of inventions. Among other things, this 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, M.D., M.B.A.	—	1,892,528(1)	$ 2.71	12/19/23
Geoff Race	—	—	—	—
Remy Luthringer, M.D.	—	—	—	—

(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.

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	—	—	—
Francesco de Rubertis	—	—	—
Robert R. Seltzer	—	—	—
Lorenzo Pellegrini	—	—	—

(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. Assumptions used in the calculation of these amounts are included in Note 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. We intend to adopt a formal director compensation policy for all of our non-employee directors prior to the completion of this offering.

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.

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 12, 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 12, 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 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 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) in its stockholders, including entities affiliated with Care Capital and Index Ventures which Assumed Notes we assumed at the time of our merger with Sonkei. Each note also bears a stated interest rate of 8% per annum and is payable by us on June 30, 2014. Neither we, nor Sonkei prior to our merger with them, have paid any accrued interest on the Assumed Notes to date. Upon completion of this offering, the outstanding principal balance of the Issued Notes and the Assumed Notes and accrued but unpaid interest thereon will convert into the common stock sold in this offering at a conversion price equal to the initial public offering price per share set forth on the cover of this prospectus. For more information regarding the Issued Notes and the Assumed Notes, see "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Promissory Notes."

The following table sets forth the loan amounts provided by our directors, executive officers and principal stockholders, or affiliates or immediate family members of our directors, executive officers and principal stockholders in the November 2013 issuance.

NAME	ISSUED NOTES AMOUNT	ASSUMED NOTES AMOUNT
Entities affiliated with Care Capital	$ 650,000(1)	€259,259.25 (or $351 thousand, as converted)(3)
Entities affiliated with Index Ventures	$ 650,000(2)	€259,259.25 (or $351 thousand, as converted)(4)

(1) Consists of Issued Notes in an aggregate principal amount of (a) $639 thousand provided by Care Capital Investments III LP and (b) $11 thousand provided by Care Capital Offshore Investments III LP.

(2) Consists of Issued Notes in an aggregate principal amount of (a) $210 thousand provided by Index Ventures III (Jersey), L.P., (b) $427 thousand provided by Index Ventures III (Delaware), L.P., (c) $8 thousand provided by Index Ventures III Parallel Entrepreneur Fund (Jersey), L.P., and (d) $5 thousand provided by Yucca (Jersey) SLP.

(3) Consists of Assumed Notes in an aggregate principal amount of (a) €255 thousand (or $345 thousand, as converted) provided by Care Capital Investments III LP and (b) €4 thousand (or $6 thousand, as converted) provided by Care Capital Offshore Investments III LP.

(4) Consists of Assumed Notes in an aggregate principal amount of (a) €235 thousand (or $318 thousand, as converted) provided by Index Ventures IV (Jersey), L.P., (b) €22 thousand (or $30 thousand, as converted) provided by Index Ventures IV Parallel Entrepreneur Fund (Jersey), L.P., and (c) €2 thousand (or $3 thousand, as converted) provided by Yucca (Jersey) SLP.

At December 31, 2013, we had $2.0 million of outstanding convertible promissory notes under these arrangements.

Promissory 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 note payable of $3.1 million (or approximately $1.06 per share). The note is payable in a single installment on February 28, 2014. The note bears interest at a rate of 0.19% per annum and is secured solely by the underlying common stock. In lieu of payment, Dr. Luthringer is entitled to offset amounts owed by the promissory note in connection with our repurchasing common stock. We have the option (a call option) to repurchase the shares if Dr. Luthringer ceases to provide services to us or after February 28, 2014 at the original purchase price. Dr. Luthringer has the option (a put option) to require us to repurchase the shares at any time at the original price. Neither the put nor the call options have been exercised.

In March 2012, Sonkei issued 1,112,500 shares of Sonkei common stock to Wint2felden in exchange for a note payable of €1.11 million (or $1.51 million, as converted) (approximately €1.006 per share, or $1.36, as converted), which we were exchanged for 1,491,616 of our common shares when Sonkei merged into us. The note is payable in a single installment on April 30, 2015. The note bears an interest rate of 0.19% per annum and is secured solely by the underlying common stock. In lieu of payment, Dr. Luthringer is entitled to offset amounts owed by the promissory note in connection with our repurchasing 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. Dr. Luthringer has the option (a put option) to require us to repurchase the shares at any time at the original price. Neither the put nor the call options have been exercised.

In December 2013, we issued 97,737 shares of common stock to Wint2felden in exchange for a note payable of $98 thousand (approximately $1.00 per share). The note is payable in a single installment on May 31, 2014. The note bears interest at a rate of 0.19% per annum and is secured solely by the underlying common stock. In lieu of payment, Dr. Luthringer is entitled to offset amounts owed by the promissory note in connection with our repurchasing 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. Dr. Luthringer has the option (a put option) to require us to repurchase the shares at any time at the original price. Neither the put nor the call options have been exercised.

We will not file the registration statement to which this prospectus forms a part with the SEC while the loan arrangements with Dr. Luthringer remain outstanding.

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. Care Capital and Index Ventures have a right to purchase additional shares of common stock under the Stock Purchase Agreement and the parties are in the process of renegotiating this agreement.

Employment and Consultancy Agreements

We have entered into, or will enter into prior to the completion of this offering, 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 $127 thousand and $213 thousand to Dr. Luthringer and Mr. Race, respectively, during the

nine months ended September 30, 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 $32 thousand to Mr. Race during the nine months ended September 30, 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 the nine months ended September 30, 2013, these reimbursements were $16 thousand and $8 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 the nine months ended September 30, 2013, these reimbursements were $16 thousand and $726, 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 €500 thousand (or $677 thousand, 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 February 14, 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 31,044,452 shares of common stock outstanding on February 14, 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 February 14, 2014, pursuant to the exercise of options are deemed to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table.

Unless otherwise noted, the business address for each director and executive officer is c/o Minerva Neurosciences, Inc., 245 First Street, Suite 1800, Cambridge, MA 02142.

NAME OF BENEFICIAL OWNER	NUMBER OF SHARES BENEFICIALLY OWNED		PERCENTAGE OF SHARES BENEFICIALLY OWNED	
	PRIOR TO THE OFFERING	AFTER THE OFFERING	PRIOR TO THE OFFERING	AFTER THE OFFERING
Named Executive Officers and Directors:				
Rogerio Vivaldi Coelho	—		—	
Geoff Race	606,601		1.9	
Remy Luthringer(1)	4,464,353		14.4	
Marc D. Beer(2)	17,578		*	
Francesco de Rubertis(3)	12,029,129		38.7	
Michèle Ollier(3)	12,029,129		38.7	
Lorenzo Pellegrini(4)	11,739,419		37.8	
Robert R. Seltzer(4)	11,739,419		37.8	
All executive officers and directors as a group (9 persons)	28,385,687		91.4	
Other 5% Stockholders:				
Funds affiliated with Care Capital(4)	11,739,419		37.8	
Funds affiliated with Index Ventures(3)	12,029,129		38.7	
Janssen Pharmaceutica, N.V.(5)	—		—	
ProteoSys AG(6)	1,703,276		5.5	

* Represents beneficial ownership of less than 1.0% of the shares of common stock.

(1) Consists of 4,464,353 shares beneficially owned by Wint2felden Holding SA, a company owned by Dr. Luthringer and which shares are subject to a share pledge in our favor in connection with Dr. Luthringer's promissory notes. See "Certain Relationships and Related Party Transactions — Promissory Notes with Dr. Luthringer."

(2) Consists of options to purchase 17,578 shares of common stock that are exercisable within 60 days of February 14, 2014. Does not include 70,312 shares subject to an option that vest upon the closing of this offering.

(3) 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. and (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. 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.

(4) 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 and (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. 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 $1 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.

(5) 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.

(6) 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 February 14, 2014, immediately prior to the closing of this offering, there were outstanding:

- 31,044,452 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.

Convertible Notes

We issued $1.3 million principal amount of convertible notes in November 2013 and assumed €519 thousand (or $702 thousand, 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 September 30, 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 intend to apply to have our common stock approved for quotation on the Nasdaq Global Market under the symbol " ."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is .

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 February 14, 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 February 14, 2014, we had outstanding options to purchase 2,263,661 shares of common stock, of which 17,578 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 intend to apply to have our common stock approved for listing on The NASDAQ Global Market under the trading symbol " ."

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, 2012 and 2011 and from April 23, 2007 (date of incorporation) to December 31, 2012 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, 2012 and 2011 and for the years then ended and, cumulatively, for the period from August 20, 2010 (date of inception) to December 31, 2012, 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, 2011 and 2012, 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, 2012. 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, 2011 and 2012, 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, 2012, 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
February 14, 2014

MINERVA NEUROSCIENCES INC.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)
(A Development Stage Company)
Balance Sheets

	DECEMBER 31, 2011	DECEMBER 31, 2012
Assets		
Current assets		
Cash and cash equivalents	$ 208,857	$ 200,314
Due from related party	23,903	—
Prepaid expenses	10,413	8,995
Total current assets	243,173	209,309
Total assets	$ 243,173	$ 209,309
Liabilities and Stockholders' Equity		
Current liabilities		
Accrued expenses and other liabilities	$ 130,004	$ 190,290
Total current liabilities	130,004	190,290
Total liabilities	130,004	190,290
Commitments and contingencies		
Stockholders' equity		
Common stock; $.0001 par value; 45,000,000 shares authorized; 11,200,000 and 12,468,590 shares issued and outstanding as of December 31, 2011 and 2012, respectively	1,120	1,247
Additional paid-in capital	13,097,880	14,585,558
Deficit accumulated during the development stage	(12,985,831)	(14,567,786)
Total stockholders' equity	113,169	19,019
Total liabilities and stockholders' equity	$ 243,173	$ 209,309

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,
	2011	2012	2012
Expenses			
Research and development	$ 592,966	$ 550,360	$ 12,268,760
General and administrative	534,925	1,030,656	2,360,952
Total expenses	1,127,891	1,581,016	14,629,712
Loss from operations	(1,127,891)	(1,581,016)	(14,629,712)
Foreign exchange gains / (losses)	3,503	(946)	24,937
Interest income	1,674	7	36,989
Net loss	$ (1,122,714)	$ (1,581,955)	$ (14,567,786)
Net loss per share, basic and diluted	$ (0.10)	$ (0.13)	$ (1.92)
Weighted average shares outstanding, basic and diluted	10,872,329	11,854,198	7,581,039

See accompanying notes to financial statements

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

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at April 23, 2007 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $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

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
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Statements of Cash Flows

	YEAR ENDED DECEMBER 31,		PERIOD FROM APRIL 23, 2007 (DATE OF INCORPORATION) TO DECEMBER 31,
	2011	2012	2012
Cash flows from operating activities			
Net loss	$ (1,122,714)	$ (1,581,955)	$ (14,567,786)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation expense	63,000	587,805	2,508,805
Changes in operating assets and liabilities			
Prepaid expenses and other assets	(26,389)	25,321	(8,995)
Accrued expenses and other liabilities	(34,983)	60,286	190,290
Net cash used in operating activities	(1,121,086)	(908,543)	(11,877,686)
Cash flows from financing activities			
Proceeds from sales of common stock	400,000	900,000	12,100,000
Stock issuance costs	—	—	(22,000)
Net cash provided by financing activities	400,000	900,000	12,078,000
Net (decrease) increase in cash and cash equivalents	(721,086)	(8,543)	200,314
Cash and cash equivalents			
Beginning of period	929,943	208,857	—
End of period	$ 208,857	$ 200,314	$ 200,314

See accompanying notes to financial statements

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Notes To Financial Statements

**December 31, 2011 and 2012 and the period from
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NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Minerva Neurosciences, Inc., formerly known as Cyrenaic Pharmaceuticals, Inc. ("Cyrenaic" or the "Company"), was incorporated on April 23, 2007. The Company is a development stage biopharmaceutical company focused on the development and commercialization of a compound with novel pharmacology for the treatment of schizophrenia, which the Company licensed in 2007 (see Note 5). The Company has been operating as a virtual company with no employees and was managed by the Board of Directors. On November 12, 2013, Sonkei Pharmaceuticals, Inc., a development stage biopharmaceutical company focused on the development and commercialization of a compound with novel pharmacology for the treatment of depression and affiliated company through certain common ownership, was merged into Cyrenaic with Cyrenaic being the survivor company (see Note 9). Cyrenaic then changed its name to Minerva Neurosciences, Inc.

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 $14,567,786 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 $1,300,000 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 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.

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Notes To Financial Statements (Continued)

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 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 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 preclinical studies and clinical trials and the time to

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

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 operating decision maker was the Board of Directors as there were no employees as of December 31, 2012 or prior. The Company's chief decision maker 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.

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).

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

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

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 April 23, 2007 (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 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 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.

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

NOTE 3 — ACCRUED EXPENSES AND OTHER LIABILITIES

Accrued expenses and other liabilities consist of the following:

	December 31, 2011	December 31, 2012
Accrued research and development costs	$ 50,270	$ 81,600
Accrued professional fees	4,000	8,487
Accrued consulting costs	59,199	2,936
Accrued expenses due to related parties	—	96,631
Other	16,535	636
	$ 130,004	$ 190,290

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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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:

	Year Ended December 31,		April 23, 2007 (date of incorporation) through December 31, 2012
	2011	2012	
Net loss	$ (1,122,714)	$ (1,581,955)	$ (14,567,786)
Weighted average shares of common stock outstanding	10,872,329	11,854,198	7,581,039
Net loss per share of common stock — basic and diluted	$ (0.10)	$ (0.13)	$ (1.92)

The following potentially dilutive securities outstanding at December 31, 2011 and 2012 have been excluded from the computation of diluted weighted average shares outstanding, as they would have been antidilutive:

	December 31,	
	2011	2012
Stock options (see Note 6)	—	2,875,000
Warrants (see Note 6)	2,800,000	—
	2,800,000	2,875,000

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation 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 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 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 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 $1,000,000 licensing fee paid in 2007 was expensed as part of research and development expense, as was an additional payment of $500,000 in 2008 upon the onset of a Phase IIa study. Through the below mentioned amendment, the Company was required to make certain milestone payments upon achievement of certain development and certain commercial milestones, that could total up to $57,500,000 for MIN-101 and up to $59,500,000 for other additional products.

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NOTE 5 — LICENSE AGREEMENT (CONTINUED)

Under the License Agreement, the Company has to achieve the commencement of a clinical pharmacology study containing MIN-101 by the end of April 2015. If the Company fails to reach this milestone, it 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 milestone by April 2015, as it may be extended, the licensor may elect to terminate the License Agreement. The Company made a $500,000 extension payment in 2010 which was expensed as part of research and development expense. 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. 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. The Company is also required to make certain milestone payments upon achievement of one development milestone totaling $500,000, and certain commercial milestones, which could total up to $47,500,000.

NOTE 6 — STOCKHOLDERS' EQUITY

Common Stock

The Company is authorized to issue up to 45,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From April 23, 2007 (date of incorporation) through December 31, 2012, the Company sold 12,100,000 shares of common stock at $1 per share for net proceeds of $12,078,000 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase depending on the success of clinical milestones. Further, pursuant to the stock purchase agreement, during the 2-year period after the fifth closing date of the share purchase, each purchaser has the option to purchase up to an aggregate of their pro rata portion of 10,000,000 shares of common stock for a price of $1 per share.

Warrants

In February 2009, the Company entered into a warrant agreement with a company controlled by a consultant who provides services associated with the clinical development of the Company's drug compound. The warrant was exercisable at any time through February 2014. The number of shares of common stock of the Company subject to this warrant is dependent upon an anti-dilution formula based upon maintaining a 20% ownership after each of the common stock purchase agreement closings, with the total warrant shares not to exceed 6,250,000 shares (the "Warrant Shares"). The exercise price of the warrant equals the sum of $1.00 ("Numerator") plus the quotient obtained by $142,000 divided by the number of Warrant Shares outstanding, however the Numerator shall increase by 2% for each quarter the warrant is outstanding. The warrant became fully vested in May 2010 upon successful completion of specific clinical milestones. The Company determined that the warrant qualifies as an equity instrument.

As of April 25, 2012, the warrant was exercisable into 2,875,000 shares of Cyrenaic 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

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NOTE 6 — STOCKHOLDERS' EQUITY (CONTINUED)

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 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
Warrants outstanding at December 31, 2010	2,700,000
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 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 6 — 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	4/26/2012
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	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 $63,000, $54,750 and $1,975,750 for the years ended December 31, 2011 and 2012, and for the period from April 23, 2007 (date of incorporation) through December 31, 2012, respectively.

Common Stock Issuances

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 payable of $3,058,026 (or approximately $1.06 per share, the "Original Price"). The note payable is due in a single installment on February 28, 2014. 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 February 28, 2014, at the Original Price. The holder has the option (a put

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NOTE 6 — STOCKHOLDERS' EQUITY (CONTINUED)

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.

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.

The Company's arrangements with the holder of the 2,875,000 shares of its common stock noted above include a continuing anti-dilution obligation to the shares owned by that holder. In connection with such arrangement, the Company has an obligation to provide an additional share grant to the holder each time the Company issues shares to certain investors, such that the holder's ownership percentage in the Company 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, the Company sold an additional 600,000 shares to certain investors during 2012. In December 2013, the Company issued additional shares of its common stock to the holder in exchange for a nonrecourse note payable to satisfy the anti-dilution obligation associated with the 600,000 share issuance (see Note 9). The accounting for the additional shares is consistent with the 2,875,000 shares discussed above.

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. The Company has recognized the fair value of the shares less the par value as an administrative expense on the dates of sales. Such expense amounted to $533,018 for the year ended December 31, 2012 and for the period from April 23, 2007 (date of incorporation) to December 31, 2012, respectively.

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Notes To Financial Statements (Continued)

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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	$ 3,390,037	$ 3,971,579
Research and development tax credits	141,231	141,231
Deferred start-up and license costs	1,323,435	1,373,355
Gross deferred tax assets	4,854,703	5,486,165
Valuation allowance	(4,854,703)	(5,486,165)
Net deferred taxes	$ —	$ —

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	(34.00%)	(34.00%)
Permanent differences	—	—
State income taxes	(5.94%)	(5.94%)
Valuation allowance	39.94%	39.94%
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 $631,000 during the year ended December 31, 2012.

As of December 31, 2012, the Company has approximately $10,900,000 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 $141,000 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

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NOTE 7 — INCOME TAXES (CONTINUED)

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.

The Company has an uncertain tax position relating to its net operating loss carryforwards deferred tax asset of approximately $415,000 and $377,000 as of December 31, 2011 and 2012, respectively, which is subject to a full valuation allowance. The net operating loss carryforwards deferred tax asset has been reduced and the deferred license costs deferred tax asset has been increased by approximately $415,000 and $377,000 as of December 31, 2011 and 2012, respectively.

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 April 23, 2007 (date of incorporation) to December 31, 2012, these reimbursements were $180,911, $81,195 and $520,532, 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 April 23, 2007 (date of incorporation) to December 31, 2012, the total expense recognized in operating results in connection with services provided was $60,000, $60,000 and $320,000, 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 these consulting services was $291,635 for the year ended December 31, 2012 and the period from April 23, 2007 (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.

Due from related party as of December 31, 2011 of $23,903 represents expenses the Company paid on behalf of Sonkei.

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 $1,300,000 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 this convertible notes and accrued interest thereon shall convert into the Qualified

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NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

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.

Employment Agreement and Stock Options

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.

In December 2013, the Company entered into agreements with two individuals providing for cash compensation, discretionary bonuses and stock options to acquire an aggregate of 371,133 shares of the Company's common stock at an exercise price of $2.71 per share.

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. No option may have a term in excess of ten years.

Acquisitions

On November 12, 2013, Sonkei Pharmaceuticals, Inc. (Sonkei), a development stage biopharmaceutical company focused on the development and commercialization of an experimental drug with novel pharmacology for the treatment of depression, 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. Cyrenaic then changed its name to Minerva Neurosciences, Inc. There were certain common stockholders between Sonkei and Cyrenaic however, since the underlying investors in the venture funds are not "substantially similar", the merger will be considered a business combination with Cyrenaic being treated as the acquirer. The Company merged with Sonkei in order to acquire Sonkei's lead product candidate. The consideration paid in connection with

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NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

the merger included 8,481,788 shares of the Company's common stock with a value of $2.71 per share, or $22,985,645. The purchase price allocation is subject to completion of our analysis of the fair value of the assets and liabilities of Sonkei as of the date of the acquisition. Accordingly, the purchase price allocation below is preliminary based on September 30, 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. This aggregate consideration of $22,985,645 has been preliminarily allocated to assets acquired and liabilities assumed based on estimated fair values at the date of acquisition as follows:

Net working capital deficit	$ (294,461)
In-process research and development	21,500,000
Goodwill	1,780,106
Purchase price	$ 22,985,645

On February 12, 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. The Company acquired Mind-NRG in order to acquire Mind-NRG's lead product candidate. The 5,185,528 shares of Minerva common stock issued as consideration for the acquisition had a value of $2.71 per share, or $14,052,781. 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. Accordingly, the purchase price allocation below is preliminary based on September 30, 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 from estimates and assumptions based on data currently available. The aggregate consideration of $14,052,781 has been preliminarily

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NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

allocated to assets acquired and liabilities assumed based on estimated fair values at the date of acquisition as follows:

Assets	$ 2,331,000
Liabilities assumed	(1,089,000)
In-process research and development	11,900,000
Goodwill	910,781
Purchase price	$ 14,052,781

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, 2011 presented after giving effect to certain adjustments. The unaudited pro forma financial information for the years ended December 31, 2011 and 2012 combines the Company's historical results for these years with the historical results for the comparable reporting periods for Sonkei and Mind-NRG. The unaudited pro forma financial information below is for informational purposes only and is not indicative of the results of operations or financial condition that would have been achieved if the 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,	
	2011	2012
	(Unaudited)	
Operating loss	$ 3,130,632	$ 3,414,847
Loss per share	$ (0.13)	$ (0.13)

Issuance of Common Stock

In December 2013, the Company issued 97,737 shares of common stock to the holder of the 2,875,000 shares discussed in Note 6, subject to a $97,737 nonrecourse note payable by the holder, in accordance with the anti-dilution agreement with the holder, after consideration of the similar agreement and acquisition of Sonkei and other factors. The accounting for the additional share issuance is consistent with the 2,875,000 shares discussed in Note 6.

In December 2013, the Company issued 85,806 shares of common stock valued at $232,534 to a consultant at $0.0001 for services rendered.

Other

Subject to the completion of an IPO, the Company has entered into a co-development and license agreement for MIN-202, a development stage product for the treatment of insomnia, in exchange for $22,000,000. Also, subject to completion of an IPO, the Company has also agreed to sell $26,000,000 of its common stock in a concurrent private placement at the initial public offering price.

Subject to the completion of an IPO, the Company agreed to sell $4,000,000 of common stock to former Mind-NRG stockholders in a concurrent private placement at the initial public offering price.

MINERVA NEUROSCIENCES, INC
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Condensed Balance Sheets
(Unaudited)

	DECEMBER 31, 2012	SEPTEMBER 30, 2013
Assets		
Current assets		
Cash and cash equivalents	$ 200,314	$ 1,100,256
Prepaid expenses	8,995	1,870
Total current assets	209,309	1,102,126
Total assets	$ 209,309	$ 1,102,126
Liabilities and Stockholders' Equity		
Current liabilities		
Accrued expenses and other liabilities	$ 190,290	$ 368,583
Total current liabilities	190,290	368,583
Total liabilities	190,290	368,583
Commitments and contingencies		
Stockholders' equity		
Common stock; $.0001 par value; 45,000,000 shares authorized; 12,468,590 and 14,318,590 shares issued and outstanding as of December 31, 2012 and September 30, 2013, respectively	1,247	1,432
Additional paid-in capital	14,585,558	16,435,373
Deficit accumulated during the development stage	(14,567,786)	(15,703,262)
Total stockholders' equity	19,019	733,543
Total liabilities and stockholders' equity	$ 209,309	$ 1,102,126

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
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Condensed Statements of Operations
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM APRIL 23, 2007 (DATE OF INCORPORATION) TO SEPTEMBER 30, 2013
	2012	2013	
Expenses			
Research and development	$ 433,598	$ 544,445	$ 12,813,205
General and administrative	853,018	588,144	2,949,096
Total expenses	1,286,616	1,132,589	15,762,301
Loss from operations	(1,286,616)	(1,132,589)	(15,762,301)
Foreign exchange gains / (losses)	806	(2,887)	22,050
Interest income	7	—	36,989
Net loss	$ (1,285,803)	$ (1,135,476)	$ (15,703,262)
Net loss per share, basic and diluted	$ (0.11)	$ (0.08)	$ (1.90)
Weighted average shares outstanding, basic and diluted	11,738,785	13,516,923	8,268,690

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
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Condensed Statements of Stockholders' Equity
(Unaudited)

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at April 23, 2007 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $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	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	1,850,000	185	1,849,815	—	1,850,000
Net loss	—	—	—	(1,135,476)	(1,135,476)
Balances at September 30, 2013	14,318,590	$ 1,432	$ 16,435,373	$ (15,703,262)	$ 733,543

See accompanying notes to financial statements

MINERVA NEUROSCIENCES, INC.
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Condensed Statements of Cash Flows
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM APRIL 23, 2007 (DATE OF INCORPORATION) TO SEPTEMBER 30, 2013
	2012	2013	
Cash flows from operating activities			
Net loss	$ (1,285,803)	$ (1,135,476)	$ (15,703,262)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation expense	587,768	—	2,508,805
Unrealized foreign exchange gain	—	(2,626)	(2,626)
Changes in operating assets and liabilities			
Prepaid expenses and other assets	32,625	7,125	(1,870)
Accrued expenses and other liabilities	(14,423)	180,919	371,209
Net cash used in operating activities	(679,833)	(950,058)	(12,827,744)
Cash flows from financing activities			
Proceeds from issuance of common stock	600,000	1,850,000	13,950,000
Stock issuance costs		—	(22,000)
Net cash provided by financing activities	600,000	1,850,000	13,928,000
Net increase (decrease) in cash and cash equivalents	(79,833)	899,942	1,100,256
Cash and cash equivalents			
Beginning of period	208,857	200,314	—
End of period	$ 129,024	$ 1,100,256	$ 1,100,256

See accompanying notes to financial statements

Minerva Neurosciences, Inc.
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Notes to Financial Statements

September 30, 2012 and 2013 and the period from April 23, 2007
(date of incorporation) to September 30, 2013 (Unaudited)

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Minerva NeuroSciences, Inc., formerly known as Cyrenaic Pharmaceuticals, Inc. ("Cyrenaic" or the "Company"), was incorporated on April 23, 2007. The Company is a development stage biopharmaceutical company focused on the development and commercialization of a compound with novel pharmacology for the treatment of schizophrenia, which the Company licensed in 2007 (see Note 5). The Company has been operating as a virtual company with no employees and was managed by the Board of Directors. On November 12, 2013, Sonkei Pharmaceuticals, Inc., a development stage biopharmaceutical company focused on the development and commercialization of a compound with novel pharmacology for the treatment of depression and affiliated company through certain common ownership, was merged into Cyrenaic with Cyrenaic being the survivor company (see Note 9). Cyrenaic then changed its name to Minerva Neurosciences, Inc.

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 $15,703,262 as of September 30, 2013. 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 $1,300,000 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 equity financings (including an initial public offering) 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. 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 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

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Notes to Financial Statements (Continued)

September 30, 2012 and 2013 and the period from April 23, 2007
(date of incorporation) to September 30, 2013 (Unaudited)

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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. The results of operations for the nine months ended September 30, 2013, are not necessarily indicative of the results to be expected for the full year. When preparing financial statements in conformity with GAAP, management must make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

The balance sheet as of December 31, 2012 was derived from our 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 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

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Notes to Financial Statements (Continued)

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 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.

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 operating decision maker is the Board of Directors as there were no employees as of September 30, 2013 or prior. The Company's chief decision maker 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.

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

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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.

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 materials 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.

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 nine months ended September 30, 2012 or 2013 and for the period from April 23, 2007 (date of incorporation) to September 30, 2013. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2009 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Stock-based compensation:

The Company recognizes compensation cost relating to share-based payment transactions in its operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation — Stock Compensation*. ASC-718 requires all share based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity-Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share-based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Foreign currency transactions:

The Company's functional currency is the US dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in US dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share:

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

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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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	$ 81,600	$ 141,367
Accrued professional fees	8,487	116,401
Accrued consulting costs	2,936	5,290
Accrued expenses due to related parties	96,631	102,730
Other	636	2,795
	$ 190,290	$ 368,583

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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:

	Nine Months Ended September 30,		April 23, 2007 (date of incorporation) through September 30, 2013
	2012	2013	
Net loss	$ (1,285,803)	$ (1,135,476)	$ (15,703,262)
Weighted average shares of common stock outstanding	11,738,785	13,516,923	8,268,690
Net loss per share of common stock — basic and diluted	$ (0.11)	$ (0.08)	$ (1.90)

The following potentially dilutive securities 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:

	September 30,	
	2012	2013
Stock options (see Note 6)	2,875,000	2,875,000

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation 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 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 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 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 $1,000,000 licensing fee paid in 2007 was expensed as part of research and development expense, as was an additional license payment of $500,000 in 2008 upon the onset of a Phase IIa study. Through the below mentioned amendment, the Company was required to make certain milestone payments upon achievement of certain development and

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NOTE 5 — LICENSE AGREEMENT (CONTINUED)

commercial milestones, that could total up to $57,500,000 for MIN-101 and up to $59,500,000 for other additional products.

Under the License Agreement, the Company has to achieve the commencement of a clinical pharmacology study containing MIN-101 by the end of April 2015. If the Company fails to reach this milestone, it 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 milestone by April 2015, as it may be extended, the licensor may elect to terminate the License Agreement. The Company made a $500,000 extension payment in 2010 which was expensed as part of research and development expense. 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. 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. The Company is also required to make certain milestone payments upon achievement of one development milestone totaling $500,000, and certain commercial milestones, which could total up to $47,500,000.

NOTE 6 — STOCKHOLDERS' EQUITY

Common Stock

The Company is authorized to issue up to 45,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From April 23, 2007 (date of incorporation) through September 30, 2013, the Company sold 13,950,000 shares of common stock at $1 per share for net proceeds of $13,928,000 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase depending on the success of clinical milestones. Further, pursuant to the stock purchase agreement, during the 2-year period after the fifth closing date of the share purchase, each purchaser has the option to purchase up to an aggregate of their pro rata portion of 10,000,000 shares of common stock for a price of $1 per share.

