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CERECOR, INC. Index to Financial Statements

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As confidentially submitted to the Securities and Exchange Commission on April 29, 2015 as Amendment No. 2 to the Confidential Submission. This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Cerecor Inc.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**45-0705648**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

400 E. Pratt Street, Suite 606
Baltimore, Maryland 21202
(410) 522-8707
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Blake M. Paterson, M.D.
President and Chief Executive Officer
Cerecor Inc.
400 E. Pratt Street, Suite 606
Baltimore, Maryland 21202
(410) 522-8707
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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Approximate date of commencement of proposed sale to public:
As soon as practicable after this registration statement is declared effective.

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

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

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

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

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

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, $0.001 par value per share	$	$

(1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended, and includes the offering price attributable to shares of common stock that the underwriters have an option to purchase to cover over-allotments, if any.

(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.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting offers to buy these securities in any state or other jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED , 2015.

PRELIMINARY PROSPECTUS

Shares

Common Stock

This is the initial public offering of our common stock. We are offering shares of common stock. We currently expect the initial public offering price to be between $ and $ per share of common stock.

No public market currently exists for our common stock. We plan to apply to list our common stock on the NASDAQ Capital Market under the symbol "CERC."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 12 of this prospectus.

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company disclosure requirements for this prospectus and future filings. See "Prospectus Summary—Implications of Being an Emerging Growth Company" on page 7 of this prospectus.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Corporate finance fee(1)	$	$
Proceeds to Cerecor (before expenses)	$	$

(1) We refer you to "Underwriting" beginning on page 177 of this prospectus for additional information regarding total underwriter compensation.

We have granted a 45-day option to the underwriters to purchase up to additional shares of common stock to cover over-allotments, if any.

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.

The underwriters expect to deliver the shares to purchasers on or about , 2015.

Maxim Group LLC

Prospectus dated , 2015

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Neither we nor any of the underwriters has authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any free writing prospectus we have prepared. If anyone provides you with different or inconsistent information, you should not rely on it. Neither we nor any of the underwriters is making an offer to sell or seeking offers to buy these securities in any jurisdiction where or to any person to whom the offer or sale is not permitted. The information in this prospectus is accurate only as of the date on the front cover of this prospectus and the information in any free writing prospectus that we may provide you in connection with this offering is accurate only as of the date of that free writing prospectus. Our business, financial condition, results of operations and future growth prospects may have changed since those dates.

Through and including , 2015 (25 days after the commencement of this offering), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to their unsold allotments or subscriptions.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

For investors outside the United States: neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus or any free writing prospectus we may provide to you in connection with this offering in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus and any such free writing prospectus outside of the United States.

PROSPECTUS SUMMARY

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

Except as otherwise indicated herein or as the context otherwise requires, references in this prospectus to "Cerecor," "the company," "we," "us" and "our" refer to Cerecor Inc.

Overview

We are a clinical-stage biopharmaceutical company with the goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We have a portfolio of clinical and preclinical compounds that we believe are best-in-class due to their unique mechanism of action and where human proof of concept has been established for the compound or the target. We are currently pursuing the regulatory approval of three product candidates: CERC-301, CERC-501 and CERC-406.

CERC-301 is currently in Phase 2 development as an oral, adjunctive antidepressant for the treatment of patients with major depressive disorder, or MDD, who are failing to achieve an adequate response to their current antidepressant treatment and are severely depressed. We received fast track designation by the United States Food and Drug Administration, or FDA, in November 2013 for CERC-301 for the treatment of MDD. CERC-301 belongs to a class of compounds known as antagonists, or inhibitors, of the N- methyl-D-aspartate, or NMDA, receptor, a receptor subtype of the glutamate neurotransmitter system that is responsible for controlling neurological adaptation. We believe CERC-301 will be a "first-in-class" medication that will cause a significant reduction in depression symptoms in a matter of days, as compared to weeks or months with conventional therapies, because it selectively blocks the NMDA receptor subunit 2B, or NR2B, which we believe provides rapid and significant antidepressant activity without the adverse side effect profile of non selective NMDA receptor antagonists. We are also currently developing CERC-501, which is in Phase 2 development, for co-occurring psychiatric and substance use disorders, or co-occurring disorders. CERC-501 was acquired in February 2015, and is a potent and selective kappa opioid receptor, or KOR, antagonist. KORs are believed to play key roles in modulating stress, mood and addictive behaviors, which form the basis of co-occurring disorders. We are preparing to initiate a clinical study to evaluate the effect of CERC-501 on aspects of tobacco withdrawal and reinstatement by year-end 2015, with the intent of thereafter pursuing additional studies focused on the treatment of co-occurring disorders. CERC-406 is our preclinical lead candidate from our proprietary platform of compounds that inhibit catechol-O-methyltransferase, or COMT, within the brain, which we refer to as our COMTi platform. We anticipate developing CERC-406 for the treatment of residual cognitive impairment symptoms in patients with MDD.