Warrants

In February 2009, the Company entered into a warrant agreement with a company controlled by a consultant who provides services associated with the clinical development of the Company's drug compound. The warrant was exercisable at any time through February 2014. The number of shares of common stock of Cyrenaic subject to this warrant is dependent upon an anti-dilution formula based upon maintaining a 20% ownership after each of the common stock purchase agreement closings, with the total warrant shares not to exceed 6,250,000 shares (the "Warrant Shares"). The exercise price of the warrant equals the sum of $1.00 ("Numerator") plus the quotient obtained by $142,000 divided by the number of Warrant Shares outstanding, however the Numerator shall increase by 2% for each quarter the warrant is

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NOTE 6 — STOCKHOLDERS' EQUITY (CONTINUED)

outstanding. The warrant became fully vested in May 2010 upon successful completion of specific clinical milestones. The Company determined that the warrants qualify as equity instruments.

As of April 25, 2012, the warrant was exercisable into 2,875,000 shares of Cyrenaic 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 of Cyrenaic common stock. The Company has accounted for the warrant cancellation and the concurrent replacement with a common stock subscription agreement as a modification in accordance with ASC 718-20-35-8 as 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
Warrants outstanding at December 31, 2010	2,700,000
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 and September 30, 2013	—

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 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 6 — 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	4/26/2012
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	2,700,000	100,000	75,000
Total 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 nine months ended September 30, 2012 and for the period from April 23, 2007 (date of incorporation) through September 30, 2013, respectively.

Common Stock Issuances

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 common stock in exchange for a nonrecourse note payable of $3,058,026 (or approximately $1.06 per share, the "Original Price"). The note payable is due in a single installment on February 28, 2014. 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 February 28, 2014, at the Original Price. The holder has the option (a put

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NOTE 6 — STOCKHOLDERS' EQUITY (CONTINUED)

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.

The Company's arrangements with the holder of the 2,875,000 shares of its common stock noted above include a continuing anti-dilution obligation to the shares owned by that holder. In connection with such arrangement, the Company has an obligation to provide an additional share grant to the holder each time the Company issues shares to certain investors, such that the holder's ownership percentage in the Company 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, the Company sold an additional 600,000 and 1,850,000 shares to certain investors during 2012 and the nine months ended September 30, 2013, respectively. In December 2013, the Company issued additional shares of its common stock to the holder in exchange for a nonrecourse note payable to satisfy the anti-dilution obligation associated with these share issuances (see Note 9). The accounting for the additional shares is consistent with the 2,875,000 shares discussed above.

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. The Company has recognized the fair value of the shares less the par value as an administrative expense on the dates of sales. Such expense amounted to $533,018 for the nine months ended September 30, 2012 and for the period from April 23, 2007 (date of incorporation) to September 30, 2013, respectively.

NOTE 7 — INCOME TAXES

There was provision for income taxes for the nine month periods ended September 30, 2012 or 2013 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.

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NOTE 7 — INCOME TAXES (CONTINUED)

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 had approximately $10,900,000 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 $141,000 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.

The Company has an uncertain tax position relating to its net operating loss carryforwards deferred tax asset of approximately $415,000 and $377,000 as of December 31, 2011 and 2012, respectively, which is subject to a full valuation allowance. The net operating loss carryforwards deferred tax asset has been reduced and the deferred license costs deferred tax asset has been increased by approximately $415,000 and $377,000 as of December 31, 2011 and 2012, respectively.

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 April 23, 2007 (date of incorporation) to September 30, 2013, these reimbursements were $74,607, $17,787 and $538,319, 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 cumulative period from April 23, 2007 (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 $365,000, respectively.

For 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 $205,614, $340,320 and $631,955 for the nine months ended September 30, 2012 and 2013 and the period from April 23, 2007 (date of incorporation) to September 30, 2013, respectively.

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.

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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 $1,300,000 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 this 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.

Employment Agreement and Stock Options

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 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. 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.

In December 2013, the Company entered into agreements with two individuals, providing for cash compensation, discretionary bonuses and stock options to acquire an aggregate of 371,133 shares of the Company's common stock at an exercise price of $2.71 per share.

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. No option may have a term in excess of ten years.

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NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

Acquisitions

On November 12, 2013, Sonkei Pharmaceuticals, Inc. (Sonkei), a development stage biopharmaceutical company focused on the development and commercialization of an experimental drug with novel pharmacology for the treatment of depression, 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. Cyrenaic then changed its name to Minerva Neurosciences, Inc. There were certain common stockholders between Sonkei and Cyrenaic however, since the underlying investors in the venture funds are not "substantially similar", the merger will be considered a business combination with Cyrenaic being treated as the acquirer. The Company merged with Sonkei in order to acquire Sonkei's lead product candidate. The consideration paid in connection with the merger included 8,481,788 shares of the Company's common stock with a value of $2.71 per share, or $22,985,645.

The purchase price allocation is subject to completion of our analysis of the fair value of the assets and liabilities of Sonkei as of the date of the acquisition. Accordingly, the purchase price allocation below is preliminary based on September 30, 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 from estimates and assumptions based on data currently available.

This aggregate consideration of $22,985,645 has been preliminarily allocated to assets acquired and liabilities assumed based on estimated fair values at the date of acquisition as follows:

Net working capital deficit	$ (294,461)
In-process research and development	21,500,000
Goodwill	1,780,106
Purchase price	$ 22,985,645

On February 12, 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. The Company acquired Mind-NRG in order to acquire Mind-NRG's lead product candidate. The 5,185,528 shares of Minerva common stock issued as consideration for the acquisition had a value of $2.71 per share, or $14,052,781. 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. Accordingly, the purchase price allocation below is preliminary based

Minerva Neurosciences, Inc.
(Formerly CYRENAIC PHARMACEUTICALS, INC.)

(A Development Stage Company)

Notes to Financial Statements (Continued)

September 30, 2012 and 2013 and the period from April 23, 2007
(date of incorporation) to September 30, 2013 (Unaudited)

NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

on September 30, 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. The aggregate consideration of $14,052,781 has been preliminarily allocated to assets acquired and liabilities assumed based on estimated fair values at the date of acquisition as follows:

Assets	$ 2,331,000
Liabilities assumed	(1,089,000)
In-process research and development	11,900,000
Goodwill	910,781
Purchase price	$ 14,052,781

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 after giving effect to certain adjustments. The unaudited pro forma financial information for the nine months ended September 30, 2012 and 2013 combines the Company's historical results for these periods with the historical results for the comparable reporting periods for Sonkei and Mind-NRG. The unaudited pro forma financial information below is for informational purposes only and is not indicative of the results of operations or financial condition that would have been achieved if the 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.

	Nine Months Ended September 30,	
	2012	2013
	(Unaudited)	
Operating loss	$ 2,739,000	$ 2,682,000
Loss per share	$ 0.11	$ 0.10

Issuance of Common Stock

In December 2013, the Company issued 97,737 shares of common stock to the holder of the 2,875,000 shares discussed in Note 6, subject to a $97,737 nonrecourse note payable by the holder, in accordance

Minerva Neurosciences, Inc.
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Notes to Financial Statements (Continued)

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NOTE 9 — SUBSEQUENT EVENTS (CONTINUED)

with the anti-dilution agreement with the holder, after consideration of the similar agreement and acquisition of Sonkei and other factors. The accounting for the additional share issuance is consistent with the 2,875,000 shares discussed in Note 6 as the stock was purchased for a non-recourse loan, which is effectively the same as the granting of a stock option.

In December 2013, the Company issued 85,806 shares of common stock valued at $232,534 to a consultant at $0.0001 par value for services rendered.

Other

Subject to the completion of an IPO, the Company has entered into a co-development and license agreement for MIN-202, a development stage product for the treatment of insomnia, in exchange for $22,000,000. The Company has also agreed to sell $26,000,000 of common stock in a concurrent private placement at the initial public offering price.

Subject to the completion of an IPO, the Company agreed to sell $4,000,000 of common stock to former Mind-NRG stockholders in a concurrent private placement at the initial public offering price.

INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Stockholders of Minerva Neurosciences, Inc.

We have audited the accompanying financial statements of Sonkei Pharmaceuticals, Inc. (a development stage company) (the "Company"), which comprise the balance sheets as of December 31, 2011 and 2012 and the related statements of operations, stockholders' deficit, and cash flows for the years ended December 31, 2011 and 2012 and for the period from August 29, 2008 (date of incorporation) to December 31, 2012, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Sonkei Pharmaceuticals, Inc. as of December 31, 2011 and 2012 and the results of its operations and its cash flows for the years then ended and for the period from August 29, 2008 (date of incorporation) to December 31, 2012, in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter Regarding Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. The Company is a development stage enterprise engaged in new drug discovery. As discussed in Note 1 to the financial statements, the Company's operating losses since inception raise substantial doubt about its ability to continue as a going concern. Management's plans concerning this matter are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of these uncertainties. Our opinion is not modified with respect to this matter.

Emphasis of Matter Regarding Merger

As discussed in Note 9 to the financial statements, the Company was merged into Cyrenaic Pharmaceuticals, Inc. on November 12, 2013. Our opinion is not modified with respect to this matter.

/s/ Deloitte & Touche LLP

Parsippany, New Jersey
February 14, 2014

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Balance Sheets

	DECEMBER 31, 2011	DECEMBER 31, 2012
Assets		
Current assets		
Cash and cash equivalents	$ 25,856	$ 52,903
Prepaid expenses	35,014	8,532
Total current assets	60,870	61,435
Total assets	$ 60,870	$ 61,435
Liabilities and Stockholders' Equity		
Current liabilities		
Accrued expenses and other liabilities	$ 131,724	$ 103,062
Total current liabilities	131,724	103,062
Total liabilities	131,724	103,062
Commitments and contingencies		
Stockholders' deficit		
Common stock; $.0001 par value; 22,000,000 shares authorized; 4,100,000 and 5,013,520 shares issued and outstanding as of December 31, 2011 and 2012, respectively	410	501
Additional paid-in capital	5,638,684	6,705,459
Deficit accumulated during the development stage	(5,709,948)	(6,747,587)
Total stockholders' deficit	(70,854)	(41,627)
Total liabilities and stockholders' deficit	$ 60,870	$ 61,435

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Operations

	YEAR ENDED DECEMBER 31,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31, 2012
	2011	2012	
Expenses			
Research and development	$ 278,915	$ 485,900	$ 5,033,944
General and administrative	377,670	555,204	1,709,836
Total expenses	656,585	1,041,104	6,743,780
Loss from operations	(656,585)	(1,041,104)	(6,743,780)
Foreign exchange gains / (losses)	(1,331)	3,292	(36,693)
Interest income	1,125	173	32,886
Net loss	$ (656,791)	$ (1,037,639)	$ (6,747,587)
Net loss per share, basic and diluted	$ (0.16)	$ (0.22)	$ (1.92)
Weighted average shares outstanding, basic and diluted	4,004,795	4,682,213	3,506,723

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Stockholders' Deficit

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at August 29, 2008 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash, at $1.39 per share, net of $13,100 of costs	1,400,000	140	1,933,418	—	1,933,558
Net loss	—	—	—	(844,290)	(844,290)
Balances at December 31, 2008	1,400,000	140	1,933,418	(844,290)	1,089,268
Sale of common stock for cash, at $1.37 per share	2,200,000	220	3,019,313	—	3,019,533
Net loss	—	—	—	(3,097,230)	(3,097,230)
Balances at December 31, 2009	3,600,000	360	4,952,731	(3,941,520)	1,011,571
Net loss	—	—	—	(1,111,637)	(1,111,637)
Balances at December 31, 2010	3,600,000	360	4,952,731	(5,053,157)	(100,066)
Sale of common stock for cash, at $1.37 per share	500,000	50	685,953	—	686,003
Net loss	—	—	—	(656,791)	(656,791)
Balances at December 31, 2011	4,100,000	410	5,638,684	(5,709,948)	(70,854)
Sale of common stock for cash, at $1.27 per share	800,000	80	1,013,432	—	1,013,512
Issuance of common stock to a consultant	113,520	11	53,343	—	53,354
Net loss	—	—	—	(1,037,639)	(1,037,639)
Balances at December 31, 2012	5,013,520	$ 501	$ 6,705,459	$ (6,747,587)	$ (41,627)

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Statements of Cash Flows

	YEAR ENDED DECEMBER 31,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO DECEMBER 31, 2012
	2011	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
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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
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NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Research and development costs:

Costs incurred in connection with research and development activities are expensed as incurred. These costs include licensing fees to use certain technology in the Company's research and development projects as well as fees paid to consultants and various entities that perform certain research and testing on behalf of the Company, costs related to acquiring clinical trial material and costs related to compliance with regulatory requirements. Costs for certain development activities, such as clinical trials are recognized based on an evaluation of the progress to completion of specific tasks using data such as patient enrollment, clinical site activations, or information provided by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expenses.

Income taxes:

The Company utilizes the liability method of accounting for income taxes as required by FASB ASC Topic 740 *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax reporting bases of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. Uncertain tax positions are evaluated in accordance with this topic and if appropriate, the amount of unrecognized tax benefits are recorded within deferred tax assets. Deferred tax assets are evaluated for realization based on a more-likely-than-not criterion in determining if a valuation allowance should be provided. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

ASC Topic 740 also clarifies the accounting for uncertainty in income taxes recognized in the financial statements. The interpretation prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. ASC Topic 740 provides guidance on the recognition of interest and penalties related to income taxes. There was no interest or penalties related to income taxes for the years ended December 31, 2011 and 2012 and for the period from August 29, 2008 (date of incorporation) to December 31, 2012. The Company has elected to treat interest and penalties, to the extent they arise, as a component of income taxes. Income tax years beginning in 2009 for federal and state purposes are generally subject to examination by taxing authorities, although net operating losses from all prior years are subject to examinations and adjustments for at least three years following the year in which the tax attributes are utilized.

Stock-based compensation:

The Company recognizes compensation cost relating to share-based payment transactions in its operating results using a fair-value measurement method, in accordance with ASC-718 *Compensation — Stock Compensation*. ASC-718 requires all share based payments to employees, including grants of employee stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company will determine the fair value of share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

estimate fair value. The method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield, expected forfeiture rate and expected life of the options.

Grants to non-employees are accounted for in accordance with ASC-505-50 *Equity-Based Payments to Non-Employees*. The date of expense recognition is the earlier of the date at which a commitment for performance by the counterparty to earn the equity instrument is reached or the date at which the counterparty's performance is complete. The Company determines the fair value of share based awards granted to non-employees similar to the way fair value of awards are determined for employees except that certain assumptions used in the Black-Scholes option-pricing model, such as expected life of the option, may be different and the fair value of each unvested award is adjusted at the end of each period for any change in fair value from the previous valuation until the award vests.

Foreign currency transactions:

The Company's functional currency is the U.S. dollar. The Company pays certain vendor invoices in the respective foreign currency. The Company records an expense in U.S. dollars at the time the liability is incurred. Changes in the applicable foreign currency rate between the date an expense is recorded and the payment date is recorded as a foreign currency gain or loss.

Loss per share:

Basic loss per share excludes dilution and is computed by dividing net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that shared in the earnings of the entity.

Recent accounting pronouncements:

In December 2011, the FASB issued ASU 2011-12 *"Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05".* This update stated that the specific requirement to present items that are reclassified from other comprehensive income (loss) to net income (loss) alongside their respective components of net income (loss) and other comprehensive income (loss) will be deferred. In February 2013, the FASB issued ASU 2013-02 *"Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*". This update requires companies to present the effects on the line items of net income (loss) of significant reclassifications out of accumulated other comprehensive income(loss) if the amount being reclassified is required under GAAP to be reclassified in its entirety to net income (loss) in the same reporting period. ASU 2013-02 is effective prospectively for the Company for fiscal years, and interim periods within those years, beginning after December 15, 2013. The Company does not expect its adoption to have a material impact on its financial statements.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 3 — ACCRUED EXPENSES AND OTHER LIABILITIES

	December 31, 2011	December 31, 2012
Accrued research and development costs	$ 69,023	$ 37,930
Accrued professional fees	5,444	13,441
Accrued consulting costs	32,032	2,945
Accrued expenses due to related parties	23,961	33,803
Other	1,264	14,943
	$ 131,724	$ 103,062

NOTE 4 — NET LOSS PER SHARE OF COMMON STOCK

Diluted loss per share is the same as basic loss per share for all periods presented as the effects of potentially dilutive items were anti-dilutive given the Company's net loss. Basic loss per share is computed by dividing net loss by the weighted-average number of common shares outstanding.

The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Year Ended December 31,		August 29, 2008 (date of incorporation) through December 31, 2012
	2011	2012	
Net loss	$ (656,791)	$ (1,037,639)	$ (6,747,587)
Weighted average shares of common stock outstanding	4,004,795	4,682,213	3,506,723
Net loss per share of common stock — basic and diluted	$ (0.16)	$ (0.22)	$ (1.92)

Stock options to purchase 1,112,500 shares of the Company's common stock (see Note 6) outstanding at December 31, 2011 and 2012 have been excluded from the computation of diluted weighted average shares outstanding, as they are antidilutive.

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation dated September 1, 2008, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the lead compound known as SON-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. The Company will pay a tiered royalty for net sales of

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 5 — LICENSE AGREEMENT (CONTINUED)

product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. An initial license fee of $500,000 was paid in 2008 and expensed as part of research and development expense. Through the date of the below mentioned amendment, the Company was required to make certain payments up to $57,500,000 upon achievement of certain commercial milestones.

Under the License Agreement, the Company has to have the first patient enrolled in either a Phase IIa study or a Phase IIb study in MDD with a product containing MIN-117 by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestones by one year increments by making an extension payment in connection with each one year extension. If the Company fails to achieve this development milestone by April 2015, as may be extended, the licensor may elect to terminate the License Agreement. In January 2014 the Company has renegotiated the structure of the license such that the Company will be required to make certain milestone payments upon achievement of one development milestone and certain commercial milestones up to $47,500,000. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits.

NOTE 6 — STOCKHOLDERS' DEFICIT

Common Stock

The Company is authorized to issue up to 22,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From August 29, 2008 (date of incorporation) through December 31, 2012, the Company sold 4,900,000 shares of common stock for net proceeds of $6,652,606 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase of up to 17,400,000 shares depending on the success of clinical milestones.

Common Stock Issuances

On March 30, 2012, the Company issued 1,112,500 shares of its common stock in exchange for a nonrecourse note payable of $1,479,736 (or approximately $1.33 per share, the "Original Price"). The note payable is due in a single installment in April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the promissory note in connection with the Company repurchasing common stock from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company or after April 30, 2015, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through December 31, 2012, neither the put or call options were exercised.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 6 — STOCKHOLDERS' DEFICIT (CONTINUED)

In accordance with ASC 718-10-25, the purchase of stock in exchange for a nonrecourse loan effectively is the same as granting a stock option. If the value of the underlying shares falls below the loan amount, the stock holder will relinquish the stock in lieu of repaying the loan and would be in the same position as if he or she never purchased the stock. Further, as the shares sold subject to the nonrecourse note are considered an option for accounting purposes, the Company did not record a note or shares outstanding on the balance sheet. The Company also did not recognize interest income on the note as that interest is included in the exercise price of the option. The ultimate holder of the option can only benefit from the instrument if he continues to provide services to the Company through the time of a change in control, as defined. As a change in control is not deemed probable as of December 31, 2012, stock-based compensation expense will not be recorded until a change in control occurs at the then fair value of the option.

In February 2012, the Company sold 113,520 shares of its common stock to a consultant at $0.0001 par value for an aggregate purchase price of $11.35. The Company has recognized the fair value of the shares less the par value as an administrative expense on the date of sale. Such expense amounted to $53,343 for the year ended December 31, 2012 and the period from August 29, 2008 (inception) to December 31, 2012.

NOTE 7 — INCOME TAXES

Net deferred tax assets (liabilities) as of December 31, 2011 and 2012 consist of the following:

	2011	2012
Deferred Tax Assets:		
Net operating loss carryforwards	$ 1,616,578	$ 1,860,366
Research and development tax credits	3,884	3,884
Deferred start-up and license costs	571,097	720,171
Gross deferred tax assets	2,191,559	2,584,421
Valuation allowance	(2,191,559)	(2,584,421)
Net deferred taxes	$ —	$ —

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 7 — INCOME TAXES (CONTINUED)

A reconciliation between the Company's effective tax rate and the federal statutory rate for the years ended December 31, 2011 and 2012 are as follows:

	2011	2012
Federal statutory rate	(34.0%)	(34.0%)
Permanent differences	—	1.70%
State income taxes	(5.94%)	(5.94%)
Valuation allowance	39.94%	38.24%
Effective tax rate	0.0%	0.0%

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets. The valuation allowance increased by approximately $400,000 during the year ended December 31, 2012.

As of December 31, 2012, the Company has approximately $4,700,000 of federal and New Jersey net operating losses that will begin to expire in 2027 and in 2014, respectively. As of December 31, 2012, the Company had approximately $4,000 of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2012 or will occur upon consummation of the transactions set forth in Note 9. Such a change of ownership could limit the utilization of the net operating losses, and could be triggered by subsequent sales of securities by the Company or its stockholders.

NOTE 8 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the years ended December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012, these reimbursements were $32,695, $33,192 and $156,032, respectively.

An investor provides accounting and other services to the Company for $60,000 per year. For the years ended December 31, 2011 and 2012 and the period from August 29, 2008 (date of incorporation) to

SONKEI PHARMACEUTICALS, INC.

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Notes To Financial Statements (Continued)

December 31, 2011 and 2012 and the period from
August 29, 2008 (date of incorporation) to December 31, 2012

NOTE 8 — RELATED PARTY TRANSACTIONS (CONTINUED)

December 31, 2012, the total expense recognized in operating results in connection with services provided was $60,000, $60,000 and $255,000, respectively.

For the year ended December 31, 2012, the Company retained the services of certain consultants who were also stockholders of the Company (see Note 6). The total expense recognized by the Company in connection with the consulting services was $42,359 for the year ended December 31, 2012 and the period from August 29, 2008 (date of incorporation) to December 31, 2012.

Accrued expenses due to related parties listed in Note 3 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates. Also included in accrued expenses due to related parties as of December 31, 2011 is $23,903 due to Cyrenaic for reimbursement of expenses paid on Sonkei's behalf.

NOTE 9 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through February 14, 2014, the date which the financial statements were available for issuance.

Bridge Loan

On November 6, 2013, the Company issued convertible promissory notes for approximately $700,000 to stockholders of the Company, which mature on June 30, 2014 and are payable on demand on such date. The notes have a stated interest rate of 8% per annum.

If the Company sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the qualified financing, as defined, and the convertible notes have not been paid in full, then the outstanding principal balance of the convertible notes and accrued interest thereon shall convert into the Qualified Stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of Qualified Stock multiplied by 80%. For financial reporting purposes, the conversion feature will be bifurcated from the note payable and separately valued. A qualified financing shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5,000,000, which sale or sales shall take place on or before the maturity date; provided, however, that an Initial Public Offering ("IPO") shall not be deemed a qualified financing. If an IPO should occur, then the convertible note plus accrued interest automatically converts at the price per share issued in the IPO. Subsequent to April 30, 2014, Investors may elect to convert the convertible notes and accrued interest into common stock of the Company at a conversion price of $1 per share common share.

Merger

On November 12, 2013, the Company was merged into Cyrenaic with Cyrenaic being the survivor company. Each share of Sonkei common stock was automatically converted into the right to receive 1.340778 shares of Cyrenaic common stock or 8,481,788 shares in total. Cyrenaic then changed its name to Minerva Neurosciences, Inc.

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Balance Sheets
(Unaudited)

	DECEMBER 31, 2012	SEPTEMBER 30, 2013
Assets		
Current assets		
Cash and cash equivalents	$ 52,903	$ 5,163
Prepaid expenses	8,532	1,765
Total current assets	61,435	6,928
Total assets	$ 61,435	$ 6,928
Liabilities and Stockholders' Deficit		
Current liabilities		
Accrued expenses and other liabilities	$ 103,062	$ 301,389
Total current liabilities	103,062	301,389
Total liabilities	103,062	301,389
Commitments and contingencies		
Stockholders' deficit		
Common stock; $.0001 par value; 22,000,000 shares authorized; 5,013,520 and 5,213,520 shares issued and outstanding as of December 31, 2012 and September 30, 2013, respectively	501	521
Additional paid-in capital	6,705,459	6,964,556
Deficit accumulated during the development stage	(6,747,587)	(7,259,538)
Total stockholders' deficit	(41,627)	(294,461)
Total liabilities and stockholders' deficit	$ 61,435	$ 6,928

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Operations
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30,
	2012	2013	2013
Expenses			
Research and development	$ 393,189	$ 328,207	$ 5,351,757
General and administrative	446,841	185,784	1,906,014
Total expenses	840,030	513,991	7,257,771
Loss from operations	(840,030)	(513,991)	(7,257,771)
Foreign exchange gains / (losses)	6,381	2,040	(34,653)
Interest income	154	—	32,886
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Net loss per share, basic and diluted	$ (0.18)	$ (0.10)	$ (1.94)
Weighted average shares outstanding, basic and diluted	4,604,496	5,173,890	3,751,425

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Stockholders' Deficit
(Unaudited)

	COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	SHARES	AMOUNT			
Balances at August 29, 2008 (date of incorporation)	—	$ —	$ —	$ —	$ —
Sale of common stock for cash at $1.39 per share, net of costs of $13,100	1,400,000	140	1,933,418	—	1,933,558
Net loss	—	—	—	(844,290)	(844,290)
Balances at December 31, 2008	1,400,000	140	1,933,418	(844,290)	1,089,268
Sale of common stock for cash at $1.37 per share	2,200,000	220	3,019,313	—	3,019,533
Net loss	—	—	—	(3,097,230)	(3,097,230)
Balances at December 31, 2009	3,600,000	360	4,952,731	(3,941,520)	1,011,571
Net loss	—	—	—	(1,111,637)	(1,111,637)
Balances at December 31, 2010	3,600,000	360	4,952,731	(5,053,157)	(100,066)
Sale of common stock for cash at $1.37 per share	500,000	50	685,953	—	686,003
Net loss	—	—	—	(656,791)	(656,791)
Balances at December 31, 2011	4,100,000	410	5,638,684	(5,709,948)	(70,854)
Sale of common stock for cash at $1.27 per share	800,000	80	1,013,432	—	1,013,512
Issuance of common stock to a consultant	113,520	11	53,343	—	53,354
Net loss	—	—	—	(1,037,639)	(1,037,639)
Balances at December 31, 2012	5,013,520	501	6,705,459	(6,747,587)	(41,627)
Sale of common stock for cash at $1.30 per share	200,000	20	259,097	—	259,117
Net loss	—	—	—	(511,951)	(511,951)
Balances at September 30, 2013	5,213,520	$ 521	$ 6,964,556	$ (7,259,538)	$ (294,461)

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.
(A Development Stage Company)
Condensed Statements of Cash Flows
(Unaudited)

	NINE MONTHS ENDED SEPTEMBER 30,		PERIOD FROM AUGUST 29, 2008 (DATE OF INCORPORATION) TO SEPTEMBER 30, 2013
	2012	2013	
Cash flows from operating activities			
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Adjustments to reconcile net loss to net cash used in operating activities:			
Unrealized foreign exchange (gains) / losses	9,626	1,811	1,811
Stock-based compensation expense	53,343	—	53,343
Changes in operating assets and liabilities			
Prepaid expenses and other assets	33,323	6,767	(1,765)
Accrued expenses and other liabilities	54,407	196,516	299,578
Net cash used in operating activities	(682,796)	(306,857)	(6,906,571)
Cash flows from financing activities			
Proceeds from sales of common stock	695,813	259,117	6,924,834
Stock issuance costs	—	—	(13,100)
Net cash provided by financing activities	695,813	259,117	6,911,734
Net (decrease) increase in cash and cash equivalents	13,017	(47,740)	5,163
Cash and cash equivalents			
Beginning of period	25,856	52,903	—
End of period	$ 38,873	$ 5,163	$ 5,163

See accompanying notes to financial statements

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 1 — NATURE OF OPERATIONS AND LIQUIDITY

Nature of Operations

Sonkei Pharmaceuticals, Inc. ("Sonkei" or the "Company") was incorporated on August 29, 2008. The Company is a development stage biopharmaceutical company focused on the development and commercialization of an experimental drug for the treatment of major depressive disorder or MDD, which the Company licensed in 2008 (see Note 5). The Company has been operating as a virtual company with no employees and managed by the Board of Directors. On November 12, 2013, Sonkei was merged into Cyrenaic Pharmaceuticals Inc. ("Cyrenaic") with Cyrenaic being the survivor company (see Note 9). Sonkei was affiliated with Cyrenaic through certain common ownership.

Going Concern

The Company's primary efforts to date have been devoted to raising capital and research and development. The Company has limited capital resources and has experienced recurring net losses and negative cash flows from operations since inception. The Company also has an accumulated deficit of $7,259,538 as of September 30, 2013. Management expects these conditions to continue for the foreseeable future. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern. Operations have been financed to date by proceeds from the sale of common stock. In November 2013, the Company issued approximately $700,000 in convertible notes payable to existing investors (see Note 9). The Company will need to raise additional capital to fund long-term operations and further clinical development. The Company believes that it will be able to obtain additional working capital through additional equity financings or other arrangements to fund operations; however, there can be no assurance that such additional financing, if available, can be obtained on terms acceptable to the Company. If the Company is unable to obtain such additional financing, future operations would need to be scaled back or discontinued. Accordingly, there is substantial doubt regarding the Company's ability to continue as a going concern. As mentioned above, on November 12, 2013, Sonkei was merged into Cyrenaic with Cyrenaic being the survivor company (see Note 9).

The accompanying financial statements have been prepared as though the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

NOTE 2 — SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation:

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") for interim financial reporting and as required by Regulation S-X, Rule 10-01. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of the Company's management, the accompanying unaudited financial statements contain all adjustments (consisting of items of a normal and recurring nature) necessary to present fairly the financial position as of September 30, 2013 and the results of operations and cash flows for the nine months ended September 30, 2012 and 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.

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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.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 4 — NET LOSS PER SHARE OF COMMON STOCK (CONTINUED)

The following table sets forth the computation of basic and diluted loss per share for common stockholders:

	Nine Months Ended September 30,		August 29, 2008 (date of incorporation) through September 30, 2013
	2012	2013	
Net loss	$ (833,495)	$ (511,951)	$ (7,259,538)
Weighted average shares of common stock outstanding	4,604,496	5,173,890	3,751,425
Net loss per share of common stock — basic and diluted	$ (0.18)	$ (0.10)	$ (1.94)

Stock options to purchase 1,112,500 shares of the Company's common stock (see Note 6) outstanding at September 30, 2012 and 2013 have been excluded from the computation of diluted weighted average shares outstanding, as they would have been antidilutive:

NOTE 5 — LICENSE AGREEMENT

The Company has entered into a license agreement with Mitsubishi Tanabe Pharma Corporation dated as of September 1, 2008, as amended (the "License Agreement"). Under the terms of the License Agreement, the Company acquired an exclusive license to the lead compound known as SOK-117 (subsequently renamed MIN-117) and other data included within the valid claims of certain patents licensed to the Company under the License Agreement. The license is for world-wide rights other than certain countries in Asia, including China, Japan, India and South Korea. The Company will pay a tiered royalty for net sales of product by it or any of its affiliates or sublicensees containing the licensed compound ranging from the high single digits to the low teens depending on net sales of products under the License Agreement. An initial license fee of $500,000 was paid in 2008 and expensed as part of research and development expense. Through the date of the below mentioned amendment, the Company was required to make certain payments up to $47,500,000 upon achievement of certain development and commercial milestones.

Under the License Agreement, the Company has to have the first patient enrolled in either a Phase IIa study or a Phase IIb study in MDD with a product containing MIN-117 by the end of April 2015. If the Company fails to achieve this milestone, the Company may elect to extend the timeline to achieve the milestones by one year increments by making an extension payment in connection with each one year extension. If the Company fails to achieve this development milestone by April 2015, as may be extended, the licensor may elect to terminate the License Agreement. In January 2014, the Company renegotiated the structure of the license such that the Company will be required to make certain milestone payments upon achievement of one development milestone and certain commercial milestones up to $47,500,000. In addition, in the event that the Company sells the rights to the license, the licensor will be entitled to a percentage of milestone payments in the low teens and a percentage of royalties received by the Company in the low double digits.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 6 — STOCKHOLDERS' DEFICIT

Common Stock

The Company is authorized to issue up to 22,000,000 shares of common stock. The Company is required to receive affirmative votes of 77% of common stockholders to approve certain transactions.

From August 29, 2008 (date of incorporation) through September 30, 2013, the Company sold 5,100,000 shares of common stock for net proceeds of $6,911,723 over several closings to the same investors (2 families of venture capital funds) in equal proportion pursuant to a stock purchase agreement among the stockholders. The stock purchase agreement provided for several closings of the share purchase of up to 17,400,000 shares depending on the success of clinical milestones.

Common Stock Issuances

On March 30, 2012, the Company issued 1,112,500 shares of its common stock in exchange for a non-recourse note payable of $1,479,736 (or approximately $1.33 per share, the "Original Price"). The note payable is due in a single installment in April 30, 2015. The note bears interest at the rate of 0.19% per annum and is secured solely by the underlying stock. The stock purchase agreement contains i) a right of first refusal held by the Company, whereby if a third party buyer offers to buy the holder's stock at a certain price, then the Company has the right to purchase the stock at that same price; and ii) a standard drag-along in case of a sale of the Company. In lieu of payment, the holder is entitled to offset amounts owed under the promissory note in connection with the Company repurchasing common stock from the holder. The Company has the option (a call option) to repurchase the shares if the holder ceases to provide services to the Company through April 30, 2015, at the Original Price. The holder has the option (a put option) to require the Company to repurchase the shares at any time at the Original Price. Through September 30, 2013, neither the put or call options were exercised.

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

In February 2012, the Company sold 113,520 shares of common stock to a consultant at $0.0001 par value for an aggregate purchase price of $11.35. The Company has recognized the fair value of the shares less the par value as an administrative expense on the date of sale. Such expense amounted to $53,343 for the nine months ended September 30, 2012 and the period from August 29, 2008 (date of incorporation) to September 30, 2013.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 7 — INCOME TAXES

There was no income tax provision for income taxes for the nine months ended September 30, 2013 and 2012 or for any period since incorporation due to losses.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. Based upon the level of historical taxable losses and the uncertainty of future taxable income over the periods which the Company will realize the benefits of its net deferred tax assets, management believes it is more likely than not that the Company will not realize the benefits on the balance of its net deferred tax asset and, accordingly, the Company has established a full valuation allowance on its net deferred tax assets.

As of December 31, 2012, the Company has approximately $4,700,000 of federal and New Jersey net operating losses that will begin to expire in 2027 and in 2014, respectively. As of December 31, 2012, the Company had approximately $4,000 of federal research and development credits that will begin to expire in 2027. The Internal Revenue Code ("IRC") limits the amounts of net operating loss carryforwards that a company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. The Company has not performed a detailed analysis to determine whether an ownership change has occurred as of December 31, 2012 or will occur upon consummation of the transactions set forth in Note 9. Such a change of ownership could limit the utilization of the net operating losses, and could be triggered by subsequent sales of securities by the Company or its stockholders.

NOTE 8 — RELATED PARTY TRANSACTIONS

The Company reimburses certain expenses paid by its investors incurred on behalf of the Company. For the nine months ended September 30, 2012 and 2013 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, these reimbursements were $9,914, $726 and $156,759, respectively.

An investor provides accounting and other services to the Company for $60,000 per year. For the nine months ended September 30, 2012 and 2013 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, the total expense recognized in operating results in connection with services provided was $45,000, $45,000 and $300,000, respectively.

During the nine months ended September 30, 2012 and 2013, the Company retained the services of certain consultants who were also stockholders of the Company (see Note 6). The total expense recognized by the Company in connection with these consulting services was $24,750, $31,935 and $74,294 for the nine months ended September 30, 2013 and 2012 and the period from August 29, 2008 (date of incorporation) to September 30, 2013, respectively.

SONKEI PHARMACEUTICALS, INC.

(A Development Stage Company)

Notes To Financial Statements (Continued)

September 30, 2012 and 2013 and the period from
August 29, 2008 (date of incorporation) to September 30, 2013 (Unaudited)

NOTE 8 — RELATED PARTY TRANSACTIONS (CONTINUED)

Accrued expenses due to related parties listed in Note 3 include expenses related to the above mentioned transactions that have not been paid at the balance sheet dates.

NOTE 9 — SUBSEQUENT EVENTS

The Company evaluated subsequent events for financial reporting purposes through February 14, 2014, the date which the financial statements were available for issuance.

Bridge Loan

On November 6, 2013, the Company issued convertible promissory notes for approximately $700,000 to stockholders of the Company, which mature on June 30, 2014 and are payable on demand on such date. The notes have a stated interest rate of 8% per annum.

If the Company sells shares of its capital stock (the "Qualified Stock") to investors (the "Investors") in the qualified financing, as defined, and the convertible notes have not been paid in full, then the outstanding principal balance of the convertible notes and accrued interest thereon shall convert into the Qualified Stock sold at the first closing of the qualified financing at a conversion price equal to the price per share paid by the Investors for each share of Qualified Stock multiplied by 80%. For financial reporting purposes, the conversion feature will be bifurcated from the note payable and separately valued. A qualified financing shall mean the first sale of the Qualified Stock, in one transaction or series of related transactions with aggregate gross proceeds to the Company of at least $5,000,000, which sale or sales shall take place on or before the maturity date; provided, however, that an Initial Public Offering ("IPO") shall not be deemed a qualified financing. If an IPO should occur, then the convertible note plus accrued interest automatically converts at the price per share issued in the IPO. Subsequent to April 30, 2014, Investors may elect to convert the convertible notes and accrued interest into common stock of the Company at a conversion price of $1 per share common share.

Merger

On November 12, 2013, the Company was merged into Cyrenaic with Cyrenaic being the survivor company. Each share of Sonkei common stock was automatically converted into the right to receive 1.340778 shares of Cyrenaic common stock or 8,481,788 shares in total. Cyrenaic then changed its name to Minerva Neurosciences, Inc.

Independent Auditor's Report

To the Board of Directors of
Mind-NRG SA

We have audited the accompanying financial statements of Mind-NRG SA (a development stage company), which comprise the balance sheets as of December 31, 2012 and 2011, and the related statements of operations, of stockholders' (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, 2012.

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, 2012 and 2011, 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, 2012 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 2 to the financial statements, the Company has had no revenues and has an accumulated deficit and negative working capital as of December 31, 2012. These conditions raise substantial doubt about its ability to continue as a going concern. Management's plans regarding those

matters also are described in Note 2. 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

/s/ LUC SCHULTHESS	/s/ BLAKE AUCHEY
Luc Schulthess	Blake Auchey

Geneva, Switzerland
January 23, 2014

Mind-NRG SA
(A development stage enterprise)
BALANCE SHEETS

	31 DECEMBER 2012 €	31 DECEMBER 2011 €
Cash and cash equivalents	47,469	91,083
Prepaid expenses and other current assets	6,977	100,815
Total current assets	**54,446**	**191,898**
Total Assets	**54,446**	**191,898**
Accounts payable	150,665	72,743
Total current liabilities	**150,665**	**72,743**
Total Liabilities	**150,665**	**72,743**
Commitment and contingencies (Note G)	—	—
Common Stock, CHF 1 par value, 800 shares authorized, issued and outstanding at 31 December 2012 and 31 December 2011	592	592
Non-voting Shares, CHF 1 par value, 112,199 shares and 93,629 shares authorized at 31 December 2012 and 31 December 2011, respectively; 106,515 shares and 85,129 shares issued and outstanding at 31 December 2012 and 31 December 2011, respectively	81,006	63,613
Series A Convertible Preferred Shares, CHF 1 par value, 170,500 shares and 140,200 shares authorized, issued and outstanding at 31 December 2012 and 31 December 2011, respectively	129,690	104,756
Additional paid in capital	1,895,730	1,535,038
Deficit accumulated during the development stage	(2,203,236)	(1,584,843)
Total Stockholders' (Deficit)/Equity	**(96,219)**	**119,155**
Total Liabilities and Stockholders' (Deficit)/Equity	**54,446**	**191,898**

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, 2011 €	CUMULATIVE PERIOD FROM 20 AUGUST 2010 (DATE OF INCEPTION) TO 31 DECEMBER 2012 €
Research and development	494,244	761,358	1,980,734
General and administrative	124,815	117,723	282,323
Total operating expenses	**619,059**	**879,081**	**2,263,057**
Loss from operations	619,059	879,081	2,263,057
Interest income	(158)	(324)	(692)
Exchange gains, net	(508)	(16,498)	(59,129)
Net loss	**618,393**	**862,259**	**2,203,236**

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		ADDITIONAL PAID IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	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		ADDITIONAL PAID IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	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**

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF STOCKHOLDERS' (DEFICIT)/EQUITY (Continued)

	COMMON STOCK		NON-VOTING SHARES		SERIES A CONVERTIBLE PREFERRED SHARES		ADDITIONAL PAID IN CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	TOTAL
	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)**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF CASH FLOWS

	YEAR ENDED DECEMBER 31, 2012 €	YEAR ENDED DECEMBER 31, 2011 €	CUMULATIVE PERIOD FROM 20 AUGUST 2010 (DATE OF INCEPTION) TO 31 DECEMBER 2012 €
Cash flows from operating activities			
Net loss	(618,393)	(862,259)	(2,203,236)
Adjustments to reconcile net loss to net cash used in operating activities:			
Foreign exchange gains/losses on non- operating activities	(508)	(16,498)	(59,129)
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	93,838	1,490	(6,977)
Accounts payable	74,926	(4,216)	147,669
Net cash used in operating activities	**(450,137)**	**(881,483)**	**(2,121,673)**
Cash flows from financing activities			
Proceeds from issuance of Common Stock	—	—	592
Proceeds from issuance of Non-Voting Shares	17,393	19,217	81,006
Proceeds from issuance of Series A Convertible Preferred Shares	394,705	496,345	2,053,627
Payment of issue costs	(6,083)	(11,125)	(25,211)
Net cash generated from financing activities	**406,015**	**504,437**	**2,110,013**
Effect of exchange rate changes on cash and cash equivalents	508	16,497	59,129
Net (decrease)/increase in cash and cash equivalents	**(43,614)**	**(360,549)**	**47,469**
Cash and cash equivalents at beginning of year	91,083	451,631	—
Cash and cash equivalents at end of year	**47,469**	**91,083**	**47,469**

The accompanying notes are an integral part of these statements.

NOTE A — NATURE OF BUSINESS

Mind-NRG SA, ("the Company") was incorporated in the Canton of Geneva, Switzerland on August 20, 2010 ("Inception"). The Company is devoted to the development of NRG-101 in psychiatric and neurologic diseases. NRG-101 is a neurotrophic 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 resulting in total Stockholders' deficit of €96,219 as of December 31, 2012. 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.

Subsequent to year end, the Company has raised additional equity financing first in the form of Non-voting shares, Series A Preferred Shares and Series B Preferred Shares in February 2013, July 2013 and October 2013 for a total of €2,335,892 (Note I).

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.

NOTE B — SIGNIFICANT ACCOUNTING POLICIES (Continued)

5. Start-Up Costs

Costs of start-up activities, including organizational costs, are expensed as incurred.

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 and cash equivalents, 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 and cash equivalents. The Company's cash and cash equivalents are 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.

NOTE B — SIGNIFICANT ACCOUNTING POLICIES (Continued)

12. Stock-based compensation

The Company accounts for employee and non-employee stock awards under *ASC 718,* 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 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 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.

NOTE C — FAIR VALUE MEASUREMENT (Continued)

The Company had no financial instruments that are fair valued on a recurring basis in the balance sheets as of December 30, 2012 and December 31, 2011. 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 and Series A Convertible 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 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 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 31 December 2012 and 2011, a total of 43,699 and 25,129 of Non-Voting Shares anti-dilution rights were exercised, respectively.

Series A Preferred Shares holders have equal voting rights to Common Stock holders but have dividends and liquidations preferences. The holder of each Series A 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 A Preferred Shares shall automatically be converted into Common Stock upon a decision of holders of more than 50% of the Series A Preferred Shares. The Series A Preferred Shares are not redeemable. No dividends will be paid to any shareholders unless such dividend is also paid to the Series A Preferred Shareholders.

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, Series A Preferred Shares are entitled to preference over Common Stock and Non-Voting Shares with respect to the distribution of the proceeds.

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 issued shares 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 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 31 December 2012 and 2011, none of these Preemptive Rights were exercised.

NOTE D — STOCKHOLDERS' (DEFICIT)/EQUITY (Continued)

Common Stock

In August 2010, the Company issued 800 Common Stock of CHF 1 par value for €0.74 per share.

Non-Voting Shares

In August 2010, the Company issued 60,000 Non-Voting Shares of CHF 1 par value for €0.74 per share.

In April 2011, the Company issued 25,129 Non-Voting Shares of CHF 1 par value for €0.76 per share resulting from exercising Non-Voting Stock Anti-dilution rights.

In June 2012, the Company issued 18,570 Non-Voting Shares of CHF 1 par value for €0.82 per share resulting from exercising Non-Voting Stock Anti-dilution rights.

In December 2012, the Company issued 2,816 Non-Voting Shares of CHF 1 par value for €0.74 per share in connection with its Stock Option Plan (Note E).

Series A Convertible Preferred Shares

In August 2010, the Company issued 99,200 Series A Convertible Preferred Shares of CHF 1 par value for €11.71 per share.

In April 2011, the Company issued 41,000 Series A Convertible Preferred Shares of CHF 1 par value for €12.11 per share.

In March 2012, the Company issued 30,300 Series A Convertible Preferred Shares of CHF 1 par value for €13.03 per share.

NOTE E — STOCK OPTION PLAN

In August 2010, the Company implemented a Stock Option Plan (the "Plan"). The total share options approved for authorization under this plan were 8,500.

In January 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. There were zero and 2,816 options outstanding at 31 December 2012 and 2011, respectively.

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 was estimated at the grant date using the Black Scholes Model and was deemed immaterial.

NOTE F — INCOME TAXES

Since inception till December 31, 2012, the Company has been incurring a net operating loss and accordingly, no provision for income tax has been recorded.

At December 31, 2012, the Company had net operating loss carry forwards for income tax purposes of approximately €2,385,781 (2011: €1,747,586) for Swiss tax purposes out of which €1,747,586 will expire in 2018 and €638,194 will expire in 2019 (2011: €1,747,586 will expire in 2018). A full valuation

NOTE F — INCOME TAXES (Continued)

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, 2012 and December 31, 2011, 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 (Note H). 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 Q1 2015 and expects to reach first patient in Phase II during Q2 2016.

NOTE H — RELATED PARTIES

The Company has entered into a Product IP assignment agreement with of one its stockholders. For the years ended December 31, 2012 and December 31, 2011, the Company paid €nil and €292,659 in royalty and services fees to related parties, respectively.

NOTE I — SUBSEQUENT EVENTS

In March 2013, the Company issued 27,196 Series A Convertible Preferred Shares of CHF 1 par value for €12.72 per share for a total of €345,899.

In August 2013, the Company issued 43,648 Series B Convertible Preferred Shares of CHF 1 par value for €45.29 per share for a total of €1,976,667.

In September 2013, the Company issued 16,668 non-voting shares of CHF 1 par value for €0.80 per share for a total of €13,327 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 for a total of €22,783.

The Company has evaluated subsequent events for financial statement purposes occurring through January 23, 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.

Mind-NRG SA
(A development stage enterprise)
BALANCE SHEETS
(in Euro, except share and per share amounts)

	30 September 2013 (unaudited) €	31 December 2012 (audited) €
Cash and cash equivalents	1,718,539	47,469
Prepaid expenses and other current assets	5,984	6,977
Total current assets	**1,724,523**	**54,446**
Total Assets	**1,724,523**	**54,446**
Accounts payable	271,367	150,665
Accrued expenses	33,667	—
Total current liabilities	**305,034**	**150,665**
Total Liabilities	**305,034**	**150,665**
Common Stock, CHF 1 par value, 800 shares authorized, issued and outstanding at 30 September 2013 and 31 December 2012	592	592
Non-voting Shares, CHF 1 par value, 224,546 shares and 112,199 shares authorized at 30 September 2013 and 31 December 2012, respectively; 123,183 shares and 106,515 shares issued and outstanding at 30 September 2013 and 31 December 2012, respectively	94,332	81,006
Series A Convertible Preferred Shares, CHF 1 par value, 197,696 shares and 170,500 shares authorized, issued and outstanding at 30 September 2013 and 31 December 2012, respectively	151,540	129,690
Series B Convertible Preferred Shares, CHF 1 par value, 43,648 shares and nil shares authorized, issued and outstanding at 30 September 2013 and 31 December 2012, respectively	35,072	—
Additional paid in capital	4,126,981	1,895,730
Deficit accumulated during the development stage	(2,989,029)	(2,203,236)
Total Stockholders' Equity/(Deficit)	**1,419,489**	**(96,219)**
Total Liabilities and Stockholders' Equity	**1,724,523**	**54,446**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF OPERATIONS
(unaudited)

	Nine months ended 30 September 2013 €	Nine months ended 30 September 2012 €	Cumulative Period from 20 August 2010 (date of inception) to 30 September 2013 €
Research and development	561,210	283,200	2,541,944
General and administrative	241,705	86,400	524,028
Total operating expenses	**802,915**	**369,599**	**3,065,972**
Loss from operations	802,915	369,599	3,065,972
Interest income	(131)	(140)	(823)
Exchange (gains)/losses, net	(16,991)	3,269	(76,120)
Net loss	**785,793**	**372,729**	**2,989,029**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF STOCKHOLDERS' EQUITY/(DEFICIT)

	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**

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF STOCKHOLDERS' EQUITY/(DEFICIT) (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)	—	€ —	—	€ —	—	€ —	—	€ —	€ —	€ —	e ASC 815
	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	—	€ —	—	€ —	—	€	—	€	€ —	€ (785,793)	€ (785,793)
Other comprehensive income/(loss)	—	€ —	—	€	—	€	—	€ —	€ —	€ —	€ —
	800	**€ 592**	**106,515**	**€81,006**	**170,500**	**€129,690**	**—**	**€ —**	**€1,895,730**	**€ (2,989,029)**	**€ (882,011)**
Issue of Series A Preferred Shares in March 2013 for €12.72 per share	—	€ —	—	€ —	27,196	€ 21,851	—	€ —	€ 324,048	€ —	€ 345899
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
Issuance cost	—	€ —	—	€ —	—	€ —	—	€ —	€ (34,392)	€ —	€ (34,392)
Balance at September 30, 2013 (unaudited)	**800**	**€ 592**	**123,183**	**€94,332**	**197,696**	**€151,540**	**43,648**	**€35,072**	**€4,126,981**	**€ (2,989,029)**	**€1,419,489**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
STATEMENTS OF CASH FLOWS
(unaudited)

	Nine months ended 30 September 2013 €	Nine months ended 30 September 2012 €	Cumulative Period from 20 August 2010 (date of inception) to 30 September 2013 €
Cash flows from operating activities			
Net loss	(785,793)	(372,729)	(2,989,029)
Adjustments to reconcile net loss to net cash used in operating activities:			
Foreign exchange gains/losses on non- operating activities	(16,991)	3,269	(76,120)
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	993	94,923	(5,984)
Accounts payable and accrued expenses	154,369	39,065	302,037
Net cash used in operating activities	**(647,422)**	**(235,472)**	**(2,769,095)**
Cash flows from financing activities			
Proceeds from issuance of Common Stock	—	—	592
Proceeds from issuance of Non-Voting Shares	13,327	15,309	94,333
Proceeds from issuance of Series A Convertible Preferred Shares	345,899	394,705	2,399,526
Proceeds from issuance of Series B Convertible Preferred Shares	1,976,667	—	1,976,667
Payment of issue costs	(34,392)	(6,083)	(59,603)
Net cash generated from financing activities	**2,301,501**	**403,931**	**4,411,514**
Effect of exchange rate changes on cash and cash equivalents	16,991	(3,269)	76,120
Net increase in cash and cash equivalents	**1,671,070**	**165,190**	**1,718,539**
Cash and cash equivalents at beginning of period	47,469	91,083	—
Cash and cash equivalents at end of period	**1,718,539**	**256,273**	**1,718,539**

The accompanying notes are an integral part of these statements.

Mind-NRG SA
(A development stage enterprise)
NOTES TO FINANCIAL STATEMENTS

(unaudited)

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) for interim financial information. Accordingly, they do not include all of the information and footnotes required by US GAAP for complete financial statements. In our opinion, all adjustments, consisting only of normal recurring adjustments necessary for a fair presentation, have been included. Results of operations for the nine months ended September 30, 2013 are not necessarily indicative of the results of operations that will be realized for the year ending December 31, 2013. For a complete set of accounting policies and footnotes, please refer to the Company's report for the year ended December 31, 2012.

The financial information included for the nine months ended 30 September 2013 and 30 September 2012 are unaudited.

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 as of September 30, 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

Mind-NRG SA
(A development stage enterprise)
NOTES TO FINANCIAL STATEMENTS (Continued)

(unaudited)

NOTE B — SIGNIFICANT ACCOUNTING POLICIES (Continued)

sheet date. An entity remains in the development stage until such time as, among other factors, revenues have been realized.

4. 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.

5. 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.

6. 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* 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.

NOTE C — STOCKHOLDERS' EQUITY/((DEFICIT)

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 guidance. As the economic characteristics and risks of these warrants were clearly and closely related to those of the Non-Voting Shares

Mind-NRG SA
(A development stage enterprise)
NOTES TO FINANCIAL STATEMENTS (Continued)

(unaudited)

NOTE C — STOCKHOLDERS' EQUITY/((DEFICIT) (Continued)

issued, they were not separated from them and the full sales proceeds were allocated to the Non-Voting Shares. As of 30 September 2013 and 31 December 2012, a total of 60,367 and 43,699 of Non-Voting Shares Anti-dilution rights were exercised, respectively.

Series B and Series A preferred Shares have dividends and liquidations preferences. The holder of each Series A Preferred Share and each Series B 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 Preferred Shares and the Series A Preferred Shares shall automatically be converted into Common Stock upon a decision of holders of more than 50% of the Series B Preferred Shares and the Series A Preferred Shares. The Series A Preferred Shares and the Series B 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 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 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 30 September 2013 and 31 December 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 Preferred Shares and the Series A Preferred Shares are entitled to preference over Common Stock and Non-Voting Shares with respect to the distribution of the proceeds.

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 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 30 September 2013 and 31 December 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.

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.

Mind-NRG SA
(A development stage enterprise)
NOTES TO FINANCIAL STATEMENTS (Continued)

(unaudited)

NOTE C — STOCKHOLDERS' EQUITY/((DEFICIT) (Continued)

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 D — COMMITMENTS AND CONTINGENCIES

At September 30, 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 Q1 2015 and expects to reach first patient in Phase II during Q2 2016.

NOTE E — 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 nine months period ended September 30, 2013 and 2012 the Company paid €48,274 and €nil in consulting services fees to this related party, respectively. In addition, the Company owed €8,116 to this related as of 30 September 2013 (30 September 2012: nil).

NOTE F — SUBSEQUENT EVENTS

In October 2013, the Company issued 28,479 non-voting shares of CHF 1 par value for €0.80 per share for a total of €22,783 resulting from exercising Non-Voting Stock Anti-dilution rights.

The Company has evaluated subsequent events for financial statement purposes occurring through January 23, 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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Common Stock

Preliminary Prospectus

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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	$ *
FINRA filing fee	*
NASDAQ Global Select Market listing fee	*
Legal fees and expenses	*
Accounting fees and expenses	*
Printing and engraving expenses	*
Transfer agent and registrar fees and expenses	*
Blue sky 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.

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

Exhibit No.	Description of Exhibit
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
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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
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

Exhibit No.	Description of Exhibit
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

* To be filed by amendment

\# Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment and this exhibit is being submitted separately to the SEC.

† 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 , 2014.

MINERVA NEUROSCIENCES, INC.

By: _____

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
_____ Rogerio Vivaldi Coelho	President, Chief Executive Officer and Director (Principal Executive Officer)	, 2014
_____ Geoff Race	Chief Financial Officer (Principal Financial and Accounting Officer)	, 2014
_____ Marc Beer	Director	, 2014

Signature	Title	Date
Francesco de Rubertis	Director	, 2014
Michèle Ollier	Director	, 2014
Lorenzo Pellegrini	Director	, 2014
Robert Seltzer	Director	, 2014

EXHIBIT INDEX

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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
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

* To be filed by amendment

\# Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment and this exhibit is being submitted separately to the SEC.

† Indicates a management contract or compensatory plan

Exhibit 3.3

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

CYRENAIC PHARMACEUTICALS, INC.

* * * * *

Cyrenaic Pharmaceuticals, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

1. The name of the Corporation is Cyrenaic Pharmaceuticals, Inc. The Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on April 23, 2007, and was corrected by a Certificate of Correction filed with the Secretary of State of the State of Delaware on May 16, 2007 (as so corrected, the "Existing Certificate of Incorporation").

2. This Amended and Restated Certificate of Incorporation was duly adopted by the board of directors and the stockholders of the Corporation in accordance with Section 242 and Section 245 of the General Corporation Law of the State of Delaware.

3. The Existing Certificate of Incorporation is hereby amended and restated in its entirety to read as follows.

FIRST: The name of the corporation is Cyrenaic Pharmaceuticals, Inc. (the "Corporation").

SECOND: The registered office of the Corporation is to be located at 2711 Centerville Road, Suite 400, in the City of Wilmington, in the County of New Castle, in the State of Delaware. The name of its registered agent at that address is Corporation Service Company.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware ("GCL").

FOURTH:

A. Authorization. The total number of shares which the Corporation is authorized to issue is forty-five million (45,000,000) shares of common stock with a par value of $0.0001 per share ("Common Stock").

B. Common Stock.

1. General. Except as required by law or as provided in this Amended and Restated Certificate of Incorporation (this "Certificate"), all shares of Common Stock shall be identical in all respects and shall entitle the holders thereof to the same rights and privileges, subject to the same qualifications, limitations and restrictions.

2. Dividends and Distributions. Subject to the provisions of this Certificate, the holders of shares of Common Stock shall be entitled to receive such dividends and distributions, payable in cash or otherwise, as may be declared thereon by the Board of Directors of the Corporation (the "Board") from time to time out of assets or funds of the Corporation legally available therefor. The holders of shares of Common Stock shall be entitled to share equally, on a per share basis, in such dividends or distributions.

3. Voting. Each holder of Common Stock shall be entitled to vote on each matter (a) expressly required by the GCL or (b) otherwise submitted to a vote of the stockholders of the Corporation, including the election of directors, except for matters subject to a separate class vote by one or more classes and/or series of capital stock of the Corporation other than Common Stock to the extent such separate class vote is required by the GCL or this Certificate. Each such holder shall be entitled to one vote per share of Common Stock on each matter to be voted on by such stock.

4. Restriction and Limitation On Corporate Action. The holders of Common Stock shall vote on, and the affirmative vote of the holders of at least seventy-seven percent (77%) of the then outstanding shares of Common Stock shall be required to authorize, any action by the Corporation to:

(a) amend or modify the certificate of incorporation, by-laws or similar governing instrument(s) of the Corporation, whether by merger, consolidation or otherwise;

(b) pay or declare any dividend or distribution on any shares of the Corporation's capital stock;

(c) create or assume any indebtedness for borrowed money, whether interest bearing or non-interest bearing, or guaranty any such indebtedness of another person, that would result in an increase in the Corporation's total indebtedness of more than $250,000;

(d) make any payment on account of, or set aside any assets for a sinking or other analogous fund for, the purchase redemption, defeasance, retirement or other acquisition of any equity interest of the Corporation, other than redemptions from officers, directors, employees or consultants to the Corporation upon termination of their employment or association with the Corporation pursuant to agreements between such persons and the Corporation approved by the Board;

(e) change the nature of the business of the Corporation as carried on August 29, 2007 or change the Corporation's business or development plan;

(f) increase the size of the Board beyond four (4) directors, or change the method of electing such directors;

(g) voluntarily liquidate, wind-up, dissolve or commence any bankruptcy, insolvency, reorganization, debt arrangement or other case or proceeding under any bankruptcy or insolvency law or make a general assignment for the benefit of creditors;

(h) cause any acquisition, lease, license or transfer of all or substantially all of the assets of the Corporation, or transaction or series of transactions involving the Corporation, or its securities, whether by consolidation, merger, purchase of shares of capital stock or other reorganization or combination or otherwise, in which the holders of the Corporation's outstanding shares of capital stock immediately prior to such transaction own, immediately after such transaction, securities representing less than fifty percent (50%) of the voting power of the entity surviving such transaction;

(i) authorize or issue, or obligate itself to authorize or issue, any Common Stock or other equity securities of the Corporation (including securities convertible or exchangeable for equity securities or any securities issuable to directors or employees of, or consultants to, the Corporation pursuant to option plans, employment agreements, incentive plans or other similar agreements) other than pursuant to that certain Stock Purchase Agreement, dated as of August 29, 2007, by and among the Corporation and the signatories party thereto;

(j) enter into or amend strategic alliances, business combinations, technology licensing arrangements or other corporate partnering relationships having a nominal value of greater than $250,000 or constituting a material portion of the Corporation's intellectual property;

(k) approve the Corporation's annual budget;

(l) appoint or change the Corporation's Chief Executive Officer;

(m) change the Corporation's auditors; and

(n) enter into or amend any transaction or agreement with an affiliate, officer, employer, director or shareholder of the Corporation.