Members of our management team have extensive pharmaceutical product development and commercialization experience and they have played key roles in the development or commercialization of Prozac®, Zyprexa®, Lyrica®, Cymbalta® and Neurontin®, each of which is a neuroscience product that has generated over $1.0 billion of annual revenues. Collectively, our officers and directors have

contributed to the submission of numerous Investigational New Drug Applications, or INDs, and nine New Drug Applications, or NDAs, to the FDA. Leveraging the experience of our management team, within the last 18 months we obtained IND clearance and received fast track designation for CERC-301 from the FDA, completed two clinical trials of CERC-301, selected CERC-406 as our preclinical lead candidate from our COMTi platform and, most recently, broadened our clinical pipeline by in-licensing CERC-501.

Product Candidates and Platform

Product Pipeline

The following table summarizes key information about our three product candidates and our current platform:

Product Candidate / Platform	Potential Indication(s)	Stage of Development	Anticipated Milestones
CERC-301	MDD adjunctive antidepressant in patients failing to achieve an adequate response to current antidepressant treatment and are severely depressed with rapid onset	Phase 2	Top-line data in the first half of 2016
CERC-501	Substance use disorders (e.g., nicotine, cocaine) in patients with psychiatric disorders (e.g., TRD, anhedonia)	Phase 2	Top-line data in the first half of 2016
CERC-406	Residual cognitive impairment symptoms in MDD	Preclinical	Pre-IND meeting with the FDA anticipated second half of 2015 and IND submission anticipated in the first half of 2017
COMTi Platform	Conditions with impairment of executive function	Preclinical	Additional candidates identified in the first half of 2017

CERC-301

Depression is one of the most common serious medical and psychiatric disorders, with more than 150 million adults worldwide suffering from MDD at any given time, according to a 2003 report by the World Health Organization, or WHO, titled *Investing in Mental Health*. According to the IMS Institute for Healthcare Informatics' 2012 report titled *The Use of Medicines in the United States: Review of 2011,* over 264 million prescriptions totaling $11 billion were filled for depression in the United States in 2011. Nevertheless, most approved depression therapies are characterized by delayed onset of therapeutic response, high rates of treatment failures, low rates of remission and treatment-limiting side effects.

CERC-301, which we have licensed from Merck & Co., Inc. and its affiliates, or Merck, belongs to a class of compounds known as antagonists of the NMDA receptor. Results from multiple controlled clinical studies, including *A Randomized Trial of an N-methyl-D-aspartate Antagonist in Treatment-*

Resistant Major Depression study conducted by Dr. Carlos A. Zarate, Jr. and others, have provided evidence that NMDA receptor antagonists can have significant antidepressant activity within 24 hours of administration and that this effect may be assoicated with biomarkers of neuronal growth. We believe efficacy of the class is further supported by the common off-label use of ketamine throughout the United States as a rapid-acting antidepressant in bipolar depression and MDD. Ketamine is an anesthetic that is a non-selective NMDA receptor antagonist, is not approved as an antidepressant and has several significant limitations, including the need for repeated intravenous administration in a clinic and undesirable side effects such as increases in blood pressure and significant psychotomimetic effects, including intoxication and hallucinations.