FIFTH: The name and mailing address of the incorporator is as follows:

Name	**Address**
Elizabeth Kiviat	Morgan, Lewis & Bockius LLP 502 Carnegie Center Princeton, NJ 08540

SIXTH: The Board of Directors of the Corporation is expressly authorized to adopt, amend or repeal the bylaws of the Corporation, but the stockholders may make additional bylaws and may alter or repeal any bylaw whether adopted by them or otherwise.

SEVENTH: Elections of directors need not be by written ballot except and to the extent provided in the bylaws of the Corporation.

EIGHTH: (a) A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the GCL as the same exists or may hereafter be amended. Any amendment, modification or repeal of the foregoing sentence shall not adversely affect any right or protection of a director of the Corporation hereunder in respect of any act or omission occurring prior to the time of such amendment, modification or repeal.

(b) To the full extent permitted by the GCL as it exists on the date hereof or may hereafter be amended, and any other applicable law, the Corporation shall indemnify any director or officer of the Corporation who is or was a party to any proceeding by reason of the fact that he or she is or was such a director or officer or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise. The Board of Directors is hereby empowered to contract in advance to indemnify any director or officer.

(c) Neither any amendment nor repeal of this Article EIGHTH, nor the adoption of any provision of this Corporation's Certificate of Incorporation inconsistent with this Article EIGHTH, shall eliminate or reduce the effect of this Article EIGHTH in respect of any matter occurring, or any action or proceeding accruing or arising or that, but for this Article EIGHTH, would accrue or arise, prior to such amendment, repeal or adoption of an inconsistent provision.

NINTH: The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders are granted subject to this reservation.

IN WITNESS WHEREOF, the undersigned has caused this Amended and Restated Certificate of Incorporation to be signed by its duly authorized representative, on the 29th day of August 2007.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel Cabo
Name: Daniel Cabo
Title: Chief Financial Officer

Exhibit 3.4

CERTIFICATE OF MERGER

MERGING

SONKEI PHARMACEUTICALS, INC.
(a Delaware corporation)

WITH AND INTO

CYRENAIC PHARMACEUTICALS, INC.
(a Delaware corporation)

Pursuant to the provisions of Section 251 of the General Corporation Law of the State of Delaware

The undersigned hereby certifies as follows as of November 12, 2013:

FIRST: The name and state of incorporation of each of the constituent corporations participating in the merger herein certified (the "Constituent Corporations") are as follows:

(i) Sonkei Pharmaceuticals, Inc., which is incorporated under the laws of the State of Delaware ("Sonkei"); and

(ii) Cyrenaic Pharmaceuticals, Inc., which is incorporated under the laws of the State of Delaware ("Cyrenaic").

SECOND: An Agreement and Plan of Merger dated as of November 12, 2013 (the "Merger Agreement"), by and between the Constituent Corporations, providing for the merger of Sonkei with and into Cyrenaic (the "Merger"), has been approved, adopted, certified, executed and acknowledged by each of the Constituent Corporations in accordance with Section 251 of the General Corporation Law of the State of Delaware (the "DGCL").

THIRD: Upon the filing of this Certificate of Merger with the Secretary of the State of Delaware, Sonkei will merge with and into Cyrenaic, and Cyrenaic will be the surviving corporation in the Merger (the "Surviving Corporation"). The Surviving Corporation will continue its existence under the name "Minerva Neurosciences, Inc."

FOURTH: The First Article of the Certificate of Incorporation of the Surviving Corporation is hereby amended in its entirety to read as follows:

"The name of the corporation is Minerva Neurosciences, Inc. (the "Corporation")."

FIFTH: An executed copy of the Merger Agreement is on file at the principal place of

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business of the Surviving Corporation in accordance with Section 251 and Section 103 of the DGCL. The address of the principal place of business of the Surviving Corporation is 245 First Street, Suite 1800, Cambridge, MA 02142.

SIXTH: A copy of the Merger Agreement will be furnished by the Surviving Corporation, on request and without cost, to any stockholder of any of the Constituent Corporations.

SEVENTH: The Merger shall be effective upon the filing of this Certificate of Merger with the Secretary of State of the State of Delaware.

[*Remainder of page intentionally left blank.*]

IN WITNESS WHEREOF, the undersigned has caused this Certificate of Merger to be duly executed by the undersigned authorized officer as of the date first written above.

Surviving Corporation:

CYRENAIC PHARMACEUTICALS, INC.

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

BYLAWS
OF

CYRENAIC PHARMACEUTICALS, INC.
(a Delaware Corporation)

Adopted as of May 16, 2007

ARTICLE I
OFFICES AND FISCAL YEAR

SECTION 1.01. Registered Office. The registered office of the corporation shall be Corporation Service Company, 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle, State of Delaware until otherwise established by resolution of the board of directors, and a certificate certifying the change is filed in the manner provided by statute.

SECTION 1.02. Other Offices. The corporation may also have offices at such other places within or without the State of Delaware as the board of directors may from time to time determine or the business of the corporation requires.

SECTION 1.03. Fiscal Year. The fiscal year of the corporation shall end on the 31st of December in each year.

ARTICLE II
NOTICE - WAIVERS - MEETINGS

SECTION 2.01. Notice, What Constitutes. Whenever, under the provisions of the Delaware General Corporation Law ("GCL") or the certificate of incorporation or of these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail or by telegram (with messenger service specified), telex or TWX (with answerback received) or courier service, charges prepaid, or by facsimile transmission to the address (or to the telex, TWX, facsimile or telephone number) of the person appearing on the books of the corporation, or in the case of directors, supplied to the corporation for the purpose of notice. If the notice is sent by mail, telegraph or courier service, it shall be deemed to be given when deposited in the United States mail or with a telegraph office or courier service for delivery to that person or, in the case of telex or TWX, when dispatched, or in the case of facsimile transmission, when received.

SECTION 2.02. Notice of Meetings of Board of Directors. Notice of a regular meeting of the board of directors need not be given. Notice of every special meeting of the board of directors

shall be given to each director by telephone or in writing at least 24 hours (in the case of notice by telephone, telex, TWX or facsimile transmission) or 48 hours (in the case of notice by telegraph, courier service or express mail) or five days (in the case of notice by first class mail) before the time at which the meeting is to be held. Every such notice shall state the time and place of the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the board need be specified in a notice of the meeting.

SECTION 2.03. Notice of Meetings of Stockholders. Written notice of the place, date and hour of every meeting of the stockholders, whether annual or special, shall be given to each stockholder of record entitled to vote at the meeting not less than ten nor more than 60 days before the date of the meeting. Every notice of a special meeting shall state the purpose or purposes thereof. If the notice is sent by mail, it shall be deemed to have been given when deposited in the United States mail, postage prepaid, directed to the stockholder at the address of the stockholder as it appears on the records of the corporation.

SECTION 2.04. Waivers of Notice.

(a) Written Waiver. Whenever notice is required to be given under any provisions of the GCL or the certificate of incorporation or these bylaws, a written waiver, signed by the person or persons entitled to the notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors, or members of a committee of directors need be specified in any written waiver of notice of such meeting.

(b) Waiver by Attendance. Attendance of a person at a meeting, either in person or by proxy, shall constitute a waiver of notice of such meeting, except where a person attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting was not lawfully called or convened.

SECTION 2.05. Exception to Requirements of Notice.

(a) General Rule. Whenever notice is required to be given, under any provision of the GCL or of the certificate of incorporation or these bylaws, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given.

(b) Stockholders Without Forwarding Addresses. Whenever notice is required to be given, under any provision of the GCL or the certificate of incorporation or these bylaws, to any stockholder to whom (i) notice of two consecutive annual meetings, and all notices of meetings or of the taking of action by written consent without a meeting to such person during the period between such two consecutive annual meetings, or (ii) all, and at least two, payments (if sent by first class

mail) of dividends or interest on securities during a 12 month period, have been mailed addressed to such person at his address as shown on the records of the corporation and have been returned undeliverable, the giving of such notice to such person shall not be required. Any action or meeting which shall be taken or held without notice to such person shall have the same force and effect as if such notice had been duly given. If any such person shall deliver to the corporation a written notice setting forth the person's then current address, the requirement that notice be given to such person shall be reinstated.

SECTION 2.06. Conference Telephone Meetings. One or more directors may participate in a meeting of the board, or of a committee of the board, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other. Participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

ARTICLE III
MEETINGS OF STOCKHOLDERS

SECTION 3.01. Place of Meeting. All meetings of the stockholders of the corporation shall be held at the registered office of the corporation, or at such other place within or without the State of Delaware as shall be designated by the board of directors in the notice of such meeting.

SECTION 3.02. Annual Meeting. The board of directors may fix and designate the date and time of the annual meeting of the stockholders, and at said meeting the stockholders then entitled to vote shall elect directors and shall transact such other business as may properly be brought before the meeting.

SECTION 3.03. Special Meetings. Special meetings of the stockholders of the corporation may be called at any time by the chairman of the board, a majority of the board of directors, the president, or at the request, in writing, of stockholders entitled to cast at least a majority of the votes that all stockholders are entitled to cast at the particular meeting. At any time, upon the written request of any person or persons who have duly called a special meeting, which written request shall state the purpose or purposes of the meeting, it shall be the duty of the secretary to fix the date of the meeting which shall be held at such date and time as the secretary may fix, not less than ten nor more than 60 days after the receipt of the request, and to give due notice thereof. If the secretary shall neglect or refuse to fix the time and date of such meeting and give notice thereof, the person or persons calling the meeting may do so.

SECTION 3.04. Quorum, Manner of Acting and Adjournment.

(a) Quorum. The holders of a majority of the shares entitled to vote, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders except as

otherwise provided by the GCL, by the certificate of incorporation or by these bylaws. If a quorum is not present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present or represented. At any such adjourned meeting at which a quorum is present or represented, the corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) Manner of Acting. Directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. In all matters other than the election of directors, the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote thereon shall be the act of the stockholders, unless the question is one upon which, by express provision of the applicable statute, the certificate of incorporation or these bylaws, a different vote is required in which case such express provision shall govern and control the decision of the question. The stockholders present in person or by proxy at a duly organized meeting can continue to do business until adjournment, notwithstanding withdrawal of enough stockholders to leave less than a quorum.

SECTION 3.05. Organization. At every meeting of the stockholders, the chairman of the board, if there be one, or in the case of a vacancy in the office or absence of the chairman of the board, one of the following persons present in the order stated: the vice chairman, if one has been appointed, the president, the vice presidents in their order of rank or seniority, a chairman designated by the board of directors or a chairman chosen by the stockholders entitled to cast a majority of the votes which all stockholders present in person or by proxy are entitled to cast, shall act as chairman, and the secretary, or, in the absence of the secretary, an assistant secretary, or in the absence of the secretary and the assistant secretaries, a person appointed by the chairman, shall act as secretary.

SECTION 3.06. Voting.

(a) General Rule. Unless otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote, in person or by proxy, for each share of capital stock having voting power held by such stockholder.

(b) Voting and Other Action by Proxy.

(1) A stockholder may execute a writing authorizing another person or persons to act for the stockholder as proxy. Such execution may be accomplished by the stockholder or the authorized officer, director, employee or agent of the stockholder signing such writing or causing his or her signature to be affixed to such writing by any reasonable means including, but not limited to, by facsimile signature. A stockholder may authorize another person or persons to act for the stockholder as proxy by transmitting or authorizing the transmission of a telegram, cablegram, or other means of electronic transmission to the person who will be the holder of the proxy or to a

proxy solicitation firm, proxy support service organization or like agent duly authorized by the person who will be the holder of the proxy to receive such transmission if such telegram, cablegram or other means of electronic transmission sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other electronic transmission was authorized by the stockholder.

(2) No proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period.

(3) A duly executed proxy shall be irrevocable if it states that it is irrevocable and if, and only so long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the corporation generally.

SECTION 3.07. Consent of Stockholders in Lieu of Meeting. Any action required to be taken at any annual or special meeting of stockholders of the corporation, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered to the corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Every written consent shall bear the date of signature of each stockholder who signs the consent and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated consent delivered in the manner required in this section to the corporation, written consents signed by a sufficient number of holders to take action are delivered to the corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

SECTION 3.08. Voting Lists. The officer who has charge of the stock ledger of the corporation shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting. The list shall be arranged in alphabetical order, showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten days prior to the meeting either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

SECTION 3.09. Inspectors of Election.

(a) Appointment. All elections of directors shall be by written ballot, unless otherwise provided in the certificate of incorporation; the vote upon any other matter need not be by ballot. In advance of any meeting of stockholders the board of directors may appoint inspectors, who need not be stockholders, to act at the meeting. If inspectors are not so appointed, the chairman of the meeting may, and upon the demand of any stockholder or his proxy at the meeting and before voting begins shall, appoint inspectors. The number of inspectors shall be either one or three, as determined, in the case of judges appointed upon demand of a stockholder, by stockholders present entitled to cast a majority of the votes which all stockholders present are entitled to cast thereon. No person who is a candidate for office shall act as an inspector. In case any person appointed as an inspector fails to appear or fails or refuses to act, the vacancy may be filled by appointment made by the board of directors in advance of the convening of the meeting, or at the meeting by the chairman of the meeting.

(b) Duties. If inspectors are appointed, they shall determine the number of shares outstanding and the voting power of each, the shares represented at the meeting, the existence of a quorum and the authenticity, validity and effect of proxies, shall receive votes or ballots, shall hear and determine all challenges and questions in any way arising in connection with the right to vote, shall count and tabulate all votes, shall determine the result, and shall do such acts as may be proper to conduct the election or vote with fairness to all stockholders. If there be three inspectors of election, the decision, act or certificate of a majority shall be effective in all respects as the decision, act or certificate of all.

(c) Report. On request of the chairman of the meeting or of any stockholder or his proxy, the inspectors shall make a report in writing of any challenge or question or matter determined by them, and execute a certificate of any fact found by them.

ARTICLE IV
BOARD OF DIRECTORS

SECTION 4.01. Powers. All powers vested by law in the corporation shall be exercised by or under the authority of, and the business and affairs of the corporation shall be managed under the direction of, the board of directors.

SECTION 4.02. Number and Term of Office. The board of directors shall consist of such number of directors, not less than 1, as may be determined from time to time by resolution of the board of directors. Each director shall hold office until the expiration of the term for which he or she was selected and until a successor shall have been elected and qualified or until his or her earlier death, resignation or removal. Directors need not be residents of Delaware or stockholders of the corporation.

SECTION 4.03. Vacancies. Vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having a right to vote as a single class may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until their successors are elected and qualified or until their earlier death, resignation or removal. If there are no directors in office, then an election of directors may be held in the manner provided by statute. Whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the provisions of the certificate of incorporation, vacancies and newly created directorships of such class or classes or series may be filled by a majority of the directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of the whole board (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

SECTION 4.04. Resignations. Any director may resign at any time upon written notice to the corporation. The resignation shall be effective upon receipt thereof by the corporation or at such subsequent time as shall be specified in the notice of resignation and, unless otherwise specified in the notice, the acceptance of the resignation shall not be necessary to make it effective.

SECTION 4.05. Removal. Any director or the entire board of directors may be removed, with or without cause, by the holders of shares entitled to cast a majority of the votes which all stockholders are entitled to cast at an election of directors.

SECTION 4.06. Organization. At every meeting of the board of directors, the chairman of the board, if there be one, or, in the case of a vacancy in the office or absence of the chairman of the board, one of the following officers present in the order stated: the vice chairman of the board, if there be one, the president, the vice presidents in their order of rank and seniority, or a chairman chosen by a majority of the directors present, shall preside, and the secretary, or, in the absence of the secretary, an assistant secretary, or in the absence of the secretary and the assistant secretaries, any person appointed by the chairman of the meeting, shall act as secretary.

SECTION 4.07. Place of Meeting. Meetings of the board of directors shall be held at such place within or without the State of Delaware as the board of directors may from time to time determine, or as may be designated in the notice of the meeting.

SECTION 4.08. Regular Meetings. Regular meetings of the board of directors shall be held without notice at such time and place as shall be designated from time to time by resolution of the board of directors.

SECTION 4.09. Special Meetings. Special meetings of the board of directors shall be held whenever called by the president or by two or more of the directors.

SECTION 4.10. Quorum, Manner of Acting and Adjournment.

(a) General Rule. At all meetings of the board, a majority of the total number of directors shall constitute a quorum for the transaction of business. If a quorum is not present at any meeting of the board of directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the board of directors, except as may be otherwise specifically provided by the GCL or by the certificate of incorporation.

(b) Unanimous Written Consent. Unless otherwise restricted by the certificate of incorporation, any action required or permitted to be taken at any meeting of the board of directors may be taken without a meeting, if all members of the board consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the board.

SECTION 4.11. Executive and Other Committees.

(a) Establishment. The board of directors may, by resolution adopted by a majority of the whole board, establish an Executive Committee and one or more other committees, each committee to consist of one or more directors. The board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee and the alternate or alternates, if any, designated for such member, the member or members of the committee present at any meeting and not disqualified from voting, whether or not they constitute a quorum, may unanimously appoint another director to act at the meeting in the place of any such absent or disqualified member.

(b) Powers. The Executive Committee, if established, and any such other committee to the extent provided in the resolution establishing such committee shall have and may exercise all the power and authority of the board of directors in the management of the business and affairs of the corporation and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the certificate of incorporation (except that a committee may, to the extent authorized in the resolution or resolutions providing for the issuance of shares of stock adopted by the board of directors as provided in Section 151(a) of the GCL, fix the designation and any of the preferences or rights of such shares relating to dividends, redemption, dissolution, any distribution of assets of the corporation or the conversion into, or the exchange of such shares for, shares of any other class or classes or any other series of the same or any other class or classes of stock of the corporation or fix the number of shares of any series of stock or authorize the increase or decrease of shares of any series), adopting an agreement of merger or consolidation under Section 251 or 252 of the GCL, recommending to the stockholders the sale, lease or exchange of all or substantially all of the corporation's property and assets, recommending to the stockholders a dissolution of the corporation or a revocation of a dissolution, or amending the bylaws of the corporation. The Executive

Committee shall have the power or authority to declare a dividend, to authorize the issuance of stock and to adopt a certificate of ownership and merger pursuant to Section 253 of the GCL. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the board of directors. Each committee so formed shall keep regular minutes of its meetings and report the same to the board of directors when required.

(c) Committee Procedures. The term "board of directors" or "board," when used in any provision of these bylaws relating to the organization or procedures of or the manner of taking action by the board of directors, shall be construed to include and refer to the Executive Committee or other committee of the board.

SECTION 4.12. Compensation of Directors. Unless otherwise restricted by the certificate of incorporation, the board of directors shall have the authority to fix the compensation of directors.

ARTICLE V
OFFICERS

SECTION 5.01. Number, Qualifications and Designation. The officers of the corporation shall be chosen by the board of directors and shall be a president, one or more vice presidents, a secretary, a treasurer, and such other officers as may be elected in accordance with the provisions of section 5.03 of this Article. Any number of offices may be held by the same person. Officers may, but need not, be directors or stockholders of the corporation. The board of directors may elect from among the members of the board a chairman of the board and a vice chairman of the board who shall be officers of the corporation. The chairman of the board or the president, as designated from time to time by the board of directors, shall be the chief executive officer of the corporation.

SECTION 5.02. Election and Term of Office. The officers of the corporation, except those elected by delegated authority pursuant to section 5.03 of this Article, shall be elected annually by the board of directors, and each such officer shall hold office for a term of one year and until a successor is elected and qualified, or until his or her earlier resignation or removal. Any officer may resign at any time upon written notice to the corporation.

SECTION 5.03. Subordinate Officers, Committees and Agents. The board of directors may from time to time elect such other officers and appoint such committees, employees or other agents as it deems necessary, who shall hold their offices for such terms and shall exercise such powers and perform such duties as are provided in these bylaws, or as the board of directors may from time to time determine. The board of directors may delegate to any officer or committee the power to elect subordinate officers and to retain or appoint employees or other agents, or committees thereof, and to prescribe the authority and duties of such subordinate officers, committees, employees or other agents.

SECTION 5.04. The Chairman and Vice Chairman of the Board. The chairman of the board, if there be one, or in the absence of the chairman, the vice chairman of the board, if there be

one, shall preside at all meetings of the stockholders and of the board of directors, and shall perform such other duties as may from time to time be assigned to them by the board of directors.

SECTION 5.05. The President. The president shall have general supervision over the business and operations of the corporation, subject, however, to the control of the board of directors. The president shall, in general, perform all duties incident to the office of president, and such other duties as from time to time may be assigned by the board of directors and, if the chairman of the board is the chief executive officer, the chairman of the board.

SECTION 5.06. The Vice Presidents. The vice presidents shall perform the duties of the president in the absence of the president and such other duties as may from time to time be assigned to them by the board of directors or by the president.

SECTION 5.07. The Secretary. The secretary, or an assistant secretary, shall attend all meetings of the stockholders and of the board of directors and shall record the proceedings of the stockholders and of the directors and of committees of the board in a book or books to be kept for that purpose; shall see that notices are given and records and reports properly kept and filed by the corporation as required by law; shall be the custodian of the seal of the corporation and see that it is affixed to all documents to be executed on behalf of the corporation under its seal; and, in general, shall perform all duties incident to the office of secretary, and such other duties as may from time to time be assigned by the board of directors or the president.

SECTION 5.08. The Treasurer. The treasurer, or an assistant treasurer, shall have or provide for the custody of the funds or other property of the corporation; shall collect and receive or provide for the collection and receipt of moneys earned by or in any manner due to or received by the corporation; shall deposit all funds in his or her custody as treasurer in such banks or other places of deposit as the board of directors may from time to time designate; whenever so required by the board of directors, shall render an account showing his or her transactions as treasurer and the financial condition of the corporation; and, in general, shall discharge such other duties as may from time to time be assigned by the board of directors or the president.

SECTION 5.09. Officers' Bonds. No officer of the corporation need provide a bond to guarantee the faithful discharge of the officer's duties unless the board of directors shall by resolution so require a bond in which event such officer shall give the corporation a bond (which shall be renewed if and as required) in such sum and with such surety or sureties as shall be satisfactory to the board of directors for the faithful performance of the duties of office.

SECTION 5.10. Salaries. The salaries of the officers and agents of the corporation elected by the board of directors shall be fixed from time to time by the board of directors.

ARTICLE VI
CERTIFICATES OF STOCK, TRANSFER, ETC.

SECTION 6.01. Form and Issuance.

(a) Issuance. The shares of the corporation shall be represented by certificates unless the board of directors shall by resolution provide that some or all of any class or series of stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until the certificate is surrendered to the corporation. Notwithstanding the adoption of any resolution providing for uncertificated shares, every holder of stock represented by certificates and upon request every holder of uncertificated shares shall be entitled to have a certificate signed by, or in the name of the corporation by, the chairman or vice chairman of the board of directors, or the president or vice president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary, representing the number of shares registered in certificate form.

(b) Form and Records. Stock certificates of the corporation shall be in such form as approved by the board of directors. The stock record books and the blank stock certificate books shall be kept by the secretary or by any agency designated by the board of directors for that purpose. The stock certificates of the corporation shall be numbered and registered in the stock ledger and transfer books of the corporation as they are issued.

(c) Signatures. Any of or all the signatures upon the stock certificates of the corporation may be a facsimile. In case any officer, transfer agent or registrar who has signed, or whose facsimile signature has been placed upon, any share certificate shall have ceased to be such officer, transfer agent or registrar, before the certificate is issued, it may be issued with the same effect as if the signatory were such officer, transfer agent or registrar at the date of its issue.

SECTION 6.02. Transfer. Transfers of shares shall be made on the share register or transfer books of the corporation upon surrender of the certificate therefor, endorsed by the person named in the certificate or by an attorney lawfully constituted in writing. No transfer shall be made which would be inconsistent with the provisions of Article 8, Title 6 of the Delaware Uniform Commercial Code-Investment Securities.

SECTION 6.03. Lost, Stolen, Destroyed or Mutilated Certificates. The board of directors may direct a new certificate of stock or uncertificated shares to be issued in place of any certificate theretofore issued by the corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed. When authorizing such issue of a new certificate or certificates, the board of directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or

the legal representative of the owner, to give the corporation a bond sufficient to indemnify against any claim that may be made against the corporation on account of the alleged loss, theft or destruction of such certificate or the issuance of such new certificate or uncertificated shares.

SECTION 6.04. Record Holder of Shares. The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and to hold liable for calls and assessments a person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

SECTION 6.05. Determination of Stockholders of Record.

(a) Meetings of Stockholders. In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors, and which record date shall not be more than 60 nor less than ten days before the date of such meeting. If no record date is fixed by the board of directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting unless the board of directors fixes a new record date for the adjourned meeting.

(b) Consent of Stockholders. In order that the corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors, and which date shall not be more than ten days after the date upon which the resolution fixing the record date is adopted by the board of directors. If no record date has been fixed by the board of directors, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the board of directors is required by the GCL, shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the board of directors and prior action by the board of directors is required by the GCL, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the day on which the board of directors adopts the resolution taking such prior action.

(c) Dividends. In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights of the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which

record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

ARTICLE VII
INDEMNIFICATION OF DIRECTORS, OFFICERS AND OTHER AUTHORIZED REPRESENTATIVES

SECTION 7.01. Indemnification of Authorized Representatives in Third Party Proceedings. The corporation shall indemnify any person who was or is an authorized representative of the corporation, and who was or is a party, or is threatened to be made a party to any third party proceeding, by reason of the fact that such person was or is an authorized representative of the corporation, against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such third party proceeding if such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal third party proceeding, had no reasonable cause to believe such conduct was unlawful. The termination of any third party proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not of itself create a presumption that the authorized representative did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to, the best interests of the corporation, and, with respect to any criminal third party proceeding, had reasonable cause to believe that such conduct was unlawful.

SECTION 7.02. Indemnification of Authorized Representatives in Corporate Proceedings. The corporation shall indemnify any person who was or is an authorized representative of the corporation and who was or is a party or is threatened to be made a party to any corporate proceeding, by reason of the fact that such person was or is an authorized representative of the corporation, against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such corporate proceeding if such person acted in good faith and in a manner reasonably believed to be in, or not opposed to, the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such corporate proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such authorized representative is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

SECTION 7.03. Mandatory Indemnification of Authorized Representatives. To the extent that an authorized representative or other employee or agent of the corporation has been successful on the merits or otherwise in defense of any third party or corporate proceeding or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses actually and reasonably incurred by such person in connection therewith.

SECTION 7.04. Determination of Entitlement to Indemnification. Any indemnification under section 7.01, 7.02 or 7.03 of this Article (unless ordered by a court) shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the authorized

representative or other employee or agent is proper in the circumstances because such person has either met the applicable standard of conduct set forth in section 7.01 or 7.02 or has been successful on the merits or otherwise as set forth in section 7.03 and that the amount requested has been actually and reasonably incurred. Such determination shall be made:

(1) by the board of directors by a majority vote of a quorum consisting of directors who were not parties to such third party or corporate proceeding; or

(2) if such a quorum is not obtainable, or even if obtainable, a quorum of disinterested directors so directs, by independent legal counsel in a written opinion; or

(3) by the stockholders.

SECTION 7.05. Advancing Expenses. Expenses actually and reasonably incurred in defending a third party or corporate proceeding shall be paid on behalf of an authorized representative by the corporation in advance of the final disposition of such third party or corporate proceeding upon receipt of an undertaking by or on behalf of the authorized representative to repay such amount if it shall ultimately be determined that the authorized representative is not entitled to be indemnified by the corporation as authorized in this Article. The financial ability of any authorized representative to make a repayment contemplated by this section shall not be a prerequisite to the making of an advance. Expenses incurred by other employees and agents may be so paid upon such terms and conditions, if any, as the board of directors deems appropriate.

SECTION 7.06. Definitions. For purposes of this Article:

(1) "authorized representative" shall mean any and all directors and officers of the corporation and any person designated as an authorized representative by the board of directors of the corporation (which may, but need not, include any person serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise);

(2) "corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under the provisions of this Article with respect to the resulting or surviving

corporation as such person would have with respect to such constituent corporation if its separate existence had continued;

(3) "corporate proceeding" shall mean any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor or investigative proceeding by the corporation;

(4) "criminal third party proceeding" shall include any action or investigation which could or does lead to a criminal third party proceeding;

(5) "expenses" shall include attorneys' fees and disbursements;

(6) "fines" shall include any excise taxes assessed on a person with respect to an employee benefit plan;

(7) "not opposed to the best interests of the corporation" shall include actions taken in good faith and in a manner the authorized representative reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan;

(8) "other enterprise" shall include employee benefit plans;

(9) "party" shall include the giving of testimony or similar involvement;

(10) "serving at the request of the corporation" shall include any service as a director, officer or employee of the corporation which imposes duties on, or involves services by, such director, officer or employee with respect to an employee benefit plan, its participants, or beneficiaries; and

(11) "third party proceeding" shall mean any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, or investigative, other than an action by or in the right of the corporation.

SECTION 7.07. Insurance. The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against the person and incurred by the person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Article.

SECTION 7.08. Scope of Article. The indemnification of authorized representatives and advancement of expenses, as authorized by the preceding provisions of this Article, shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any agreement, vote of stockholders or disinterested directors or

otherwise, both as to action in an official capacity and as to action in another capacity while holding such office. The indemnification and advancement of expenses provided by or granted pursuant to this Article shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be an authorized representative and shall inure to the benefit of the heirs, executors and administrators of such a person.

SECTION 7.09. Reliance on Provisions. Each person who shall act as an authorized representative of the corporation shall be deemed to be doing so in reliance upon rights of indemnification provided by this Article.

ARTICLE VIII
GENERAL PROVISIONS

SECTION 8.01. Dividends. Subject to the restrictions contained in the GCL and any restrictions contained in the certificate of incorporation, the board of directors may declare and pay dividends upon the shares of capital stock of the corporation.

SECTION 8.02. Contracts. Except as otherwise provided in these bylaws, the board of directors may authorize any officer or officers including the chairman and vice chairman of the board of directors, or any agent or agents, to enter into any contract or to execute or deliver any instrument on behalf of the corporation and such authority may be general or confined to specific instances.

SECTION 8.03. Corporate Seal. The corporation shall have a corporate seal, which shall have inscribed thereon the name of the corporation, the year of its organization and the words “Corporate Seal, Delaware”. The seal may be used by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

SECTION 8.04. Deposits. All funds of the corporation shall be deposited from time to time to the credit of the corporation in such banks, trust companies, or other depositories as the board of directors may approve or designate, and all such funds shall be withdrawn only upon checks signed by such one or more officers or employees as the board of directors shall from time to time determine.

SECTION 8.05. Corporate Records.

(a) Examination by Stockholders. Every stockholder shall, upon written demand under oath stating the purpose thereof, have a right to examine, in person or by agent or attorney, during the usual hours for business, for any proper purpose, the stock ledger, list of stockholders, books or records of account, and records of the proceedings of the stockholders and directors of the corporation, and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person’s interest as a stockholder. In every instance where an attorney or other agent shall be the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing which authorizes the attorney or other

agent to so act on behalf of the stockholder. The demand under oath shall be directed to the corporation at its registered office in Delaware or at its principal place of business. Where the stockholder seeks to inspect the books and records of the corporation, other than its stock ledger or list of stockholders, the stockholder shall first establish (1) that the stockholder has complied with the provisions of this section respecting the form and manner of making demand for inspection of such documents; and (2) that the inspection sought is for a proper purpose. Where the stockholder seeks to inspect the stock ledger or list of stockholders of the corporation and has complied with the provisions of this section respecting the form and manner of making demand for inspection of such documents, the burden of proof shall be upon the corporation to establish that the inspection sought is for an improper purpose.

(b) Examination by Directors. Any director shall have the right to examine the corporation’s stock ledger, a list of its stockholders and its other books and records for a purpose reasonably related to the person’s position as a director.

SECTION 8.06. Amendment of Bylaws. These bylaws may be altered, amended or repealed or new bylaws may be adopted either (1) by vote of the stockholders at a duly organized annual or special meeting of stockholders, or (2) by vote of a majority of the board of directors at any regular or special meeting of directors if such power is conferred upon the board of directors by the certificate of incorporation.

EXHIBIT 4.2

INVESTOR RIGHTS AGREEMENT

THIS INVESTOR RIGHTS AGREEMENT (this "Agreement") is made on August 29, 2007 (the "Effective Date") by and among Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and the Investors listed on Schedule I hereto (the "Investors").

WHEREAS, the Company proposes to issue and sell an aggregate of up to 35,000,000 shares of Common Stock, par value $.0001 per share, to certain Investors (the "New Investors") pursuant to that certain Stock Purchase Agreement of even date herewith (the "Purchase Agreement"); and

WHEREAS, as a condition to entering into the Purchase Agreement, the New Investors have requested that the Company enter into this Agreement in order to provide for certain rights and covenants as set forth herein.

NOW, THEREFORE, in consideration of the covenants and agreements set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto covenant and agree as follows:

1. GENERAL PROVISIONS

1.1 Shares Subject to this Investor Rights Agreement. The Investors expressly agree that the terms and restrictions of this Agreement shall apply to all shares of capital stock of the Company which any of them now owns or hereafter acquires by any means, including, without limitation, by purchase, assignment or operation of law, or as a result of any stock dividend, stock split, reorganization, reclassification, whether voluntary or involuntary, or other similar transaction, and to any shares of capital stock of any successor in interest of the Company, whether by sale, merger, consolidation or other similar transaction, or by purchase, assignment or operation of law (the "Shares").

1.2 No Partnership Relationship. Notwithstanding, but not in limitation of, any other provision of this Agreement, the parties hereto understand and agree that the creation, management and operation of the Company shall not create or imply a general partnership between or among the Investors and shall not make any Investor the agent or partner of any other Investor for any purpose.

1.3 Certain Definitions. As used in this Agreement, the following terms shall have the following respective meanings:

"Affiliate" means, with respect to any person or entity, any other person or entity which controls, or is controlled by, or is under common control with the subject referenced, any successor entities, and any investment funds managed by or advisor of such person or entity or an affiliate of such manager or advisor; and, for the purposes hereof, the term "control" (including the terms "controlling", "controlled by" and "under common control with") shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a person or entity, whether through the ownership of voting securities or by contract or otherwise.

"Commission" shall mean the U.S. Securities and Exchange Commission and any successor agency of the Federal government administering the Securities Act and the Exchange Act.

"Common Stock" shall mean (i) the common stock, $.0001 par value per share, of the Company, (ii) any other capital stock of the Company, however designated, authorized on or after the

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date hereof, which shall neither be limited to a fixed sum or percentage of par value in respect of the rights of the holders thereof to participate in dividends nor entitled to a preference in the distribution of assets upon the voluntary or involuntary liquidation, dissolution or winding up of the Company; and (iii) any other securities into which or for which any of the securities described in (i) or (ii) may be converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, consolidation, sale of assets or other similar transaction.

"Exchange Act" shall mean the U.S. Securities Exchange Act of 1934, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission promulgated thereunder, all as the same shall be in effect from time to time.

"Federal" shall mean with respect to any executive, legislative or judicial branch of government or other agency or organ of government, a branch or other agency or organ of the government of the United States.

"Person" shall mean an individual, corporation, partnership, joint venture, trust or unincorporated organization, or a government or any agency or political subdivision thereof.

"Qualified IPO" shall mean an underwritten public offering of Common Stock of the Company, offered on a firm commitment basis, pursuant to a registration statement filed with the Commission under the Securities Act on Form S-1 or its then equivalent, in which (i) the public offering price per share (before underwriters' commissions and expenses) is not less than $2.00, being two times the original purchase price of a share of Common Stock (such dollar amount being subject to equitable adjustment in the event of any stock dividend, reorganization, recapitalization or similar event involving a change in the Common Stock) and (ii) the aggregate net proceeds to the Company equals or exceeds $40,000,000.

The terms "register," "registered" and "registration" shall mean a registration effected by preparing and filing a registration statement in compliance with the Securities Act and applicable rules and regulations thereunder, and the declaration or ordering of the effectiveness of such registration statement, or, as the context may require, under the Exchange Act or applicable state securities laws.

"Registrable Securities" shall mean shares of Common Stock, excluding any securities which have been (a) registered under the Securities Act pursuant to an effective registration statement filed thereunder and disposed of in accordance with the registration statement covering them or (b) publicly sold pursuant to Rule 144 under the Securities Act.

"Registration Expenses" shall mean the expenses so described in Section 4.5.

"Securities Act" shall mean the U.S. Securities Act of 1933, as amended, and any similar or successor Federal statute, and the rules and regulations of the Commission thereunder, all as the same shall be in effect from time to time.

"Selling Expenses" shall mean the expenses so described in Section 4.5.

"Subsidiary" or "Subsidiaries" shall mean any corporation, partnership, trust or other entity of which the Company and/or any of its other Subsidiaries directly or indirectly owns at the time a majority of the outstanding shares of any class of equity security of such corporation, partnership, trust or other entity.

2. PERCENTAGE MAINTENANCE RIGHTS

2.1 Right of First Offer. Except with respect to "Exempt Issuances" as defined in Section 2.3, in the event that the Company proposes to issue (the "New Issuance") any (i) shares of Common Stock, (ii) warrants, options or other rights to purchase Common Stock (collectively, "Rights"), or (iii) any debentures or other securities convertible into or exchangeable for shares of Common Stock (collectively, "Convertible Securities"), the Company will first offer (the "Offer") to sell such securities to the holders of Common Stock who own at least ten percent (10%) of the Common Stock then outstanding (each, a "Major Investor") and deliver a notice to the Major Investors (the "Offer Notice") of such Offer, stating the price (or, to the extent the consideration is other than cash, the fair market value of the consideration to be paid to the Company, as determined by the Board of Directors of the Company (the "Board") and other terms and conditions thereof.

2.2 Right to Purchase Shares, Rights or Convertible Securities.

(a) Each Major Investor which, at the time of the New Issuance, is either (i) an "accredited investor" (as that term is defined in Rule 501 of the Regulation D promulgated under the Securities Act) or (ii) not a "U.S. person" (as that term is defined in Rule 902 promulgated under the Securities Act) and may purchase such securities from the Company pursuant to Regulation S promulgated under the Securities Act, shall have the right to purchase up to such number of shares of Common Stock, Rights or Convertible Securities, as applicable, of the New Issuance at the price and on the terms stated in the Offer Notice, such price to be paid in full in cash or by check at the time of issuance of such securities to the Major Investor so that, after giving effect to the New Issuance, each Major Investor who exercises such right in full will continue to maintain its same proportionate ownership of Common Stock as of the date immediately preceding the Offer, treating each Major Investor for the purpose of such computation, as the holder of the number of shares of Common Stock which would be issuable to it upon conversion, exercise and exchange of all Rights and Convertible Securities held by it on the date immediately preceding the Offer and assuming the like conversion, exercise and exchange of all such securities held by other persons. The rights set forth in this Section 2 shall be exercised by the Major Investors, if at all, by written notice (the "Acceptance Notice") to the Company delivered not later than twenty (20) days after the receipt by the Major Investors of the Offer Notice in accordance with the terms and conditions stated therein, and such right shall expire at the end of the twentieth day after the day of the receipt by the Major Investors of the Offer Notice. The rights provided in this Section 2.2 shall be assignable to any Affiliate of an Investor.

(b) If any Major Investor fails to exercise its right hereunder to purchase its proportionate ownership interest ("Equity Percentage") of the New Issuance (or fails to pay the purchase price in respect of such New Issuance in full at the proposed time of closing) (a "Nonparticipating Major Investor"), the Company shall so notify the other Major Investors in a written notice (the "Excess Securities Notice"). The Excess Securities Notice shall be given by the Company promptly after it learns of the intention of any Major Investor not to purchase any or all of its Equity Percentage of the New Issuance or the failure of any Major Investor to pay such purchase price, but in no event later than fifteen (15) days after the expiration of the 20-day period. The Major Investors who or which have agreed to purchase their Equity Percentage of the New Issuance (each, a "Participating Major Investor") shall have the right to purchase a portion of the securities not purchased by such Nonparticipating Major Investor (the "Excess Securities"), determined by dividing such Participating Major Investor's Equity Percentage by the sum of all Participating Major Investors' Equity Percentages. If a Participating Major Investor desires to exercise such right, it must provide notice of its intention to exercise such right to the Company within ten (10) days after receipt of the Excess Securities Notice from the Company (an "Excess Securities Acceptance Notice"). The twenty-five (25) day period during which (i) the Company must give the Excess Securities Notice to the other Major Investors, and (ii) each of the Participating Major Investors must give the Company an Excess Securities Acceptance Notice, is hereinafter referred to as the "Excess Securities Period."

(c) To the extent that an Acceptance Notice or Excess Securities Acceptance Notice has not been given by the Investors with respect to any portion of the New Issuance which the Investors are entitled to purchase pursuant to this Section 2, the Company shall have 120 days from the expiration of the foregoing 25-day period to sell all or any part of such portion of the New Issuance to any other person or persons, but only upon terms and conditions in all material respects, including, without limitation, unit price and interest rates, which are no more favorable to such other person or persons and no less favorable to the Company than those set forth in the Offer.

2.3 Exempt Issuances. The term "Exempt Issuances" referred to in Section 2.1 which will not give the Major Investors the rights described in Section 2.2 to any of the following equity securities:

(a) shares of Common Stock (and/or options, warrants or other Common Stock purchase rights issued pursuant to such options, warrants or other rights) issued or to be issued to employees, officers or directors of, or consultants or advisors to the Company or any Subsidiary, pursuant to compensation plans, compensation agreements, or other compensation arrangements that are approved by the Board;

(b) shares of Common Stock issuable pursuant to the Purchase Agreement;

(c) any equity securities issued for consideration other than cash pursuant to a merger, consolidation, acquisition or similar business combination that is approved by the Board;

(d) shares of Common Stock issued in connection with any stock split, stock dividend or recapitalization by the Company;

(e) any equity securities issued pursuant to any equipment leasing arrangement, or debt financing from a bank or similar financial institution; *provided*, such equipment leasing arrangement, or debt financing is approved by the Board and, if such issuances exceed in the aggregate 1,000,000 shares, the consent of the holders of at least a majority of the Common Stock;

(f) any Equity Securities issued in connection with strategic transactions involving the Company and other entities, including (i) joint ventures, manufacturing, marketing or distribution arrangements or (ii) technology transfer or development arrangements; *provided* that such strategic transactions and the issuance of shares therein has been approved by the Board and, if such issuances exceed in the aggregate 1,000,000 shares, the consent of the holders of at least a majority of the Common Stock; and

(g) any equity securities issued in connection with the Company's Qualified IPO;

2.4 Termination. The respective rights and obligations of the parties under this Section 2 shall terminate upon the closing of, and shall not apply to the offer and sale of securities in connection with, the Company's Qualified IPO.

3. TRANSFER OF REGISTRABLE SECURITIES

3.1 Restrictive Legend. Each certificate representing Registrable Securities shall, except as otherwise provided in this Section 3.1 or in Section 3.2, be stamped or otherwise imprinted with

a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

> "The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), or any other securities laws. These securities have been acquired for investment and not with a view to distribution or resale. Such securities may not be offered for sale, sold, delivered after sale, transferred, pledged or hypothecated in the absence of an effective registration statement covering such securities under the Securities Act and any other applicable securities laws, unless the holder shall have obtained an opinion of counsel reasonably satisfactory to the corporation that such registration is not required."

Upon the request of a holder of such a certificate, the Company shall remove the foregoing legend from the certificate or issue to such holder a new certificate therefor free of any transfer legend, if (i) there is an effective registration statement covering the securities represented by such certificate, (ii) with such request, the Company shall have received either the opinion referred to in Section 3.2(a)(i) or the "no-action" letter referred to in Section 3.2(a)(ii), or (iii) the request is made in connection with a proposed transfer in accordance with the provisions of Rule 144 (or any other rule permitting public sale without registration under the Securities Act).

3.2 Notice of Proposed Transfer.

(a) Prior to any proposed sale, pledge, hypothecation or other transfer of any Registrable Securities (other than under the circumstances described in Section 4.1, 4.2 or 4.3), the holder thereof shall give written notice to the Company of its intention to effect such sale, pledge, hypothecation or other transfer. Each such notice shall describe the manner of the proposed sale, pledge, hypothecation or other transfer and, if requested by the Company shall be accompanied by either (i) an opinion of counsel reasonably satisfactory to the Company to the effect that the proposed sale, pledge, hypothecation or other transfer may be effected without registration under the Securities Act or (ii) a "no action" letter from the Commission to the effect that the distribution of such securities without registration will not result in a recommendation by the staff of the Commission that action be taken with respect thereto, whereupon the holder of such stock shall be entitled to transfer such stock in accordance with the terms of its notice; provided, however, that no such opinion of counsel or "no action" letter shall be required (A) for a distribution to one or more partners or members of the transferor (in the case of a transferor that is a partnership or limited liability company) in each case in respect of the beneficial interest of such partner or member or (B) for transfers made in accordance with the provisions of Rule 144 (or any rule permitting public sale without registration under the Securities Act) including Rule 144(k). Each certificate for Registrable Securities transferred as above provided shall bear the appropriate restrictive legend set forth in Section 3.1, except that such certificate shall not bear such legend if (Y) such transfer is in accordance with the provisions of Rule 144 (or any other rule permitting public sale without registration under the Securities Act) or (Z) the opinion of counsel or "no-action" letter referred to above is to the further effect that the transferee and any subsequent transferee (other than an Affiliate of the Company) would be entitled to transfer such securities in a public sale without registration under the Securities Act or that such legend is not required to establish compliance with any provisions of the Securities Act. Notwithstanding any other provision hereof, the restrictions provided for in this Section 3.2 shall not apply to securities which are not required to bear the legend prescribed by Section 3.1 in accordance with the provisions of that Section.

(b) No such opinion of counsel or "no action" letter from the Commission, as set forth in Section 3.2(a) above, shall be required in the event of a sale, pledge, hypothecation or other

transfer of any Registrable Securities to (i) any Affiliate of an Investor, including, without limitation, any venture capital limited partnership now existing or hereafter formed which controls, is controlled by or is under common control with such Investor; and (ii) any successors or permitted assigns of any of the foregoing persons, provided that the transferee agrees in writing to be subject to this Agreement to the same extent as if such transferee were originally a signatory.

4. REGISTRATION

4.1 Required Registration.

(a) At any time after the expiration of any lock-up period under Section 4.9 below following the Company's initial public offering, one or more of the Investors who own more than twenty percent (20%) of the Common Stock of the Company then outstanding may request that the Company register for sale under the Securities Act all or a part of the Registrable Securities held by such Investor(s) in the manner specified in such notice.

(b) Following receipt of any notice under Section 4.1(a), the Company shall immediately notify in writing all holders of Registrable Securities from whom notice has not been received and such holders shall then be entitled within thirty (30) days after receipt of such notice from the Company to request the Company to include in the requested registration all or any portion of their shares of Registrable Securities. The Company shall use its best efforts to register under the Securities Act for public sale in accordance with the method of disposition specified in the notice from requesting holders described in paragraph (a) above, within one hundred eighty (180) days of its receipt of such notice, the number of shares of Registrable Securities specified in such notice (and in all notices received by the Company from other holders within thirty (30) days after the receipt of such notice by such holders). The Company shall be obligated to register the Registrable Securities pursuant to this Section 4.1 on two (2) occasions only, provided, however, that the Company shall be

obligated to effect two (2) additional registrations pursuant to this Section 4.1 to the extent that the holders of Registrable Securities were unable to include such Registrable Securities in the first registration as a result of a reduction by the managing underwriter, if any, pursuant to Section 4.1(d)). Notwithstanding anything to the contrary contained herein, no request may be made under this Section 4.1 after the effective date of a registration statement filed by the Company covering a firm commitment underwritten public offering and prior to the later to occur of the completion of the period of distribution for such offering or ninety (90) days after the effective date of such registration statement.

(c) If the holders requesting such registration intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 4.1 and the Company shall include such information in the written notice referred to in paragraph (b) above. The right of any holder to registration pursuant to this Section 4.1 shall be conditioned upon such holder's agreeing to participate in such underwriting and to permit inclusion of such holder's Registrable Securities in the underwriting. The Board shall designate the managing underwriter of such offering. A holder may elect to include in such underwriting all or a part of the Registrable Securities it holds.

(d) A registration statement filed pursuant to this Section 4.1 may, subject to the following provisions, include (i) shares of Common Stock for sale by the Company for its own account, (ii) shares of Common Stock held by officers or directors of the Company, and (iii) shares of Common Stock held by certain employees and consultants of the Company who by virtue of currently existing agreements with the Company granting them "piggy-back" registration rights are entitled to include such shares in such registration (the "Other Shareholders"), in each case for sale in accordance with the method of disposition specified by the requesting holders; provided, however, that if the number

of shares so included pursuant to clauses (i) and (ii) above exceeds the number of Registrable Securities presented by the holders requesting registration thereof, then such registration shall be deemed to be a registration in accordance with Section 4.2 and not this Section 4.1. If such registration shall be underwritten, the Company and such officers and directors and Other Shareholders proposing to distribute their shares through such underwriting shall enter into an underwriting agreement in customary form with the representative of the underwriter or underwriters selected for such underwriting on terms no less favorable to such officers, directors or Other Shareholders than the terms afforded the holders of Registrable Securities. If and to the extent that the managing underwriter determines that marketing factors require a limitation on the number of shares to be included in such registration, such exclusion, to the extent required by the managing underwriter, shall be applied in the following order: first, to the shares held by the directors and officers and the Other Shareholders, second, to the shares of Common Stock of the Company to be included for its own account. If the managing underwriter determines that marketing factors require a limitation of the number of Registrable Securities to be registered under this Section 4.1, then Registrable Securities shall be excluded in such manner that the securities to be sold shall be allocated among the selling holders pro rata based on their ownership of Registrable Securities. In any event all securities to be sold other than Registrable Securities will be excluded prior to any exclusion of Registrable Securities. No Registrable Securities or any other security excluded from the underwriting by reason of the underwriter's marketing limitation shall be included in such registration. If any holder of Registrable Securities, officer, director or Other Shareholder who has requested inclusion in such registration as provided above, disapproves of the terms of the underwriting, such holder of securities may elect to withdraw therefrom by written notice to the Company and the managing underwriter. The securities so withdrawn shall also be withdrawn from registration. Except for registration statements on Form S-4, S-8 or any comparable form or successor thereto, the Company will not file with the Commission any other registration statement with respect to its Common Stock, whether for its own account or that of other stockholders, from the date of receipt of a notice from requesting holders pursuant to this Section 4.1 until the completion of the period of distribution of the registration contemplated thereby or one hundred twenty (120) days after the effective date of such registration, whichever is later.

4.2 Incidental Registration. If the Company at any time (other than pursuant to Section 4.1 or Section 4.3) proposes to register any of its securities under the Securities Act for sale to the public, whether for its own account or for the account of other security holders or both (except with respect to registration statements on Forms S-4, S-8 or any successor to such forms or another form not available for registering the Registrable Securities for sale to the public), each such time it will promptly give written notice to all holders of the Registrable Securities of its intention so to do. Upon the written request of any such holder received by the Company within thirty (30) days after the giving of any such notice by the Company (provided that at least one Major Investor elects to register any or all of its Registrable Securities), to register any or all of its Registrable Securities, the Company will use its best efforts to cause the Registrable Securities as to which registration shall have been so requested to be included in the securities to be covered by the registration statement proposed to be filed by the Company, all to the extent requisite to permit the sale or other disposition by the holder (in accordance with its written request) of such Registrable Securities so registered. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the holders of Registrable Securities as a part of the written notice given pursuant to this Section 4.2. In such event the right of any holder of Registrable Securities to registration pursuant to this Section 4.2 shall be conditioned upon such holder's participation in such underwriting to the extent provided herein. All holders of Registrable Securities proposing to distribute their securities through such underwriting shall (together with the Company and the Other Shareholders distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the underwriter or underwriters selected for underwriting by the Company. Notwithstanding any other provision of this Section 4.2, if the underwriter determines that marketing factors require a limitation on the number of

shares to be underwritten, the Company shall so advise all holders of securities requesting registration of any limitations on the number of shares to be underwritten, and the number of shares of securities that are entitled to be included in the registration and underwriting shall be allocated (i) first to the Company with respect to shares of Common Stock being sold for its own account; (ii) second, to holders of Registrable Securities requesting registration in proportion, as nearly as practicable, to the respective amounts of securities owned by them and (iii) then, to the Other Shareholders requesting registration in proportion, as nearly as practicable, to the respective amounts of securities owned by them. Notwithstanding the foregoing provisions, the Company may withdraw any registration statement referred to in this Section 4.2 without thereby incurring any liability to the holders of Registrable Securities. If any holder of Registrable Securities disapproves of the terms of any such underwriting, it may elect to withdraw therefrom by written notice to the Company and the underwriter. Any Registrable Securities or other securities excluded or withdrawn from such underwriting shall be withdrawn from such registration.

4.3 Registration on Form S-3. In addition to the rights provided in Sections 4.1 and 4.2, if at any time (i) any Investor who owns more than twenty percent (20%) of the Common Stock of the Company requests that the Company file a registration statement on Form S-3 or any comparable or successor form thereto for a public offering of all or any portion of the shares of Registrable Securities held by such requesting holder or holders, the reasonably anticipated aggregate offering price to the public of which would exceed $5,000,000, and (ii) the Company is a registrant entitled to use Form S-3 or any comparable or successor form thereto to register such shares, then the Company shall use its best efforts to register under the Securities Act on Form S-3 or any comparable or successor form thereto, for public sale in accordance with the method of disposition specified in such notice, the number of shares of Registrable Securities specified in such notice. Whenever the Company is required by this Section 4.3 to use its best efforts to effect the registration of Registrable Securities, each of the procedures and requirements of Sections 4.1 and 4.4, including, but not limited to, the requirement that the Company notify all holders of Registrable

Securities from whom notice has not been received and provide them with the opportunity to participate in the offering, shall apply to such registration, provided, however, that the Company shall not be obligated to effect more than two (2) registrations pursuant to this Section 4.3 in any twelve (12) month period.

4.4 Registration Procedures. If and whenever the Company is required by the provisions of Section 4.1, 4.2 or 4.3 to use its best efforts to effect the registration of any Registrable Securities under the Securities Act, the Company will, as expeditiously as possible:

(a) prepare and file with the Commission a registration statement (which, in the case of an underwritten public offering pursuant to Section 4.1, shall be on Form S-1 or other form of general applicability satisfactory to the managing underwriter selected as therein provided) with respect to such securities including executing an undertaking to file post-effective amendments and use its best efforts to cause such registration statement to become and remain effective for the period of the distribution contemplated thereby; provided, that before filing a registration statement or prospectus, the Company shall furnish to the counsel selected by the holders of a majority of the Registrable Securities covered by such registration statement copies of all such documents proposed to be filed, which documents shall be subject to review and comment of such counsel;

(b) prepare and file with the Commission such amendments and supplements to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective for the period specified herein and comply with the provisions of the Securities Act with respect to the disposition of all Registrable Securities covered by such registration statement in accordance with the sellers' intended method of disposition set forth in such registration statement for such period; provided, that before filing any such amendment or supplement, the Company shall furnish to the counsel selected by the holders of a majority of the Registrable

Securities covered by such amendment or supplement copies of all such documents proposed to be filed, which documents shall be subject to review and comment of such counsel;

(c) furnish to each seller of Registrable Securities and to each underwriter such number of copies of the registration statement and each such amendment and supplement thereto (in each case including all exhibits) and the prospectus included therein (including each preliminary prospectus) as such persons reasonably may request in order to facilitate the public sale or other disposition of the Registrable Securities covered by such registration statement;

(d) use its best efforts to register or qualify the Registrable Securities covered by such registration statement under the securities or "blue sky" laws of such jurisdictions as the sellers of Registrable Securities or, in the case of an underwritten public offering, the managing underwriter reasonably shall request, provided, however, that the Company shall not for any such purpose be required to qualify generally to transact business as a foreign corporation in any jurisdiction where it is not so qualified or to consent to general service of process in any such jurisdiction, unless the Company is already subject to service in such jurisdiction;

(e) use its best efforts to list the Registrable Securities covered by such registration statement with any securities exchange on which the Common Stock of the Company is then listed and, if not so listed, to be listed on the NASD automated quotation system and, if listed on the NASD automated quotation system, use its best efforts to secure designation of all such Registrable Securities covered by such registration statements as a NADSAQ "national market system security" within the meaning of Rule 11Aa2-1 of the Exchange Act or, failing that, to secure NASDAQ authorization for such Registrable Securities;

(f) comply with all applicable rules and regulations under the Securities Act and Exchange Act;

(g) provide a transfer agent and registrar for all such Registrable Securities and a CUSIP number for all such Registrable Securities in each case not later than the effective date of such registration statement;

(h) immediately notify each seller of Registrable Securities and each underwriter under such registration statement, at any time when a prospectus relating thereto is required to be delivered under the Securities Act, of the happening of any event of which the Company has knowledge as a result of which the prospectus contained in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, and promptly prepare and furnish to such seller a reasonable number of copies of a prospectus supplemented or amended so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing;

(i) if the offering is underwritten and at the request of any seller of Registrable Securities, use its best efforts to furnish on the date that Registrable Securities are delivered to the underwriters for sale pursuant to such registration: (i) an opinion dated such date of counsel representing the Company for the purposes of such registration, addressed to the underwriters to such effects as reasonably may be requested by counsel for the underwriters, and (ii) a letter dated such date from the independent public accountants retained by the Company, addressed to the underwriters stating that they are independent public accountants within the meaning of the Securities Act and that, in the

opinion of such accountants, the financial statements of the Company included in the registration statement or the prospectus, or any amendment or supplement thereof, comply as to form in all material respects with the applicable accounting requirements of the Securities Act, and such letter shall additionally cover such other financial matters (including information as to the period ending no more than five (5) business days prior to the date of such letter) with respect to such registration as such underwriters reasonably may request;

(j) make available for inspection by each seller of Registrable Securities, any underwriter participating in any distribution pursuant to such registration statement, and any attorney, accountant or other agent retained by such seller or underwriter, reasonable access to all financial and other records, pertinent corporate documents and properties of the Company, as such parties may reasonably request, and cause the Company's officers, directors and employees to supply all information reasonably requested by any such seller, underwriter, attorney, accountant or agent in connection with such registration statement;

(k) cooperate with the selling holders of Registrable Securities and the managing underwriter, if any, to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold, such certificates to be in such denominations and registered in such names as

such holders or the managing underwriter may request at least two (2) business days prior to any sale of Registrable Securities;

(l) permit any holder of Registrable Securities which holder, in the sole and exclusive judgment, exercised in good faith, of such holder, might be deemed to be a controlling person of the Company, to participate in good faith in the preparation of such registration or comparable statement and to require the insertion therein of material, furnished to the Company in writing, which in the reasonable judgment of such holder and its counsel should be included;

(m) in the event of the issuance of any stop order suspending the effectiveness of a registration statement, or of any order suspending or preventing the use of any related prospectus or suspending the qualification of any common stock included in such registration statement for sale in any jurisdiction, the Company shall use its best efforts promptly to obtain the withdrawal of such order;

(n) use its best efforts to cause such Registrable Securities covered by such registration statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the sellers thereof to consummate the disposition of such Registrable Securities; and

(o) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering and take all such other actions as the underwriters reasonably request in order to expedite or facilitate the disposition of Registrable Securities.

For purposes of this Agreement, the period of distribution of Registrable Securities in a firm commitment underwritten public offering shall be deemed to extend until each underwriter has completed the distribution of all securities purchased by it, and the period of distribution of Registrable Securities in any other registration shall be deemed to extend until the earlier of the sale of all Registrable Securities covered thereby or one hundred eighty (180) days after the effective date thereof, provided, however, in the case of any registration of Registrable Securities on Form S-3 or a comparable or successor form which are intended to be offered on a continuous or delayed basis, such one hundred eighty (180) day period shall be extended, if necessary, to keep the registration statement effective until

all such Registrable Securities are sold, provided that Rule 415, or any successor rule under the Securities Act, permits an offering on a continuous or delayed basis, and provided further that applicable rules under the Securities Act governing the obligation to file a post-effective amendment, permit, in lieu of filing a post-effective amendment which (y) includes any prospectus required by Section 10(a)(3) of the Securities Act or (z) reflects facts or events representing a material or fundamental change in the information set forth in the registration statement, the incorporation by reference of information required to be included in (y) and (z) above contained in periodic reports filed pursuant to Section 13 or 15(d) of the Exchange Act in the registration statement.

In connection with each registration hereunder, the sellers of Registrable Securities will furnish to the Company, in writing, such information requested by the Company with respect to themselves and the proposed distribution by them as shall be reasonably necessary in order to assure compliance with Federal and applicable state securities laws.

4.5 Expenses.

(a) All expenses other than Selling Expenses incurred by the Company in complying with Sections 4.1, 4.2 and 4.3, are called "Registration Expenses" and shall include, without limitation, (i) all registration and filing fees, printing expenses, fees and disbursements of counsel and independent public accountants for the Company, fees and expenses (including counsel fees) incurred in connection with complying with state securities or "blue sky" laws, fees of the National Association of Securities Dealers, Inc., transfer taxes, fees of transfer agents and registrars, costs of any insurance which might be obtained by the Company with respect to the offering by the Company, and (ii) reasonable attorneys fees and disbursements of one counsel for the holders of Registrable Securities in an amount not to exceed an aggregate of $50,000, such counsel to be selected by the holders of at least a majority of the Registrable Securities being sold. All underwriting discounts and selling commissions applicable to the sale of Registrable Securities are called "Selling Expenses."

(b) The Company shall pay all Registration Expenses in connection with each registration statement under Section 4.1, 4.2 and 4.3; provided, that, in the event of a registration pursuant to Section 4.1 hereof which is withdrawn at the request of the Investors other than (i) as a result of the Company's failure to perform its obligations hereunder, (ii) as a result of a cutback by the underwriter of such registration in the amount of Registrable Securities which may be included in such registration by more than twenty percent (20%) or (iii) as a result of information concerning a materially adverse change in the Company's business or financial condition that is made known to the Investors after the date on which such registration was requested, each Investor shall pay a percentage portion of the Registration Expenses with respect to such withdrawn registration statement equal to the number of Registrable Securities of such Investor proposed to be included in such registration divided by the number of Registrable Securities of all Investors proposed to be included in such registration. In the event that a registration pursuant to Section 4.1 hereof is withdrawn pursuant to clauses (i), (ii) or (iii) of this Section 4.5(b), the Investors shall, immediately following such withdrawal, be entitled to that number of registration requests pursuant to Section 4.1 hereof to which they would have been entitled not taking into account the withdrawn request. All Selling Expenses in connection with each registration statement under Section 4.1, 4.2 or 4.3 shall be borne by the participating sellers in proportion to the number of shares registered by each, or by such participating sellers other than the Company (except to the extent the Company shall be a seller) as they may agree.

4.6 Indemnification and Contribution.

(a) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, the Company will indemnify and hold harmless

each holder of Registrable Securities, its officers, directors, managers, members and partners, each underwriter of such Registrable Securities thereunder and each other person, if any, who controls such holder or underwriter within the meaning of the Securities Act (each, an "Indemnitee"), against any losses, claims, damages or liabilities, joint or several, to which such Indemnitee may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in any prospectus, offering circular or other document incident to such registration (including any related notification, registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereof), (ii) any blue sky application or other document executed by the Company specifically for that purpose or based upon

written information furnished by the Company filed in any state or other jurisdiction in order to qualify any or all of the Registrable Securities under the securities laws thereof (any such application, document or information herein called a "Blue Sky Application"), (iii) any omission or alleged omission to state in any such registration statement, prospectus, amendment or supplement or in any Blue Sky Applications executed or filed by the Company, a material fact required to be stated therein or necessary to make the statements therein not misleading, (iv) any violation by the Company or its agents of the Securities Act or any rule or regulation promulgated under the Securities Act applicable to the Company or its agents and relating to action or inaction required of the Company in connection with such registration, or (v) any failure to register or qualify the Registrable Securities in any state where the Company or its agents has affirmatively undertaken or agreed in writing that the Company (the undertaking of any underwriter chosen by the Company being attributed to the Company) will undertake such registration or qualification and will reimburse each Indemnitee for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action, promptly after being so incurred, provided, however, that the Company will not be liable to an Indemnitee if, and to the extent that, any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with written information furnished by such Indemnitee, in writing specifically stated to be for use in such registration statement or prospectus.

(b) In the event of a registration of any of the Registrable Securities under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, each seller of such Registrable Securities thereunder, severally and not jointly, will indemnify and hold harmless the Company, each person, if any, who controls the Company within the meaning of the Securities Act, each officer of the Company who signs the registration statement, each director of the Company, each other seller of Registrable Securities, each underwriter and each person who controls any underwriter within the meaning of the Securities Act, against all losses, claims, damages or liabilities, joint or several, to which the Company or such officer, director, other seller, underwriter or controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in any prospectus offering circular or other document incident to such registration (including any related notification, registration statement under which such Registrable Securities were registered under the Securities Act pursuant to Section 4.1, 4.2 or 4.3, any preliminary prospectus or final prospectus contained therein, or any amendment or supplement thereof), or any Blue Sky Application or arise out of, or are based upon, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse the Company and each such officer, director, other seller, underwriter and controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, expense, liability or action, promptly after being so incurred, provided, however, that such seller will be liable hereunder in any such case if and only to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or

alleged omission made in reliance upon and in conformity with information pertaining to such seller, as such, furnished in writing to the Company by such seller specifically for use in such registration statement or prospectus; and provided further, however, that the liability of each seller hereunder shall be limited to the proportion of any such loss, claim, damage, liability or expense which is equal to the proportion that the public offering price of the securities sold by such seller under such registration statement bears to the total public offering price of all securities sold thereunder, but not in any event to exceed the net proceeds received by such seller from the sale of Registrable Securities covered by such registration statement. Not in limitation of the foregoing, it is understood and agreed that the indemnification obligations of any seller hereunder pursuant to any underwriting agreement entered into in connection herewith shall be limited to the obligations contained in this Section 4.6(b), absent any fraud on the part of such seller.

(c) Promptly after receipt by an indemnified party hereunder of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party hereunder, notify the indemnifying party in writing thereof, but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to such indemnified party other than under this Section 4.6 and shall only relieve it from any liability which it may have to such indemnified party under this Section 4.6 if, and to the extent, the indemnifying party is prejudiced by such omission. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in and, to the extent it shall wish, to assume and undertake the defense thereof with counsel satisfactory to such indemnified party, and, after notice from the indemnifying party to such indemnified party of its election so to assume and undertake the defense thereof, the indemnifying party shall not be liable to such indemnified party under this Section 4.6 for any legal expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation and of liaison with counsel so selected, provided, however, that, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be reasonable defenses available to it which are different from or additional to those available to the indemnifying party or that the interests of the indemnified party reasonably may be deemed to conflict with the interests of the indemnifying party, the indemnified party shall have the right to select a separate counsel and to assume such legal defenses and otherwise to participate in the defense of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the indemnifying party as incurred. No indemnifying party, in the defense of any such claim or action, shall, except with the consent of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect to such claim or action. Each indemnified party shall furnish such information regarding itself or the claim in question as an indemnifying party may reasonably request in writing and as shall be reasonably required in connection with defense of such claim and litigation resulting therefrom.

(d) In order to provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any holder of Registrable Securities exercising rights under this Agreement, or any controlling person of any such holder, makes a claim for indemnification pursuant to this Section 4.6 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case notwithstanding the fact that this Section 4.6 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any such selling holder or any such controlling person in circumstances for which indemnification is provided under this Section 4.6; then, and in each such case, the Company and such holder will contribute to the aggregate losses, claims, damages or liabilities to which they may be subject (after contribution from others) in such proportion so that such holder is

responsible for the portion represented by the percentage that the public offering price of its Registrable Securities offered by the registration statement bears to the public offering price of all securities offered by such registration statement, and the Company is responsible for the remaining portion, provided, however, that, in any such case, (A) no such holder of Registrable Securities will be required to contribute any amount in excess of the proceeds received from the sale of all such Registrable Securities offered by it pursuant to such registration statement; and (B) no person or entity guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person or entity who was not guilty of such fraudulent misrepresentation.

(e) The indemnities and obligations provided in this Section 4.6 shall survive the transfer of any Registrable Securities by such holder.

4.7 Changes in Common Stock. If, and as often as, there is any change in the Common Stock by way of a stock split, stock dividend, combination or reclassification, or through a merger, consolidation, reorganization or recapitalization, or by any other means, appropriate adjustment shall be made in the provisions hereof so that the rights and privileges granted hereby shall continue with respect to the Common Stock as so changed.

4.8 Rule 144 and 144A Reporting. With a view to making available the benefits of certain rules and regulations of the Commission which may at any time permit the sale of the Registrable Securities to the public without registration, except as provided in paragraph (c) below, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, the Company agrees to:

(a) use its best efforts to comply with all of the reporting requirements of the Exchange Act (whether or not it shall be required to do so) and shall comply with all other public information reporting requirements of the Commission as a condition to the availability of an exemption from the Securities Act for the sale of any of the Registrable Securities by any holder of Registrable Securities (including any such exemption pursuant to Rule 144 or Rule 144A thereof, as amended form time to time, or any successor rule thereto or otherwise);

(b) cooperate with each holder of Registrable Securities in supplying such information as may be necessary for such holder of Registrable Securities to complete and file any information reporting forms presently or hereafter required by the Commission as a condition to the availability of an exemption from the Securities Act (under Rule 144 or Rule 144A thereunder or otherwise) for the sale of any of the Registrable Securities by any holder of Registrable Securities; and

(c) furnish to each holder of Registrable Securities forthwith upon request a written statement by the Company as to its compliance with the reporting requirements of such Rule 144 or Rule 144A (or any successor rule) and, at any time after it has become subject to such reporting requirements, of the Securities Act and the Exchange Act, a copy of the most recent annual or quarterly report of the Company, and such other reports and documents so filed by the Company as such holder may reasonably request in availing itself of any rule or regulation of the Commission allowing such holder to sell any Registrable Securities without registration.

4.9 "Market Stand-Off" Agreement. Each of the Investors agrees, severally and not jointly, that, if requested by the Company and an underwriter of Common Stock (or other securities) of the Company, not to sell or otherwise transfer or dispose of any Common Stock (or other securities) of the Company held by such Investor during a period not to exceed one hundred and eighty (180) days following the effective date of the first registration statement of the Company filed under the Securities Act, and to enter into an agreement to such effect, to the extent such Investor is not participating in the

offering to which the registration statement relates, in each case so long as all of the Company's officers, directors and holders of at least one-half of one percent (0.5%) of the outstanding Common Stock (or securities convertible into such Common Stock) also enter into agreements to such effect.

The Company may impose stop-transfer instructions with respect to the shares (or securities) subject to the foregoing restriction until the end of said period.

4.10 Assignment of Registration Rights. The rights to cause the Company to register Registrable Securities pursuant to this Section 4 may be assigned (but only with all related obligations) by a holder of Registrable Securities to a transferee or assignee of such securities who is not engaged in a business activity competitive with the Company (as reasonably determined by the Board), provided that the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned; and provided, further, that such assignment shall be effective only if (i) immediately following such transfer the further disposition of such securities by the transferee or assignee is restricted under the Act and (ii) the transferee or assignee shall acknowledge in writing that the transferred or assigned Registrable Securities shall remain subject to this Agreement.

4.11 Other Registration Rights. Other than the registration rights granted to the Investors under this Section 4, the Company shall not grant to a holder of capital stock or other equity securities of the Company any registration rights that are superior to or on parity with the registration rights granted to the Investors under this Section 4.

4.12 Termination. The respective rights and obligations of the parties under this Section 4 shall terminate upon the earlier of (i) the fifth (5^{th}) anniversary of the closing of the Company's Qualified IPO and (ii) with respect to a particular holder, when such holder can sell all of such holder's shares under Rule 144 promulgated under the Securities Act without regard to volume limitations.

5. BOARD OF DIRECTORS

5.1 Election of Directors. The Company shall take or cause to be taken such actions as may be required from time to time to establish and maintain the number of persons comprising the Board at four (4), and the Investors shall take or cause to be taken such actions as may be required from time to time to elect as directors (i) two (2) directors designated by Care Capital LLC ("Care Capital"), who shall initially be Jerry Karabelas and Lorenzo Pellegrini and (ii) two (2) directors designated by Index Ventures III (Delaware) L.P. ("Index") who shall initially be Michele Ollier and Francesco de Rubertis. Without limiting the generality of the foregoing, at each annual meeting of the stockholders, and at each special meeting of the stockholders called in accordance with the provisions of the By-Laws for the purpose of electing directors of the Company, and at any time at which the stockholders have the right to, or shall, elect directors of the Company, then, and in each event, the Investors shall vote all Shares owned by them (or shall consent in writing in lieu of a meeting of stockholders, as the case may be) to set the number of, and to elect persons as, directors of the Company in accordance with this Section. Each Investor with a right to so designate a director of the Company shall have the right to remove any such director and appoint one (1) natural person as an alternate member for each director appointed by such Investor.

5.2 Board Observers and Committees.

(a) Remy Luthringer, along with one or more individuals appointed by each of Care Capital and Index, shall be entitled to observe at all meetings of the Board and each meeting of all committees of such Board and to participate in all discussions during each such meeting; provided, that

the Board (or committee of the Board, as the case may be) shall have the right to exclude such observers from all or any portion of a meeting (and to exclude such observers from receiving any related materials) to the extent the Board (or such committee), in its sole discretion, deems reasonably necessary to: (i) preserve the attorney-client privilege; or (ii) avoid any conflicts of interest. The Company shall send to each such observers the notice of the time and place of such meeting (with such notice being given no later than to any other outside director), the agenda and any other materials to be discussed at the meeting and shall give each such observers notice of each such meeting in the form and manner such notice is given to the Company's directors. The Company shall also provide to each such observers, in a timely manner, copies of all notices, reports, minutes and consents at the time and in the manner as they are provided to the Board or committee, except for information reasonably designated as proprietary information by the Board.

(b) In the event that the Company creates any committee of its Board, Care Capital and Index shall each have the right to have the directors of the Board designated by them appointed to such committee and such directors shall continue to serve on such committee until removed by the Investor who appointed such director.

5.3 Expenses. The Company shall reimburse directors and observers (but, in the case of observers, only if, and to the extent, such observer is attending a meeting in lieu of a director) for all out-of-pocket expenses incurred in attending meetings of the Board and, if applicable, committees of the Board, and shall provide customary compensation including, but not limited to, the right to receive options, fees and equity interests in accordance with the Company's policies as they may be amended from time to time.

5.4 Removal of Directors; Filling of Vacancies. Each Investor shall take all action necessary to remove forthwith any director when such removal is requested for any reason, with or without cause, by the Investor that designated such director for election. In the case of the death, resignation or removal as herein provided of a director, each Investor shall vote all Shares owned by him, her or it to elect another person designated by the same Investor that designated the deceased, resigning or removed director if, at the time such vacancy occurs, such Investor shall have the right to have a person designated by him, her or it elected as a director pursuant to Section 5.1. The Company and each Investor agrees to use his, her or its best efforts to prevent any action from being taken by the Board during the pendency of any vacancy due to the death, resignation or removal of a director unless the party entitled to have a person designated by him to fill such vacancy shall have failed for a period (10) days after written notice of such vacancy to designate a replacement.

5.5 Termination. The provisions set forth in this Section 5 shall be of no further force and effect upon the closing of the Company's Qualified IPO.

5.6 Quorum and Casting Vote. Notwithstanding anything to the contrary in the bylaws of the Company, (a) the chairman of the Board shall not have a casting vote and (b) a quorum of the Board must include at least one director designated by Care Capital and at least one director designated by Index.

6. AFFIRMATIVE COVENANTS OF THE COMPANY

The Company covenants and agrees that, from the date of the First Closing under the Purchase Agreement and thereafter so long as any Investor owns at least twenty percent (20%) of the Common Stock then outstanding (each, a "Rights Holder"), it will perform and observe the following covenants and provisions.

6.1 Financial Statements; Other Reports. The Company shall maintain proper books of account and records in accordance with generally accepted accounting principles applied on a consistent basis, and shall deliver to each Rights Holder:

(a) as soon as available and in any event within thirty (30) days after the end of each of the first three quarters of each fiscal year of the Company, a consolidated balance sheet of the Company and its Subsidiaries, if any, as of the end of such quarter and the related statements of income and stockholders' equity and of cash flows of the Company for the period commencing at the end of the previous fiscal year and ending with the end of such quarter, setting forth in each case in comparative form the corresponding figures for the corresponding period of the preceding fiscal year, if applicable, and the budget for such current year, all in reasonable detail and prepared in accordance with generally accepted accounting principles consistently applied, and duly certified (subject to year-end audit adjustments) by the chief financial officer (or if there is no chief financial officer, the chief executive officer) of the Company.

(b) as soon as available and in any event within ninety (90) days after the end of each fiscal year of the Company, a copy of the financial statements for such year for the Company, prepared in accordance with generally accepted accounting principles, including therein a consolidated balance sheet of the Company and its Subsidiaries, if any, as of the end of such fiscal year and statements of income and stockholders' equity and of cash flows of the Company for such fiscal year, setting forth in each case in comparative form the corresponding figures for the preceding fiscal year, all duly certified by the chief financial officer (or if there is no chief financial officer, the chief executive officer) of the Company;

(c) promptly after receipt thereof, notice of all material actions, suits and proceedings before any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, affecting the Company; and

(d) within thirty (30) days after the last day of each month (or such other calendar period as is approved by the Board), financial statements, including a balance sheet as of the last date of such month, a statement of income (or monthly operating expenses) for such month, together with a cumulative statement of income from the first day of the current year to the last day of such month, which statements shall be prepared from the books and records of the Company, and a comparison between the actual monthly operating expenses and the projected figures for such month and the comparable figures for the prior year.

Neither the foregoing provisions of this Section 6.1 nor any other provision of this Agreement shall be in limitation of any rights which an Investor may have with respect to the books and records of the Company, or to inspect their properties or discuss their affairs, finances and accounts, under the laws of the jurisdictions in which they are incorporated.

6.2 Inspection and Other Information. Each Rights Holder and such agents, advisors and counsel as such Rights Holder may designate, may, at its expense, visit and inspect any of the properties of the Company, examine the books of account of the Company, take extracts therefrom and discuss the affairs, finances and accounts of the Company with its officers and employees and public accountants (and by this provision the Company hereby authorizes said accountants to discuss with such Rights Holder and such persons its finances and accounts), at reasonable times and with reasonable prior notice during normal business hours. All such visits and inspections shall be conducted in a manner which will not unreasonably interfere with the normal business operations of the Company. The Company shall furnish to each such Rights Holder such other information as it from time to time may reasonably request.

6.3 Directors and Officers Insurance. Within thirty (30) days of the Effective Date, the Company shall have in place directors' and officers' liability insurance policy on the directors and officers of the Company with a financially sound and reputable company or association in an amount mutually acceptable to the Company and the New Investors. So long as any New Investor owns any Common Stock, the Company shall maintain such insurance at the same or higher coverage level.

6.4 Termination of Affirmative Covenants. The covenants set forth in this Article 6 shall be of no further force or effect upon the closing of the Company's Qualified IPO.

7. MISCELLANEOUS

7.1 Notices. All notices, requests, consents and other communications hereunder shall be in writing, shall be addressed to the receiving party's address set forth below or to such other address as a party may designate by notice hereunder, and shall be either (i) delivered by hand, (ii) made by telecopy or facsimile transmission with receipt confirmed, (ii) sent by electronic mail with return receipt and no response was received back from the mail server indicating a problem delivering such electronic mail, (iv) sent by a nationally recognized (or substantially equivalent international) overnight courier, or (v) sent by registered or certified mail, return receipt requested, postage prepaid; provided, however, that certified mail shall not be used to effectuate any such notice, request, consent or other communication to addresses outside the United States.

If to the Company:
Cyrenaic Pharmaceuticals, Inc.
47 Hulfish Street, Suite 310
Princeton, NJ 08542
Attn: Lorenzo Pelligrini
Tel: 609.683.3677
Fax: 609.683.5787

With a copy to:
Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, New Jersey 08540
Attn: Denis Segota, Esq.
Tel: 609.919.6622
Fax: 609.919.6639

If to the Investors:
To the addresses set forth on Schedule I.

With a copy (which shall not constitute notice) to:

[ ]
[ ]
[ ]
Attn: [ ]
Tel: [ ]
Fax: [ ]

All notices, requests, consents and other communications hereunder shall be deemed to have been given either (i) if by hand, at the time of the delivery thereof to the receiving party at the address of such party set forth above, (ii) if made by telecopy or facsimile transmission, at the time that receipt thereof has been acknowledged by electronic confirmation or otherwise, (iii) if sent by overnight

courier, on the next business day following the day such notice is delivered to the courier service, or (iv) if sent by registered or certified mail, on the seventh business day following the day such mailing is made.

7.2 Entire Agreement. This Agreement embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof (including without limitation the Original Agreement). No statement, representation, warranty, covenant or agreement of any kind not expressly set forth in this Agreement shall affect, or be used to interpret, change or restrict, the express terms and provisions of this Agreement.

7.3 Modifications and Amendments. This Agreement may not be amended or modified, and no provision hereof may be waived, without the written consent of the Company and the holders of at least seventy-seven percent (77%) of the outstanding shares of Common Stock; provided, however, that any amendment or modification to Sections 5.1 or 5.2 above that adversely impacts the rights of any Investor thereunder shall not be made without the written consent of such Investor. Any waiver or consent hereunder shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

7.4 Benefit. All statements, representations, warranties, covenants and agreements in this Agreement shall be binding on the parties hereto and shall inure to the benefit of the respective successors and permitted assigns of each party hereto.

7.5 Governing Law. This Agreement and the rights and obligations of the parties hereunder shall be construed in accordance with and governed by the law of the State of Delaware, without giving effect to the conflict of law principles thereof.

7.6 Severability. In the event that it is determined that any provision, or any portion thereof, contained in this Agreement shall be unenforceable in any respect, then such provision shall be deemed limited to the extent that it shall be deemed enforceable and as so limited, shall remain in full

force and effect. In the event that any such provision, or portion thereof, is deemed wholly unenforceable, the remaining provisions of this Agreement, nevertheless, shall remain in full force and effect.

7.7 Headings and Captions. The headings and captions of the various subdivisions of this Agreement are for convenience of reference only and shall in no way modify or affect the meaning or construction of any of the terms or provisions hereof.

7.8 Enforcement. Each of the parties hereto acknowledges and agrees that the rights acquired by each party hereunder are unique and that irreparable damage would occur in the event that any of the provisions of this Agreement to be performed by the other parties were not performed in accordance with their specific terms or were otherwise breached. Accordingly, in addition to any other remedy to which the parties hereto are entitled at law or in equity, each party hereto shall be entitled to an injunction or injunctions to prevent breaches of this Agreement by any other party.

7.9 Waiver of Jury Trial. THE COMPANY AND EACH INVESTOR HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHTS TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

7.10 No Waiver of Rights, Powers and Remedies. No failure or delay by a party hereto in exercising any right, power or remedy under this Agreement, and no course of dealing among

the parties hereto, shall operate as a waiver of any such right, power or remedy of the party. No single or partial exercise of any right, power or remedy under this Agreement by a party hereto, nor any abandonment or discontinuance of steps to enforce any such right, power or remedy, shall preclude such party from any other or further exercise thereof or the exercise of any other right, power or remedy hereunder. The election of any remedy by a party hereto shall not constitute a waiver of the right of such party to pursue other available remedies. No notice to or demand on a party not expressly required under this Agreement shall entitle the party receiving such notice or demand to any other or further notice or demand in similar or other circumstances or constitute a waiver of the rights of the party giving such notice or demand to any other or further action in any circumstances without such notice or demand.

7.11 Counterparts. This Agreement may be executed in two or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed and delivered via facsimile, which facsimile transmission shall be deemed an original for all purposes.

7.12 Right to Conduct Activities. The Company and each Investor hereby acknowledge that some or all of the Investors are professional investment funds and, as such, invest in numerous portfolio companies, some or which may be competitive with the Company's business. No such Investor shall be liable to the Company or to any other Investor for any claim to the extent it arises out of, or is based upon, (a) the investment by the Investor in any entity competitive to the Company, or (b) actions taken by any partner, officer or other representative of such Investor to assist any such competitive entity, whether or not such action was taken as a board member of such competitive entity or otherwise, and whether or not such action has a detrimental effect on the Company (except for any detrimental effect as a consequence of any fraudulent act or willful misconduct), so long as (i) no confidential information of the Company is used or disclosed by such Investor in connection with any such competitive activities, and (ii) the provisions hereof shall not excuse or eliminate the liability of any Investor or its directors, officers, employees or Affiliates, for the breach of any agreement with or legal obligation to the Company (it being understood that the acts identified above shall not, in and of themselves, be deemed to be a breach of any such legal obligation).

IN WITNESS WHEREOF, the parties hereto have executed this Second Agreement or caused this Second Agreement to be executed by their duly authorized representatives as of the date first written above.

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Daniel J. Cabo
Name: Daniel J. Cabo
Title: Chief Financial Officer

INVESTORS:

CARE CAPITAL INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Title:
Address:

CARE CAPITAL OFFSHORE INVESTMENTS III, LP

By: Care Capital III LLC, its General Partner

By: /s/ David R. Ramsay
Name: David R. Ramsay

Title:
Address:

INDEX VENTURES III (JERSEY) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

INDEX VENTURES III (DELAWARE) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

INDEX VENTURES III PARALLEL ENTREPRENEUR FUND (JERSEY) L.P.

BY ITS GENERAL PARTNER, INDEX VENTURE ASSOCIATES III LIMITED

By: /s/ Gerard Gardner
Name: Gerard Gardner
Title: Director
Address:

YUCCA PARTNERS LP JERSEY BRANCH

By: OGIER EMPLOYEE BENEFIT SERVICES LIMITED as Authorised Signatory of Yucca Partners LP Jersey Branch in its Capacity of Administrator of The Index Co-Investment Scheme

By: /s/ Peter George Le Breton
Name: Peter George Le Breton
Title: Authorised Signatory
Address:

SCHEDULE I

Schedule of Investors

Name	Number of Shares of Common Stock Owned
Care Capital Investments III LP 47 Hulfish Street, Suite 310 Princeton, NJ 08542	49,277
Care Capital Offshore Investments III, LP 47 Hulfish Street, Suite 310 Princeton, NJ 08542	823
Index Ventures III (Jersey) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	16,039
Index Ventures III (Delaware) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	32,581

Index Ventures III Parallel Entrepreneur Fund (Jersey) L.P. P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	580
Yucca Partners LP Jersey Branch P.O. Box 641, No. 1 Seaton Place St. Helier, Jersey JE4 8YJ Channel Islands	800

Exhibit 4.3

AMENDMENT NO. 1

TO

INVESTOR RIGHTS AGREEMENT

THIS AMENDMENT NO. 1 TO INVESTMENT RIGHTS AGREEMENT (this "**Amendment**"), dated as of December 20, 2013, is made by and among Minerva Neurosciences, Inc., a Delaware corporation, as the corporate successor to Cyrenaic Pharmaceuticals, Inc. (the "**Company**"), and the undersigned investors of the Company (the "**Investors**").

WHEREAS, the Company and the Investors are parties to that certain Investor Rights Agreement, dated as of August 29, 2007 (the "**Agreement**");

WHEREAS, on November 12, 2013, the name of the Company was changed to "Minerva Neurosciences, Inc."; and

WHEREAS, the Company and the Investors, in accordance with Section 7.3 of the Agreement, desire to amend the Agreement as set forth below.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto intending to be legally bound, hereby agree as follows:

Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Agreement.

1. The following definitions are hereby amended and restated to read in their entirety as follows:

"'Company' means Minerva Neurosciences, Inc., a Delaware corporation."

2. Section 5.1 of the Agreement is hereby amended in its entirety to read as follows:

"5.1 Election of Directors. The Company shall take or cause to be taken such actions as may be required from time to time to establish and maintain the number of persons comprising the Board at six (6), and the Investors shall take or cause to be taken such actions as may be required from time to time to elect as directors (i) two (2) directors designated by Care Capital LLC ("Care Capital"), who shall as of the date of Amendment No. 1 to this Agreement be Robert Seltzer and Lorenzo Pellegrini, (ii) two (2) directors designated by Index Ventures III (Delaware) L.P. ("Index") who shall as of the date of Amendment No. 1 to this Agreement be Michele Ollier and

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Francesco de Rubertis, (iii) the Chief Executive Officer of the Company, and (iv) one (1) independent director, who shall as of the date of Amendment No. 1 to this Agreement be Marc D. Beer. Without limiting the generality of the foregoing, at each annual meeting of the stockholders, and at each special meeting of the stockholders called in accordance with the provisions of the By-Laws for the purpose of electing directors of the Company, and at any time at which the stockholders have the right to, or shall, elect directors of the Company, then, and in each event, the Investors shall vote all Shares owned by them (or shall consent in writing in lieu of a meeting of stockholders, as the case may be) to set the number of, and to elect persons as, directors of the Company in accordance with this Section. Each Investor with a right to so designate a director of the Company shall have the right to remove any such director and appoint one (1) natural person as an alternate member for each director appointed by such Investor."

3. Except as amended by this Amendment, the Agreement shall remain unchanged and continue in full force and effect.

4. This Amendment shall be governed by and construed in accordance with the laws of the State of Delaware (without reference to the conflicts of law provisions thereof).

5. Any number of counterparts (including facsimile or electronic copies) of this Amendment may be signed and delivered, each of which shall be considered an original and which together shall constitute one and the same.

Exhibit 4.4

PROMISSORY NOTE

1,112,500 Euros March 30, 2012

WHEREAS, Sonkei Pharmaceuticals, Inc., a Delaware corporation (the "Company") has agreed to sell 1,112,500 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of 1.006 Euros per share, for an aggregate purchase price of 1,119,017 Euros;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at c/o NAT Services, 2 rue de Jargonnant, 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of 1,112,500 Euros plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Sections 6 and 7 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on April 30, 2015 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in Euros, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any

time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing all or any portion of the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause, Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon;

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon;

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker;

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 4.5

PROMISSORY NOTE

$3,058,326 April 26, 2012

WHEREAS, Cyrenaic Pharmaceutcals, Inc., a Delaware corporation (the "Company") has agreed to sell 2,825,000 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of $1.063766 per share, for an aggregate purchase price of $3,058,326;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at NAT Services 2 rue de Jargonnant 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of $3,058,326 plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Section 5 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on February 28, 2014 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in lawful tender of the United States, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause , Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon;

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon;

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker;

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 4.6

PROMISSORY NOTE

$97,737 **December 20, 2013**

WHEREAS, Minerva Neurosciences, Inc., a Delaware corporation (the "Company") has agreed to sell 97,737 shares of Company stock ("Restricted Stock") to Maker, pursuant to that certain Subscription Agreement, dated as of the date hereof (the "Grant Agreement");

WHEREAS, pursuant to the terms of the Grant Agreement, Maker has agreed to purchase the Restricted Stock for a purchase price of $1.00 per share, for an aggregate purchase price of $97,737.00;

WHEREAS, the Company has agreed to loan Maker the amount necessary to cover the purchase price due in connection with the purchase of Restricted Stock (the "Loan"); and

WHEREAS, Maker and the Company have agreed to enter into this Promissory Note (this "Note") effective as of the date hereof (the "Effective Date") to memorialize the payment terms with respect to the Loan and certain terms and conditions set forth below.

FOR VALUE RECEIVED, the undersigned Maker, residing at NAT Services 2 rue de Jargonnant 1207 Geneva, Switzerland promises to pay to the order of the Company the principal sum of $97,737.00 plus interest upon the terms and conditions specified in this Note set forth below:

1. Principal and Accrual of Interest. Subject to Section 5 below, the entire principal amount of this Note and all accrued but unpaid interest described herein, shall be due on May 31, 2014 (the "Maturity Date"). Payment of principal and all accrued but unpaid interest thereon shall be made in one lump sum on the Maturity Date. Interest shall accrue on the outstanding principal amount of this Note at a rate equal to the applicable federal rate in effect on the Effective Date, which rate is fixed as of the date of execution of this Note and will not be adjusted and which Maker and the Company acknowledge is 0.19% per annum, calculated quarterly, on the outstanding balance under this Note from the execution date of this Note until this Note is paid in full.

2. Application of Payment. Payment on this Note shall be made in lawful tender of the United States, without notice from the Company. Unless designated otherwise in a writing that accompanies any payment made under this Note, payment received by the Company shall be applied first to any accrued and unpaid interest (if any) due on this Note and, then, the balance to principal. Prepayment of the principal balance of this Note, together with all accrued and unpaid interest, may be made at any time in whole or in part, without penalty upon at least five (5) days' prior written notice to the Company.

3. Off Set of Obligations under the Grant Agreement. In lieu of payment of cash, Maker shall be entitled to offset any amounts owed to Maker in connection with Company re-purchasing the Restricted Stock under the Grant Agreement.

4. Pledge of Collateral. Maker hereby pledges to the Company the Restricted Stock granted to Maker under the Grant Agreement to secure the satisfaction by Maker of all its obligations (recourse and non-recourse) to the Company under this Note (the "Pledged Shares"). All applicable provisions of the Uniform Commercial Code shall apply to and be deemed to govern this pledge.

5. Events of Acceleration. Notwithstanding anything to the contrary, the entire unpaid principal sum of this Note, and all interest accrued thereon, shall become immediately due and payable upon one or more of the following events:

(a) Upon Remy Luthringer, the sole stockholder of Maker, voluntarily ceasing to be employed by, or provide services to, the Company for any reason or for no reason, or the Company terminating or not renewing any employment or consulting arrangement with Remy Luthringer for cause, Maker shall be required to pay in a lump sum within thirty (30) days of such termination of employment or service, the principal balance due under this Note and accrued interest thereon.

(b) Upon an acquisition of the Company by another entity by means of any transaction (including, without limitation, any stock acquisition, reorganization, merger or consolidation) or a sale of all or substantially all of the assets of the Company (including, for purposes of this section, the exclusive license or sale of intellectual property rights which, in the aggregate, constitute substantially all of the Company's material assets) (collectively, a "Sale Transaction"), Maker shall be required to pay in a lump sum within two (2) days following the date of entering into an agreement for such Sale Transaction the principal balance due under this Note and accrued interest thereon.

(c) Upon the insolvency of the Maker, the commission of any act of bankruptcy by the Maker, the execution by the Maker of a general assignment for the benefit of creditors, the filing by or against the Maker of any petition in bankruptcy or any petition for relief under the provisions of the federal bankruptcy act or any other state or federal law for the relief of debtors and the continuation of such petition without dismissal for a period of thirty (30) days or more, the appointment of a receiver or trustee to take possession of any property or assets of the Maker, or the attachment of or execution against any property or assets of the Maker.

(d) Upon exercise of the Put Option (as defined in the Grant Agreement) by the Maker.

6. Collection. If action is instituted to collect this Note, and the Company prevails in such action, the Maker agrees that the Company shall be entitled to receive from Maker, and Maker promises to pay to the Company, all costs and expenses (including reasonable attorneys' fees) incurred by the Company in connection with such action.

7. Waiver. The following provisions governing waivers shall be in effect for purposes of this Note:

(a) No previous waiver and no failure or delay by the Company in acting with respect to the terms of this Note shall constitute a waiver of any breach, default, or failure of condition under this Note.

(b) A waiver of any term of this Note or of any of the obligations secured thereby must be made in writing by a duly-authorized officer of the Company and shall be limited to the express terms of such waiver.

(c) The Maker hereby waives presentment, demand for payment, notice of dishonor, default or delinquency, notice of acceleration, notice of protest and non-payment, notice of costs, expenses or losses and interest thereon, notice of interest on interest, and diligence in taking any action to collect any sums owing under this Note.

(d) The Maker agrees to make all payments under this Note without set-off of deduction and regardless of any counterclaim or defense.

8. Assignment. This Note shall be binding on the Maker and the Maker's personal representatives, heirs and legatees, and shall be binding upon and inure to the benefit of the Company, any future holder of this Note and their respective successors and assigns. The Maker may not assign or transfer this Note or any of the Maker's obligations hereunder. The Company may assign or transfer this Note to any third party upon written notice to Maker.

9. Entire Agreement; Conflicting Agreements. This Note and the Grant Agreement contain the entire agreement and understanding of the parties with respect to the subject matter contained herein and supersedes all prior communications, representations and negotiations with respect thereto. This Note may be changed, modified or terminated only by an agreement in writing executed by both Maker and the Company. In the event of any inconsistencies between the terms of this Note and the terms of any other document related to the loan evidenced by this Note, the terms of this Note shall control.

10. Cancellation. After all principal and accrued interest at any time owed on this Note have been paid in full, this Note shall be surrendered to Maker for cancellation and shall not be reissued.

11. Governing Law. This Note shall be construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles.

12. Jurisdiction. Maker agrees that he submits to the jurisdiction of the state and federal courts within the State of Delaware for all purposes under this Note, and that any legal action arising under this Note, including any action to collect this Note, shall be resolved by such courts.

13. CONFESSION OF JUDGMENT. MAKER IRREVOCABLY AUTHORIZES AND EMPOWERS ANY ATTORNEY OR ANY CLERK OF ANY COURT OF RECORD TO APPEAR FOR AND CONFESS JUDGMENT AGAINST MAKER FOR SUCH SUMS AS ARE DUE AND OWING UNDER THIS NOTE, WITH OR WITHOUT DECLARATION. THE MAKER FULLY AND COMPLETELY UNDERSTANDS THE RIGHTS WHICH ARE BEING GIVEN UP IF THE MAKER SIGNS THIS NOTE CONTAINING THIS CONFESSION OF JUDGMENT, THE MAKER FREELY, KNOWINGLY AND VOLUNTARILY WAIVES SAID RIGHTS AND CHOOSES TO SIGN THIS NOTE.

14. Severability. The invalidity, illegality or unenforceability of any provision of this Note shall not affect or impair the validity, legality or enforceability of the remainder of this Note, and to this end, the provisions of this Note are declared to be severable.

15. Notice. All notices, requests, demands and other communications to be given pursuant to this Note shall be in writing and shall be deemed to have been duly given if delivered by hand or overnight courier or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed to the party to receive notice at its or his respective address set forth in the first paragraph of this Note or such other address as such party shall have designated by notice in writing to the other party in accordance with this Section 15.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Maker has executed this Note as of the date first written above, and has fully read the terms and conditions of this Note, along with all waivers set forth in this Note, prior to signing this Note and fully understands its contents.

MAKER

Wint2felden Holding SA

By: /s/ Remy Luthringer
Name: Remy Luthringer
Title: President

Exhibit 10.8

EXECUTION COPY

October 4, 2013

Dr. Rogerio Vivaldi Coelho
716 Newton Street
Brookline, MA, 02467
US

Dear Rogerio:

Further to our offer letter to you dated September 17, 2013 (the "Offer Letter"), this agreement (this "Employment Agreement") will formalize the terms and conditions of your employment with Cyrenaic Pharmaceuticals, Inc. (the "Company").

1. Employment. Subject to the termination of your employment in accordance with Section 8 below, you agree to be employed, and the Company agrees to employ you, effective November 1, 2013 (the "Effective Date"). The period during which you are actually employed by the Company is referred to as the "Employment Period". The Company will relocate its offices to the greater Boston, Massachusetts metropolitan area; these relocated offices will be your principal work location.

2. Position; Duties; Commitment. During the Employment Period, you will be employed by the Company as its Chief Executive Officer. You will report to the board of directors of the Company (the "Board"), and shall perform such duties consistent with your position as Chief Executive Officer and as may be assigned to you by the Board. During the Employment Period, the Company shall nominate you for election as a member of the Board at each meeting of the Company's shareholders at which your election is subject to a vote by the Company's shareholders and recommend that the shareholders of the Company vote to elect you as a member of the Board. To the extent so elected, you agree to serve on the Board without additional compensation. From time to time, you also may be designated to such offices within the Company or its subsidiaries as may be necessary or appropriate for the convenience of the businesses of the Company and its subsidiaries, and you agree to serve in such offices without additional compensation. You agree to devote substantially all of your working time, attention and energies to the Company and its Affiliates, and while you remain employed, not to engage in any other business activity that is in conflict with your duties and obligations to the Company; provided, however, that, for the avoidance of doubt, you may (i) manage your passive personal investments, (ii) serve on industry, trade, civic, charitable or non-profit corporate boards or committees, and (iii) with the

advance written consent of the Board, serve on outside for-profit corporate boards or committees. For purposes of this Agreement, the term "Affiliates" means all persons and entities directly or indirectly controlling, controlled by or under common control with the Company, where control may be by management authority or equity interest.

3. Base Salary. During the Employment Period, you will be paid an annual salary ("Base Salary") at a rate of $425,000, payable in accordance with the Company's normal payroll practice. Your Base Salary will be subject to review and increase (but not decrease) by the Board (or a subcommittee thereof) from time to time.

4. Annual Bonus**.** For each calendar year that ends during the Employment Period, commencing with the 2014 calendar year, you will be entitled to an annual bonus ("Annual Bonus") in an amount up to 50% of the Base Salary paid in such calendar year and based upon the achievement of objectives set by the Board (or a subcommittee thereof) following consultation with you; provided, however, that the Board may, in its sole discretion, award an Annual Bonus in excess of 50% of the Base Salary based on performance. The Annual Bonus with respect to any year shall be paid in the following calendar year as soon as practicable after preparation of the Company's financial statements, and in all events by May 31, subject to your continued employment through the last day of the calendar year for which the bonus is earned.

5. Special Bonus on an Initial Public Offering. On the date of the closing of an IPO (the "IPO Closing Date"), subject to your continued employment through such date, you shall receive a payment equal to $250,000. "IPO" means the initial sale of the equity securities of the Company to the public pursuant to an effective registration statement under the Securities Act of 1933.

6. Option Grant. Within thirty (30) days following the Effective Date, you will be granted an option (the "Option") to purchase the number of shares of common stock of the Company equal to 5% of the fully diluted outstanding shares of common stock of the Company on the date of the grant, with an exercise price equal to fair market value on the date of the grant. Provided you are employed by the Company on each such date, 25% of the shares subject to the Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Option will vest ratably at the end of each quarter over the three (3) year period thereafter. Upon the date an IPO is priced pursuant to a definitive agreement between the Company and an underwriter, subject to your continued employment through such date and the closing of the IPO, you will be granted an option (the "Anti-Dilution Option") to purchase a number of shares of common stock of the Company, with an exercise price equal to the price to the public in the IPO, such that, when the Option and the Anti-Dilution Option are aggregated, you continue to

hold options to purchase 5% of the fully diluted outstanding shares expected to be outstanding on the closing date of the IPO. Provided you are employed by the Company on each such date, 25% of the shares subject to the Anti-Dilution Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Anti-Dilution Option will vest ratably at the end of each quarter over the three (3) year period thereafter. The Option and Anti-Dilution Option shall be granted pursuant to an equity incentive plan to be adopted by the Company, and shall be subject to the terms thereof (to the extent not inconsistent with the terms of this Agreement).

7. Benefits.

(a) During the Employment Period, you will be eligible to participate in medical and life insurance plans, with the Company covering the full cost of such participation, and any other benefit plans as may be established by the Company from time to time. Notwithstanding the foregoing, if medical and life insurance plans have not been established by the Company as of the Effective Date, the Company will pay the COBRA and life insurance premiums (on a grossed-up basis) for your participation in the medical and life insurance plans that you participate in as of the date hereof, until such time when the Company's plans have been established.

(b) During the Employment Period, the Company shall reimburse or otherwise provide for or pay for reasonable out-of-pocket expenses incurred by you in furtherance of or in connection with the business of the Company, subject to such reasonable documentation as may required by the Company.

(c) During the Employment Period, in addition to holidays recognized by the Company, you will be entitled to four (4) weeks of paid vacation annually.

8. Termination of Employment.

(a) Death. Your employment will terminate upon your death. Your beneficiaries will be entitled to (i) any earned but unpaid Base Salary, to be paid within 10 days of your termination of employment, (ii) compensation at the rate of your Base Salary for any vacation time earned but not used as of the date your employment terminates, (iii) any amounts earned under Section 4 but not yet paid, to be paid in accordance with Section 4, (iv) reimbursement for any business expenses incurred by you but not yet paid to you as of the date your employment terminates, provided all expenses and supporting documentation required are submitted within sixty (60) days of the date your employment terminates, and provided further that such expenses are reimbursable under Company policy, and (iv) any amounts accrued and payable under the terms of any of the Company's benefit plans (collectively the "Accrued Obligations").

(b) Disability. The Board may terminate your employment by reason of your Disability. "Disability" means that you have been unable to perform your essential job functions

by reason of a physical or mental impairment, notwithstanding the provision of any reasonable accommodation, for a period of 180 days within a period of 365 consecutive days. Upon such termination, you will be entitled only to the Accrued Obligations.

(c) Termination by the Company for Cause. The Board may terminate your employment for Cause. "Cause" means that you have (i) been convicted of (x) a felony, or (y) a misdemeanor involving moral turpitude (other than a minor traffic violation), (ii) committed an act of fraud or embezzlement against the Company or its Affiliates, (iii) materially breached this Employment Agreement and failed to cure such breach within thirty (30) days following written notice from the Company, (iv) materially violated any written policy of the Company and failed to cure such violation within thirty (30) days following written notice from the Company, (v) materially failed or materially refused to substantially perform your duties (other than by reason of a physical or mental impairment) or to implement the lawful written directives of the Board that are consistent with your position, and such material failure or material refusal has continued after thirty (30) days following written notice from the Company, (vi) willfully engaged in conduct or willfully omitted to take any action, resulting in material injury to the Company or its Affiliates, monetarily or otherwise (including with respect to the Company's ability to comply with its legal or regulatory obligations), or (vii) materially breached your fiduciary duties as an officer or director of the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(d) Termination by the Company without Cause. The Company may terminate your employment for any or no reason. If such termination is not for Cause and not by reason of your Disability, then, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to (i) continued payment of your Base Salary for twelve (12) months, (ii) payment of your COBRA premiums on a grossed-up basis, less the amount charged to active employees for health coverage, for twelve (12) months, (iii) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus is equal to 50% of your Base Salary) and (iv) immediate vesting of any unvested options, restricted stock, restricted stock units, or other equity awards that are outstanding immediately prior to the date of termination and, but for the termination of your employment, would have vested during the twelve (12) month period immediately following the date of termination (collectively, the "Severance Benefits"). Your right to the Severance Benefits shall be conditional upon (x) your continuing compliance with the restrictive covenants contained in Section 9, (y) your continuing material compliance with the provisions of Section 10, and (z) your execution of a customary release of claims relating to your employment (which form does not impose any additional material obligations on you) in the form agreed to between you and the Company (the "Release of Claims"). You must execute the Release of Claims within forty-five (45) days following the date of the termination of your employment (which release shall be delivered to you within five (5) days following the date of such termination). The first payment of continued Base Salary and COBRA premiums, together with the pro-rata Annual Bonus payable pursuant to subsection (iii) above, pursuant to this Section 8(d) shall be made on the effective date of the Release of Claims as set forth in this Section 8(d); provided, however, that if the time period to consider and revoke the Release of Claims covers

two of your taxable years, payment of Severance Benefits of which any portion is treated as non-qualified deferred compensation pursuant to Section 409A of the Internal Revenue Code will begin in the later taxable year.

(e) Termination by You Without Good Reason. You may terminate your employment for any or no reason subject to your providing 30 days written notice to the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(f) Termination by Your For Good Reason. You may terminate your employment for Good Reason by providing notice to the Company of the condition giving rise to the Good Reason no later than ninety (90) days following the occurrence of the condition, by giving the Company thirty (30) days to remedy the condition and by terminating your employment for Good Reason within ninety (90) days thereafter if the Company fails to remedy the condition. For purposes of this Agreement, "Good Reason" shall mean, without your written consent, the occurrence of any one or more of the following events: (i) material diminution in the nature or scope of the your responsibilities, duties or authority; (ii) reduction in your Base Salary or maximum annual bonus potential; (iii) relocation of your principal work location more than fifty (50) miles from the location of your principal work location as of immediately prior to such relocation; or (iv) material breach of this Agreement by the Company. In the event you terminate your employment for Good Reason, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to the Severance Benefits, in accordance with and subject to the provisions of Section 8(d).

9. Restrictive Covenants.

(a) Non-Competition. During your employment and ending on the twelve (12) month anniversary following the termination of your employment (the "Restricted Period"), you will not (except as an officer, director, stockholder, member, manager, employee, agent or consultant of the Company or its subsidiaries) directly or indirectly, own, manage, operate, join, or have a financial interest in, control or participate in the ownership, management, operation or control of, or be employed as an employee, agent or consultant, or in any other individual or representative capacity whatsoever, or use or permit your name to be used in connection with, any business anywhere in the world which is primarily engaged in the business of research, development and commercialization of drugs to treat (i) psychiatric disorders, sleep disorders or Parkinson's disease or (ii) any other indication for which the Company is clinically developing or commercializing a drug at the time of termination of your employment (the "Restricted Business"). It is recognized that the Restricted Business is expected to be conducted throughout the world and that more narrow geographical limitations of any nature on this non-competition covenant (and the non-solicitation covenant set forth in Section 9(b)) are therefore not appropriate. These restrictions shall not prevent you from (y) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that your services

for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (z) holding five percent (5%) of the securities of any publicly traded entity.

(b) Non-Solicitation. During the Restricted Period, you agree not to, directly or indirectly, whether for your own account or for the account of any other individual or entity, (i) solicit for hire or engagement, hire, or engage any individual who is employed by the Company or its Affiliates on the date of any attempted solicitation or was employed during the six month period prior thereto unless such individual had been involuntarily terminated by the Company or (ii) otherwise induce or attempt to induce any individual who is employed by Company or its Affiliates to terminate such employment.

(c) Trade Secrets and Confidential Information. You recognize that it is in the legitimate business interest of the Company and its Affiliates to restrict your disclosure or use of Trade Secrets or other Confidential Information relating to the Company and its Affiliates for any purpose other than in connection with your performance of your duties to the Company and its Affiliates, and to limit any potential appropriation of such Trade Secrets or other Confidential Information. You therefore agree that all Trade Secrets or other Confidential Information relating to the Company and its Affiliates heretofore or in the future obtained by you shall be considered confidential and the proprietary information of the Company and its Affiliates. Except as required in connection with the performance of your duties, you shall not use or disclose, or authorize any other person or entity to use or disclose, any Trade Secrets or other Confidential Information. The term "Trade Secrets or other Confidential Information," means any information of the Company or its Affiliates that is not generally known by those with whom they compete and includes, by way of example and without limitation, in whatever medium, the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, machine, invention, improvement, manufacturing, sales or test data, business or financial information which are non-public in nature and which are treated as confidential or trade secret information by the Company. The term "Trade Secrets or other Confidential Information" does not include information that enters the public domain, other than through your breach of your obligations under this Agreement.

(d) Discoveries and Works. All Discoveries and Works made or conceived by you, during the Employment Period, jointly or with others, that relate to the present or anticipated activities of the Company or its Affiliates, or are used by the Company or any Affiliate shall be owned by the Company or any Affiliate. The term "Discoveries and Works" means Trade Secrets or other Confidential Information, patents and patent applications, trademarks and trademark registrations and applications, service marks and service mark registrations and applications, trade names, copyrights and copyright registrations and applications, inventions,

developments and discoveries. You shall (a) promptly notify, make full disclosure to, and execute and deliver any documents, including any assignment agreement, requested by the Company or any Affiliate, as the case may be, to evidence or better assure title to Discoveries and Works in the Company or any subsidiary, as so requested, (b) renounce any and all claims, including but not limited to claims of ownership and royalty, with respect to all Discoveries and Works and all other property owned or licensed by the Company or any of its Affiliates, (c) assist the Company or any of its Affiliates in obtaining or maintaining for itself at its own expense United States and foreign patents, copyrights, trade secret protection or other protection of any and all Discoveries and Works, and (d) promptly execute, whether during the Employment Period or thereafter, all applications or other endorsements necessary or appropriate to maintain patents and other rights for the Company or any Affiliate and to protect the title of the Company or any Affiliate thereto, including but not limited to assignments of such patents and other rights to Discoveries and Works. You acknowledge that all Discoveries and Works shall be deemed "works made for hire" under the Copyright Act of 1976, as amended, 17 U.S.C. § 101.

(e) Remedies. You agree that the Company and its Affiliates' remedies at law for any breach or threatened breach by you of any of the provisions of this Section 9 will be inadequate, and that, in addition to any other remedy to which the Company and its Affiliates may be entitled at law or in equity, the Company shall be entitled to a temporary or permanent injunction or injunctions or temporary restraining order or orders to prevent breaches of the provisions of this Section 9 and to enforce specifically the terms and provisions hereof, in each case without the need to post any security or bond. Nothing herein contained shall be construed as prohibiting the Company or its Affiliates from pursuing, in addition, any other remedies available to the Company or any Affiliate for such breach or threatened breach.

(f) Enforceability. It is expressly understood and agreed that although the parties consider the restrictions contained in this Section 9 hereof to be reasonable for the purpose of preserving the goodwill, proprietary rights and going concern value of the Company and its Affiliates, if a final determination is made by an arbitrator or court, as the case may be, having jurisdiction that the time or territory or any other restriction contained in this Section 9 is an unenforceable restriction on your activities, the provisions of this Section 9 shall not necessarily be rendered void but shall be deemed amended to apply as to such maximum time, if any and territory, if any and to such other extent, if any, as such arbitrator or court, as the case may be, may determine to be reasonable. Alternatively, if the arbitrator or court, as the case may be, referred to above finds that any restriction contained in this Section 9 or any remedy provided herein is unenforceable, and such restriction or remedy cannot be amended so as to make it enforceable, such

finding shall not affect the enforceability of any of the other restrictions contained therein or the availability of any other remedy.

10. Future Cooperation. You agree that upon the Company's reasonable request following your termination of employment, you will use reasonable efforts to assist and cooperate with the Company in connection with the defense or prosecution of any claim that may be made against or by the Company or its Affiliates, or in connection with any ongoing or future investigation or dispute or claim of any kind involving the Company or its Affiliates, including any proceeding before any arbitral, administrative, regulatory, self-regulatory, judicial, legislative, or other body or agency. You will be entitled only to reimbursement for reasonable out-of-pocket expenses (including travel expenses) incurred in connection with providing such assistance.

11. Withholding. The Company shall have the right to withhold from any amount payable to you hereunder an amount necessary in order for the Company to satisfy any withholding tax obligation it may have under applicable law.

12. Governing Law. The terms of this Employment Agreement, and any action arising hereunder, shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts giving effect to any choice of law or conflict of law provision or rule (whether of the Commonwealth of Massachusetts or other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Massachusetts.

13. Waiver. This Employment Agreement may not be released, changed or modified in any manner, except by an instrument in writing signed by you and the Board. The failure of either party to enforce any of the provisions of this Employment Agreement shall in no way be construed to be a waiver of any such provision. No waiver of any breach of this Employment Agreement shall be held to be a waiver of any other or subsequent breach.

14. Assignment. This Employment Agreement is personal to you. You shall not assign this Employment Agreement or any of your rights and/or obligations under this Employment Agreement to any other person. The Company may, without your consent, assign this Employment Agreement to a successor to all or substantially all of its stock or assets, provided that the assignee or any successor remains bound by these terms.

15. Dispute Resolution. To benefit mutually from the time and cost savings of arbitration over the delay and expense of the use of the federal and state court systems, all disputes involving this Employment Agreement (except, at the election of either party, for injunctive or declaratory relief with respect to disputes arising

out of an alleged breach or threatened breach of the restrictive covenants contained in Section 9), including claims of violations of federal or state discrimination statutes or public policy, shall be resolved pursuant to binding arbitration in the Commonwealth of Massachusetts. In the event of a dispute, a written request for arbitration shall be submitted to the Boston office of the American Arbitration Association. The award of the arbitrators shall be final and binding and judgment upon the award may be entered in any court having jurisdiction thereof. Except as otherwise provided above, this procedure shall be the exclusive means of settling any disputes that may arise under this Employment Agreement. All fees and expenses of the arbitrators and all other expenses of the arbitration, except for attorneys' fees and witness expenses, shall be allocated as determined by the arbitrators. Each party shall bear its own witness expenses and attorneys' fees, except as otherwise determined by the arbitrators.

16. Jointly Drafted Agreement. This Employment Agreement is and shall be deemed jointly drafted and written by the parties and shall not be construed or interpreted against any party originating or preparing any part of it because of its authorship.

17. No Conflicts. You represent and warrant to the Company that your acceptance of employment and the performance of your duties for the Company will not conflict with or result in a violation or breach of, or constitute a default under any contract, agreement or understanding to which you are or were a party or of which you are aware and that there are no restrictions, covenants, agreements or limitations on your right or ability to enter into and perform the terms of this Employment Agreement. You further represent and warrant that you have no knowledge of any fact or circumstance that could prevent or materially delay you or the Company (as a result of your employment hereunder) from obtaining or maintaining any registration, license or other authorization or approval required for (i) you to perform your duties hereunder or (ii) the Company to operate its business as currently contemplated.

18. Notices. All notices and other communications provided for in this Employment Agreement shall be in writing, shall be given to the respective addresses or telecopy numbers set forth in clauses (a) and (b) of this Section 18.

(a) Each notice or other communication to the Company under this Employment Agreement shall be directed as follows or to such other address as Company may have furnished to you in writing in accordance herewith:

Cyrenaic Pharmaceuticals, Inc.
47 Hulfish Street
Princeton, NJ 08542
Facsimile No.: 609-683-5787
Attn: Lorenzo Pellegrini
Email: lorenzopellegrini@carecapital.com

With a required copy to:

Morgan, Lewis & Bockius LLP
502 Carnegie Center

Princeton, NJ 08540-6241
Facsimile No.: 609.919.6701
Attn: Denis Segota
E-mail: dsegota@morganlewis.com

(b) Each notice or other communication to you under this Employment Agreement shall be directed to your home address on file with the Company or to such other address as you may have furnished to the Company in writing in accordance herewith

19. Entire Agreement. Upon the date hereof, this Employment Agreement supersedes all previous and contemporaneous communications, agreements and understandings between you, on the one hand, and the Company or any of its Affiliates, on the other hand, including the Offer Letter, and constitutes the sole and entire agreement between you and the Company pertaining to the subject matter hereof.

20. Counterparts. This Employment Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become a binding agreement when one or more counterparts have been signed by each party and delivered to the other party.

21. 409A Matters.

(a) Notwithstanding any provision of this Employment Agreement to the contrary, this Employment Agreement is intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). Accordingly, all provisions herein, or incorporated by reference, shall be construed and interpreted to comply with Section 409A of the Code. For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury

regulations after giving effect to the presumptions contained therein). Further, for purposes of the limitations on nonqualified deferred compensation under Section 409A of the Code, each payment of compensation under this Employment Agreement shall be treated as a separate payment of compensation. Any amounts payable solely on account of an involuntary separation from service within the meaning of Section 409A of the Code shall be excludible from the requirements of Section 409A of the Code, either as involuntary separation pay or as short-term deferral amounts to the maximum possible extent. Any reimbursements or in-kind benefits provided under this Employment Agreement shall be made or provided in accordance with the requirements of Section 409A of the Code, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the period of time specified in this Employment Agreement, (ii) the amount of expenses eligible for reimbursement, or in kind benefits provided, during a calendar year may not affect the expenses eligible for reimbursement, or in kind benefits to be provided, in any other calendar year, (iii) the reimbursement of an eligible expense will be made no later than the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement or in kind benefits is not subject to liquidation or exchange for another benefit. The welfare benefit continuation provided during the period of time in which you would be entitled to continuation coverage under the Company's group health plan under COBRA is intended to qualify for the exception from deferred compensation as a medical benefit provided in accordance with the requirements of Treasury Regulation Section 1.409A-1(b)(9)(v)(B).

(b) Notwithstanding any provision of the Employment Agreement to the contrary, if you are a "specified employee" within the meaning of Section 409A of the Code at the time of termination of employment, to the extent necessary to comply with Section 409A of the Code, any payment required under this Employment Agreement shall be delayed for a period of six (6) months after termination of employment pursuant to Section 409A of the Code, regardless of the circumstances giving rise to or the basis for such payment. Payment of such delayed amount shall be paid in a lump sum on the day immediately following the end of the six (6) month period. If you die during the postponement period prior to the payment of the delayed amount, the amounts delayed on account of Section 409A of the Code shall be paid to the personal representative of your estate within ninety (90) days after the date of your death. For these purposes, a "specified employee" shall mean an employee who, at any time during the 12-month period ending on the identification date, is a "specified employee" under Section 409A of the Code, as determined by the Company. The determination of "specified employees," including the number and identity of persons considered "specified employees" and the identification date, shall be made by the Company in accordance with Treasury regulation Section 1.409A-1(i).

* * * *

If the foregoing is acceptable to you, kindly sign and return to us one copy of this letter.

Sincerely yours,

CYRENAIC PHARMACEUTICALS, INC.

By: /s/ Lorenzo Pellegrini
Name: Dr. Lorenzo Pellegrini
Title: Director

AGREED TO AND ACCEPTED BY:

/s/ Rogerio Vivaldi Coelho
Rogerio Vivaldi Coelho

AMENDMENT NO. 1
TO
EMPLOYMENT AGREEMENT

The Employment Agreement entered into by and between Minerva Neurosciences, Inc. (formerly known as Cyrenaic Pharmaceuticals, Inc.) (the "Company") and Rogerio Vivaldi Coelho, MD, MBA, dated October 4, 2013 (the "Employment Agreement") is hereby amended as follows:

1. Section 6 of the Employment Agreement is hereby amended in its entirety to read as follows:

"6. Option Grant. You will be granted an option (the "Initial Option") to purchase 1,892,528 shares of common stock of the Company with an exercise price per share equal to the fair market value per share of common stock on the date of the grant. Provided you are employed by the Company on each such date, 25% of the shares subject to the Initial Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Initial Option will vest in equal installments at the end of each quarter over the three (3) year period thereafter. Upon the date an IPO is priced pursuant to a definitive agreement between the Company and an underwriter, subject to your continued employment through such date, you will be granted an option (the "Anti-Dilution Option") to purchase a number of shares of common stock of the Company, with an exercise price per share equal to the price per share issued to the public in the IPO, such that, when the Initial Option and the Anti-Dilution Option are aggregated, you hold options to purchase 5% of the fully diluted outstanding shares expected to be outstanding on the closing date of the IPO. Provided you are employed by the Company on the closing date of the IPO and each vesting date, 25% of the shares subject to the Anti-Dilution Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Anti-Dilution Option will vest in equal installments at the end of each quarter over the three (3) year period thereafter. The Initial Option and Anti-Dilution Option shall be granted pursuant to an equity incentive plan to be adopted by the Company, and shall be subject to the terms thereof (to the extent not inconsistent with the terms of this Agreement)."

2. Except as modified by this Agreement, all the term and provisions of the Employment Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment on the date indicated below.

ROGERIO VIVALDI COELHO, MD, MBA

/s/Rogerio Vivaldi Coelho

Dated: 30 Dec., 2013

MINERVA NEUROSCIENCES, INC.

By: /s/ Lorenzo Pellegrini

Title: Secretary & Director

Dated: 30 December, 2013

Exhibit 10.9

December 23, 2013

Joseph Reilly
12 Nelson Way
Wilmington, MA 01887

Dear Joe:

Further to our offer letter to you dated December 13, 2013 (the "Offer Letter"), this agreement (this "Employment Agreement") will formalize the terms and conditions of your employment with Minerva Neurosciences, Inc. (the "Company").

1. Employment. You agree to be employed, and the Company agrees to employ you, effective January 5, 2014 (the "Effective Date"). The period during which you are actually employed by the Company is referred to as the "Employment Period".

2. Position; Duties; Commitment. During the Employment Period, you will be employed by the Company as its Chief Business Offer. You will report to the Company's President and Chief Executive Officer ("CEO"), and shall perform such duties consistent with your position as Chief Business Officer and as may be assigned to you by the CEO and/or the Board of Directors of the Company (the "Board"). You agree to devote substantially all of your working time, attention and energies to the Company and its Affiliates, and while you remain employed, not to engage in any other business activity that is in conflict with your duties and obligations to the Company; provided, however, that, for the avoidance of doubt, you may (i) manage your passive personal investments, (ii) with advance written approval from the Company, serve on industry, trade, civic, charitable or non-profit corporate boards or committees, and (iii) with the advance written approval of the Company, serve on outside for-profit corporate boards or committees. For purposes of this Agreement, the term "Affiliates" means all persons and entities directly or indirectly controlling, controlled by or under common control with the Company, where control may be by management authority or equity interest.

3. Base Salary. During the Employment Period, you will be paid an annualized base salary ("Base Salary") of $250,000, payable in accordance with the Company's

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normal payroll practice. Your Base Salary will be subject to review and adjustment by the Company from time to time.

4. Sign-On Bonus. Provided you commence employment pursuant to this Employment Agreement, after you have completed 90 calendar days of employment you will receive a one-time sign-on bonus of $30,000, less applicable taxes and withholdings. This payment will be made in the first payroll period after completion of the 90 calendar days of employment.

5. Annual Bonus**.** For each calendar year that ends during the Employment Period, commencing with the 2014 calendar year, you will be eligible to receive an annual bonus ("Annual Bonus") in an amount up to 30% of the Base Salary paid in such calendar year. Whether to grant a bonus, and in what amount, are determinations to be made in the discretion of the Company based on a variety of factors including, but not limited to, achievement of objectives established by the Board for the Company and specific annual objectives for your position set by the Board or the CEO. Since one of the objectives of the Annual Bonus is employee retention, in order to remain eligible and receive any Annual Bonus, you must be employed through the end of the calendar year and still be employed by the Company at the time it makes bonus payments to employees for that year — generally during the first quarter of the following year.

6. Option Grant. Provided you continue to be employed by the Company on the date of the closing of the Company's Initial Public Offering (the "IPO"), you will be granted an option (the "Option") to purchase the number of shares of common stock of the Company equal to 0.45% of the fully diluted outstanding shares of common stock of the Company on the date immediately following the close of the IPO, with an exercise price equal to the price to the public in the IPO. Provided you are employed by the Company on each such date, 25% of the shares subject to the Option will vest on the first anniversary of the Effective Date and the remaining 75% of the shares subject to the Option will vest ratably at the end of each quarter over the three (3) year period thereafter. The Option will be evidenced by a standard stock option agreement, and will be subject to the terms and conditions of that agreement and the stock option plan under which the Option is granted.

7. Benefits.

(a) You shall be eligible to participate in any and all benefit programs that the Company establishes and makes available to similarly situated employees from time to time, provided that you are eligible under (and subject to all provisions

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of) the plan documents governing those programs. Such benefits may include participation in group medical, dental, and vision insurance programs, and term life insurance. The benefits made available by the Company, and the rules, terms, and conditions for participation in such benefit plans, may be changed by the Company at any time without advance notice.

(b) Notwithstanding the foregoing, if medical and life insurance plans have not been established by the Company as of the Effective Date, the Company will pay the COBRA and life insurance premiums (on a grossed-up basis) for your participation in the medical and life insurance plans that you participate in as of the date hereof, until such time when the Company's plans have been established.

(c) During the Employment Period, the Company shall reimburse or otherwise provide for payment for reasonable out-of-pocket business expenses incurred by you in furtherance of or in connection with the legitimate business of the Company, subject to such reasonable documentation or policy requirements established by the Company from time to time.

(d) During the Employment Period, in addition to holidays recognized by the Company, you will be entitled to four (4) weeks of paid vacation annually. Pursuant to Company policy, vacation time cannot be carried over from year to year.

8. Termination of Employment.

(a) Death. Your employment will terminate upon your death. Your beneficiaries and/or estate will be entitled to (i) any earned but unpaid Base Salary, to be paid less applicable taxes and withholdings within 10 days of your termination of employment, (ii) compensation at the rate of your Base Salary for any vacation time earned but not used as of the date your employment terminates, (iii) reimbursement for any business expenses incurred by you but not yet paid to you as of the date your employment terminates, provided all expenses and supporting documentation required are submitted within sixty (60) days of the date your employment terminates, and provided further that such expenses are reimbursable under Company policy, (iv) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus would be equal to 30% of your Base Salary, and (v) any amounts accrued and payable under the terms of any of the Company's benefit plans (items (i), (ii), (iii) and (v) referred to as the "Accrued Obligations").

(b) Disability. The Board may terminate your employment by reason of your Disability upon written notice of termination. "Disability" means that you have

been unable to perform your essential job functions by reason of a physical or mental impairment, notwithstanding the provision of any reasonable accommodation, for a period of 180 days within a period of 365 consecutive days. Upon such termination, you will be entitled only to the Accrued Obligations.

(c) Termination by the Company for Cause. The Board may terminate your employment for Cause. "Cause" means that you have (i) been convicted of (x) a felony, or (y) a misdemeanor involving moral turpitude (other than a minor traffic violation), (ii) committed an act of fraud or embezzlement against the Company or its Affiliates, (iii) materially breached this Employment Agreement and failed to cure such breach within thirty (30) days following written notice from the Company, (iv) materially violated any written policy of the Company and failed to cure such violation within thirty (30) days following written notice from the Company, (v) materially failed or materially refused to substantially perform your duties (other than by reason of a physical or mental impairment) or to implement the lawful written directives of the CEO and/or Board that are consistent with your position, and such material failure or material refusal has continued after thirty (30) days following written notice from the Company, (vi) willfully engaged in conduct or willfully omitted to take any action, resulting in material injury to the Company or its Affiliates, monetarily or otherwise (including with respect to the Company's ability to comply with its legal or regulatory obligations), or (vii) materially breached your fiduciary duties as an officer or director of the Company. Upon such termination, you will be entitled only to the Accrued Obligations.

(d) Termination by the Company without Cause. The Company may terminate your employment without "Cause" immediately upon written notice. If such termination is without Cause and not by reason of your Disability, then, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy or plan in effect, you will be entitled to (i) continued payment of your Base Salary for six (6) months, (ii) should you be eligible for and timely elect COBRA coverage, payment of your COBRA premiums, less the amount charged to active employees for health coverage, for up to six (6) months (iii) payment of a pro-rata portion of your Annual Bonus (assuming for purposes of this payment that your Annual Bonus is equal to 30% of your Base Salary) and (iv) immediate vesting of any unvested options, restricted stock, restricted stock units, or other equity awards that are outstanding immediately prior to the date of termination and, but for the termination of your employment, would have vested during the six (6) month period immediately following the date of termination (collectively, the "Severance Benefits"). Your right to the Severance Benefits shall be conditional upon (x) your continuing compliance with the restrictive covenants contained in Section 9, (y) your continuing material compliance with the provisions of Section 10, and (z) your execution of a release of claims relating to your employment in a form

prepared by and satisfactory to the Company (the "Release of Claims"). You must execute the Release of Claims within forty-five (45) days following the date of the termination of your employment (which release shall be delivered to you within five (5) days following the date of such termination). The first payment of continued Base Salary and COBRA premiums, together with the pro-rata Annual Bonus payable pursuant to subsection (iii) above, pursuant to this Section 8(d) shall be made on the effective date of the Release of Claims as set forth in this Section 8(d); provided, however, that if the time period to consider and revoke the Release of Claims covers two of your taxable years, payment of Severance Benefits of which any portion is treated as non-qualified deferred compensation pursuant to Section 409A of the Internal Revenue Code will begin in the later taxable year.

(e) Termination by You Without Good Reason. You may terminate your employment for any or no reason subject to your providing 30 days written notice to the Company. The Company shall have the right to elect to terminate your employment immediately or at any other date during the notice period. Upon such termination, you will be entitled only to the Accrued Obligations.

(f) Termination by Your For Good Reason. You may terminate your employment for Good Reason by providing notice to the Company of the condition giving rise to the Good Reason no later than ninety (90) days following the first occurrence of the condition, by giving the Company thirty (30) days to remedy the condition and by terminating your employment for Good Reason within ninety (90) days thereafter if the Company fails to remedy the condition. For purposes of this Agreement, "Good Reason" shall mean, without your written consent, the occurrence of any one or more of the following events: (i) material diminution in the nature or scope of the your responsibilities, duties or authority; (ii) material reduction in your Base Salary; (iii) relocation of your principal work location more than fifty (50) miles from the location of your principal work location as of immediately prior to such relocation; or (iv) material breach of this Agreement by the Company. In the event you terminate your employment for Good Reason, in addition to the Accrued Obligations, and in lieu of any other severance benefits otherwise payable under any Company policy, you will be entitled to the Severance Benefits, in accordance with and subject to the provisions of Section 8(d).

9. Restrictive Covenants.

(a) Non-Competition. During your employment and ending on the twelve (12) month anniversary following the termination of your employment (the "Restricted Period"), you will not (except as an officer, director, stockholder, member,

manager, employee, agent or consultant of the Company or its subsidiaries) directly or indirectly, own, manage, operate, join, or have a financial interest in, control or participate in the ownership, management, operation or control of, or be employed as an employee, agent or consultant, or in any other individual or representative capacity whatsoever, or use or permit your name to be used in connection with, any business anywhere in the world which is primarily engaged in the business of research, development and commercialization of drugs to treat (i) psychiatric disorders, sleep disorders or Parkinson's disease or (ii) any other indication for which the Company is clinically developing or commercializing a drug at the time of termination of your employment (the "Restricted Business"). It is recognized that the Restricted Business is expected to be conducted throughout the world and that more narrow geographical limitations of any nature on this non-competition covenant (and the non-solicitation covenant set forth in Section 9(b)) are therefore not appropriate. These restrictions shall not prevent you from (y) accepting employment with a recognized pharmaceutical company that is not primarily engaged in a Restricted Business, provided that your services for any such entity do not primarily relate to any Restricted Business in which such entity may be engaged and/or (z) holding five percent (5%) of the securities of any publicly traded entity.

(b) Non-Solicitation. During the Restricted Period, you agree not to, directly or indirectly, whether for your own account or for the account of any other individual or entity, (i) solicit for hire or engagement, hire, or engage any individual who is employed by the Company or its Affiliates on the date of any attempted solicitation or was employed during the six month period prior thereto unless such individual had been involuntarily terminated by the Company or (ii) otherwise induce or attempt to induce any individual who is employed by Company or its Affiliates to terminate such employment.

(c) Trade Secrets and Confidential Information. You recognize that it is in the legitimate business interest of the Company and its Affiliates to restrict your disclosure or use of Trade Secrets or other Confidential Information relating to the Company and its Affiliates for any purpose other than in connection with your performance of your duties to the Company and its Affiliates, and to limit any potential appropriation of such Trade Secrets or other Confidential Information. You therefore agree that all Trade Secrets or other Confidential Information relating to the Company and its Affiliates heretofore or in the future obtained by you shall be considered confidential and the proprietary information of the Company and its Affiliates. Except as required in connection with the performance of your duties, you shall not use or disclose, or authorize any other person or entity to use or disclose, any Trade Secrets or other Confidential Information. The term "Trade Secrets or other Confidential Information," means any information of the Company or its Affiliates that is not generally known by

those with whom they compete and includes, by way of example and without limitation, in whatever medium, the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, machine, invention, improvement, manufacturing, sales or test data, business or financial information which are non-public in nature and which are treated as confidential or trade secret information by the Company. The term "Trade Secrets or other Confidential Information" does not include information that enters the public domain, other than through your breach of your obligations under this Agreement.

(d) Discoveries and Works. All Discoveries and Works made or conceived by you, during the Employment Period, jointly or with others, that relate to the present or anticipated activities of the Company or its Affiliates, or are used by the Company or any Affiliate shall be owned by the Company or any Affiliate. The term "Discoveries and Works" means Trade Secrets or other Confidential Information, patents and patent applications, trademarks and trademark registrations and applications, service marks and service mark registrations and applications, trade names, copyrights and copyright registrations and applications, inventions, developments and discoveries. You shall (a) promptly notify, make full disclosure to, and execute and deliver any documents, including any assignment agreement, requested by the Company or any Affiliate, as the case may be, to evidence or better assure title to Discoveries and Works in the Company or any subsidiary, as so requested, (b) renounce any and all claims, including but not limited to claims of ownership and royalty, with respect to all Discoveries and Works and all other property owned or licensed by the Company or any of its Affiliates, (c) assist the Company or any of its Affiliates in obtaining or maintaining for itself at its own expense United States and foreign patents, copyrights, trade secret protection or other protection of any and all Discoveries and Works, and (d) promptly execute, whether during the Employment Period or thereafter, all applications or other endorsements necessary or appropriate to maintain patents and other rights for the Company or any Affiliate and to protect the title of the Company or any Affiliate thereto, including but not limited to assignments of such patents and other rights to Discoveries and Works. You acknowledge that all Discoveries and Works shall be deemed "works made for hire" under the Copyright Act of 1976, as amended, 17 U.S.C. § 101.

(e) Remedies. You agree that the Company and its Affiliates' remedies at law for any breach or threatened breach by you of any of the provisions of this Section 9 will be inadequate, and that, in addition to any other remedy to which the Company and its Affiliates may be entitled at law or in equity, the Company shall be entitled to a temporary or permanent injunction or injunctions or temporary restraining order or orders to prevent breaches of the provisions of this Section 9 and to enforce specifically the terms and provisions hereof, in each case without the need to post any security or bond. Nothing herein contained shall be construed as

prohibiting the Company or its Affiliates from pursuing, in addition, any other remedies available to the Company or any Affiliate for such breach or threatened breach.

(f) Enforceability. It is expressly understood and agreed that although the parties consider the restrictions contained in this Section 9 hereof to be reasonable for the purpose of preserving the goodwill, proprietary rights and going concern value of the Company and its Affiliates, if a final determination is made by an arbitrator or court, as the case may be, having jurisdiction that the time or territory or any other restriction contained in this Section 9 is an unenforceable restriction on your activities, the provisions of this Section 9 shall not necessarily be rendered void but shall be deemed amended to apply as to such maximum time, if any and territory, if any and to such other extent, if any, as such arbitrator or court, as the case may be, may determine to be reasonable. Alternatively, if the arbitrator or court, as the case may be, referred to above finds that any restriction contained in this Section 9 or any remedy provided herein is unenforceable, and such restriction or remedy cannot be amended so as

to make it enforceable, such finding shall not affect the enforceability of any of the other restrictions contained therein or the availability of any other remedy.

10. Future Cooperation. You agree that upon the Company's reasonable request following your termination of employment, you will use reasonable efforts to assist and cooperate with the Company in connection with the defense or prosecution of any claim that may be made against or by the Company or its Affiliates, or in connection with any ongoing or future investigation or dispute or claim of any kind involving the Company or its Affiliates, including any proceeding before any arbitral, administrative, regulatory, self-regulatory, judicial, legislative, or other body or agency. You will be entitled only to reimbursement for reasonable out-of-pocket expenses (including travel expenses) incurred in connection with providing such assistance.

11. Withholding. The Company shall have the right to withhold from any amount payable to you hereunder an amount necessary in order for the Company to satisfy any withholding tax obligation it may have under applicable law.

12. Governing Law. The terms of this Employment Agreement, and any action arising hereunder, shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts giving effect to any choice of law or conflict of law provision or rule (whether of the Commonwealth of Massachusetts or other jurisdiction) that would cause the application of the laws of any jurisdiction other than the Commonwealth of Massachusetts.

13. Waiver. This Employment Agreement may not be released, changed or modified in any manner, except by an instrument in writing signed by you and the Board. The failure of either party to enforce any of the provisions of this Employment Agreement shall in no way be construed to be a waiver of any such provision. No waiver of any breach of this Employment Agreement shall be held to be a waiver of any other or subsequent breach.

14. Assignment. This Employment Agreement is personal to you. You shall not assign this Employment Agreement or any of your rights and/or obligations under this Employment Agreement to any other person. The Company may, without your consent, assign this Employment Agreement to a successor to all or substantially all of its stock or assets, provided that the assignee or any successor remains bound by these terms.

15. Dispute Resolution. To benefit mutually from the time and cost savings of arbitration over the delay and expense of the use of the federal and state court systems, all disputes involving this Employment Agreement (except, at the election of either party, for injunctive or declaratory relief with respect to disputes arising out of an alleged breach or threatened breach of the restrictive covenants contained in Section 9), including claims of violations of federal or state discrimination statutes, wage and hour laws, or public policy, shall be resolved pursuant to binding arbitration in the Commonwealth of Massachusetts. In the event of a dispute, a written request for arbitration shall be submitted to the Boston office of the American Arbitration Association. The award of the arbitrators shall be final and binding and judgment upon the award may be entered in any court having jurisdiction thereof. Except as otherwise provided above, this procedure shall be the exclusive means of settling any disputes that may arise under this Employment Agreement. All fees and expenses of the arbitrators and all other expenses of the arbitration, except for attorneys' fees and witness expenses, shall be allocated as determined by the arbitrators. Each party shall bear its own witness expenses and attorneys' fees, except as otherwise determined by the arbitrators.

16. Jointly Drafted Agreement. This Employment Agreement is and shall be deemed jointly drafted and written by the parties and shall not be construed or interpreted against any party originating or preparing any part of it because of its authorship.

17. No Conflicts. You represent and warrant to the Company that your acceptance of employment and the performance of your duties for the Company will not conflict with or result in a violation or breach of, or constitute a default under any contract, agreement or understanding to which you are or were a party or of which you are aware and that there are no restrictions, covenants, agreements or limitations on your right or ability to enter into and perform the terms of this Employment

Agreement. You further represent and warrant that you have no knowledge of any fact or circumstance that could prevent or materially delay you or the Company (as a result of your employment hereunder) from obtaining or maintaining any registration, license or other authorization or approval required for (i) you to perform your duties hereunder or (ii) the Company to operate its business as currently contemplated.

18. Company Policies and Procedures. As an employee of the Company, you will be required to comply with all Company policies and procedures. The Company's premises, including all workspaces, furniture, documents, and other tangible materials, and all information technology resources of the Company (including computers, data and other electronic files, and all internet and email) are subject to oversight and inspection by the Company at any time, with or without notice. Company employees should have no expectation of privacy with regard to any Company premises, materials, resources, or information.

19. Notices. All notices and other communications provided for in this Employment Agreement shall be in writing, shall be given to the respective addresses or telecopy numbers set forth in clauses (a) and (b) of this Section 19.

(a) Each notice or other communication to the Company under this Employment Agreement shall be directed as follows or to such other address as Company may have furnished to you in writing in accordance herewith:

Minerva Neurosciences, Inc.
245 First Street, Suite 1800
Cambridge, MA 02142
Attn: Rogerio Vivaldi
Email: rvivaldi@minervaneurosciences.com

With a required copy to:

Morgan, Lewis & Bockius LLP
502 Carnegie Center
Princeton, NJ 08540-6241
Facsimile No.: 609.919.6701
Attn: Denis Segota
E-mail: dsegota@morganlewis.com

(b) Each notice or other communication to you under this Employment Agreement shall be directed to your home address on file with the Company or to such other address as you may have furnished to the Company in writing in accordance herewith

20. Entire Agreement. Upon the date hereof, this Employment Agreement supersedes all previous and contemporaneous communications, agreements and understandings between you, on the one hand, and the Company or any of its Affiliates, on the other hand, including the Offer Letter, and constitutes the sole and entire agreement between you and the Company pertaining to the subject matter hereof.

21. Counterparts. This Employment Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become a binding agreement when one or more counterparts have been signed by each party and delivered to the other party.

22. 409A Matters.

(a) Notwithstanding any provision of this Employment Agreement to the contrary, this Employment Agreement is intended to comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"). Accordingly, all provisions herein, or incorporated by reference, shall be construed and interpreted to comply with Section 409A of the Code. For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury regulations after giving effect to the presumptions contained therein). Further, for purposes of the limitations on nonqualified deferred compensation under Section 409A of the Code, each payment of compensation under this Employment Agreement shall be treated as a separate payment of compensation. Any amounts payable solely on account of an involuntary separation from service within the meaning of Section 409A of the Code shall be excludible from the requirements of Section 409A of the Code, either as involuntary separation pay or as short-term deferral amounts to the maximum possible extent. Any reimbursements or in-kind benefits provided under this Employment Agreement shall be made or provided in accordance with the requirements of Section 409A of the Code, including, where applicable, the requirement that (i) any reimbursement is for expenses incurred during the period of time specified in this Employment Agreement, (ii) the amount of expenses eligible for reimbursement, or in kind benefits provided, during a calendar year may not affect the expenses eligible for reimbursement, or in kind benefits to be provided, in any other calendar year, (iii) the reimbursement of an eligible expense will be made no later than the last day of the calendar year following the year in which the expense is incurred, and (iv) the right to reimbursement or in kind benefits is not subject to liquidation or exchange for another benefit. The welfare benefit continuation provided during the period of time in which you would be entitled to continuation coverage under the

Company's group health plan under COBRA is intended to qualify for the exception from deferred compensation as a medical benefit provided in accordance with the requirements of Treasury Regulation Section 1.409A-1(b)(9)(v)(B).

(b) Notwithstanding any provision of the Employment Agreement to the contrary, if you are a "specified employee" within the meaning of Section 409A of the Code at the time of termination of employment, to the extent necessary to comply with Section 409A of the Code, any payment required under this Employment Agreement shall be delayed for a period of six (6) months after termination of employment pursuant to Section 409A of the Code, regardless of the circumstances giving rise to or the basis for such payment. Payment of such delayed amount shall be paid in a lump sum on the day immediately following the end of the six (6) month period. If you die during the postponement period prior to the payment of the delayed amount, the amounts delayed on account of Section 409A of the Code shall be paid to the personal representative of your estate within ninety (90) days after the date of your death. For these purposes, a "specified employee" shall mean an employee who, at any time during the 12-month period ending on the identification date, is a "specified employee" under Section 409A of the Code, as determined by the Company. The determination of "specified employees," including the number and identity of persons considered "specified employees" and the identification date, shall be made by the Company in accordance with Treasury regulation Section 1.409A-1(i).

* * * *

If the foregoing is acceptable to you, kindly sign and return to us one copy of this letter by December , 2013.

Sincerely yours,

MINERVA NEUROSCIENCES, INC.

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

AGREED TO AND ACCEPTED ON THIS 2nd DAY OF JANUARY, 2014

BY:

/s/ Joseph Reilly
Joseph Reilly

Exhibit 10.10

Execution Copy

October 16, 2013

Mr. Marc D. Beer
50 Silver Hill Road
Sudbury, MA 01776

Dear Marc:

On behalf of the Board of Directors (the "Board") of Cyrenaic Pharmaceuticals, Inc., a Delaware corporation (the "Company"), it is my pleasure to confirm that you have been offered appointment as Chairman of the Board. Sonkei Pharmaceuticals, Inc. will shortly be merged with and into the Company, and the name of the Company will be changed to Minerva Neurosciences, Inc.

1. Upon acceptance of this letter and subject to approval by the Board, you will be appointed as a non-employee director and Chairman of the Board to serve until the next annual meeting of stockholders, and until your successor is duly elected and qualified. As Chairman, among other duties, you will be expected to assist the Board in overseeing the Company's long and short term strategic and business planning.

2. As a non-employee director you will be entitled to participate in the Company's Equity Compensation Plan (the "Plan"). In consideration of your role, the Company will grant to you, on the date of your first appointment to the Board of Directors, an option to purchase such number of shares of the Company's Common Stock as represents one percent (1%) of the total outstanding capital stock of the Company, on an equity and debt as-converted basis, with an exercise price equal to the then current fair market value of the Company's Common Stock (the "Initial Option"). Immediately after the initial public offering (the "IPO"), the Company shall grant you an additional option (the "Second Option", and together with the Initial Option, the "Options"), such that the number of shares underlying the Options represent, in aggregate, one percent (1%) of the Company's total outstanding capital stock, on an as-converted basis, immediately after the IPO. The exercise price of the Second Option shall be equal to the price per share of the Company's Common Stock issued in connection with the IPO. The Initial Option shall vest as to twenty-five percent (25%) of the shares immediately upon completion of the IPO, with the remaining seventy-five percent (75%) of the shares % to vest in monthly installments over the three (3) year period commencing on the date of your appointment to the Board. The Second Option shall vest in monthly installments over the three (3) year period that will be deemed to have commenced on the date of your appointment to the Board, provided that, since the Second Option is not granted until completion of the IPO, the monthly vesting attributable to the period between your appointment and the date of completion of the IPO will become immediately vested on the grant date of the Second Option. The Options will fully vest in the event of a change of control. The Options will be exercisable over a term of ten years. During your term you will also be eligible for annual option grants made to all non-employee directors in an amount to be determined by the Company's Compensation Committee. These additional option grants are to be issued at the sole discretion of the Compensation Committee. Vesting of the annual grants will be determined by the Compensation Committee, provided that such options will also fully vest in the event of a change of control. All stock option grants shall be subject to all terms, vesting schedules, limitations, restrictions and termination provisions set forth in the Plan, and the corresponding option grant agreement, provided such provisions are consistent with the terms of this letter. You will also be entitled to compensation in the amount of $75,000 per year to be paid on a quarterly basis. You will also be entitled

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to reasonable travel and out-of-pocket expenses in connection with services as Chairman and a member of the Board.

3. As Chairman, you are not an employee of the Company and will not be entitled to participate in or receive any benefit or right as a Company employee under any Company employee benefit and welfare plan, including, without limitation, employee insurance, pension, savings and security plans as a result of accepting this offer.

4. You represent to the Company that you are not bound by any employment contract, restrictive covenant or other restriction preventing you from being appointed as Chairman of the Board or carrying out your responsibilities related thereto, or which is in any way inconsistent with the terms of this letter.

5. This letter shall not be construed as an agreement, either express or implied, to have you serve on the Board for any stated term. Similarly, nothing in this letter shall be construed as an agreement, either express or implied, to pay you any compensation or grant you any benefit beyond your services as Chairman and a member of the Board.

6. The Company will provide insurance coverage for our directors under a Director and Officers policy. You will also be entitled to indemnification under the Company's By-laws, and under a separate indemnification agreement in a form to be mutually agreed upon.

7. This agreement constitutes the entire agreement between the parties to the subject matter hereof; and supersedes and replaces all prior agreements, oral and written, between the parties relating to the subject matter hereof; and may only be amended by a written instrument clearly setting forth the amendment and executed by both parties.

If this letter correctly sets forth the terms under which you will be appointed as Chairman of the Board, please sign the enclosed duplicate of this letter in the space provided below and return it to the Company.

Very Truly Yours,

Cyrenaic Pharmaceuticals, Inc.

By: /s/ Francesco DeRubertis
Name: Francesco DeRubertis
Title: Board Member

/s/ Marc D. Beer Date: 10/17/13

Name: Marc D. Beer

Exhibit 21.1

Name	Jurisdiction
Mind-NRG SA	Switzerland