We believe CERC-301 has potential competitive advantages over current treatments because it is orally administered and it selectively blocks the NR2B. An August 2012 study published by the National Institute of Mental Health, or NIMH, provides support for the potential competitive advantages of CERC-301 because it demonstrated that CERC-301 had a rapid onset of antidepressant effect in subjects with treatment resistant depression along with an increase in a biomarker commonly seen with an antidepressant effect, without the side effects commonly seen in non-selective NMDA receptor antagonists.

In 2014 we completed an exploratory inpatient pharmacokinetic, or PK, and pharmacodynamics, or PD, study in healthy volunteers, which we refer to as the PK/PD study, and a Phase 2 outpatient efficacy study for the adjunctive treatment of patients with severe MDD who had recently experienced suicidal ideation. The PK/PD study provided evidence of safety and tolerability at daily doses up to 20 mg for seven days, along with apparent increases in the biomarker. In the Phase 2 study, CERC-301 was administered daily at a dose of 8 mg for 28 days, as an adjunctive treatment to subjects' current medications. While CERC-301 was well tolerated, there were no biomarker changes and the study failed to demonstrate any significant antidepressant effect, which we believe suggests that drug exposure was inadequate. Given the safety and tolerability of higher doses observed in the PK/PD study, we expect to initiate a Phase 2 study utilizing a higher revised dosing regimen, Clin301-203, in the second half of 2015 with top-line results becoming available in the first half of 2016.

Upon completion of Clin301-203, and dependent upon study results, we plan to conduct a multi-dose, six week Phase 2 study of CERC-301 as adjunctive treatment in subjects with MDD who are currently experiencing a severe depressive episode despite stable ongoing treatment with a serotonin reuptake inhibitor, or SSRI, or serotonin norepinephrine reuptake inhibitor, or SNRI. We expect to initiate this dose ranging study in the second half of 2016 with top-line results becoming available in the second half of 2017. Thereafter we plan to engage the FDA in an end-of-phase 2 meeting to align plans and activities for potential regulatory approval which would include Phase 3 clinical studies, non-clinical NDA enabling studies and manufacturing activities.

CERC-501

Mood, anxiety and substance use disorders, such as nicotine and alcohol dependence, are highly co-morbid in humans. Greater than 150 million adults worldwide suffer from MDD at any given time, according to a 2003 report by WHO titled, *Investing In Mental Health*, and, according to the United States National Comorbidity Survey Replication, or NCS-R, approximately 20 million adults in the United States, which represents approximately 6.7% of its entire adult population, will suffer from a MDD episode in a 12 month period. According to the NCS-R, 3.1 million, or 5.6%, adults in the United States that smoke suffer from depression, and approximately 41.3% of patients in a depressive episode smoke. One common link between the co-occurrence of depression and substance use disorders is stress. Sustained stressful experiences can induce despair and increase the risk of clinical depression and substance use. Substance use often provides relief from stress, such that the substance of abuse often becomes a potent behavioral reinforcer. Present treatments for co-occurring disorders consist either of treatment for the psychiatric disorder or the treatment for the addiction, but not the

treatment of the underlying connection between the two. Therefore, we believe a tremendous need exists for pharmacotherapies effective in the treatment of co-occurring disorders.

CERC-501 is a high-binding, selective antagonist of KORs in the brain. KORs are localized in areas of the brain which affect reward and stress and are believed to play a key role in mood, stress and addictive disorders. Preclinical data to date support the emerging consensus that selective kappa opioid antagonists have antidepressant and antianxiety like effects, reduce addictive substance consumption, and reduce behaviors and signs of drug withdrawal. As these studies demonstrate efficacy in animal models of both mood and addictive disorders, we believe that these studies provide the basis for the use of KOR antagonists in mood and substance use disorders and have the potential to reduce co-morbid mood disorders.

For approximately the next 24 months, we expect to evaluate the potential human utility of CERC-501 in smoking dependence, depression, cocaine dependence, anhedonia and mood disorders. The depression and anhedonia and mood studies are being performed in academic centers, under the auspices of the NIMH. We will be conducting the smoking study, which we refer to as Clin501-201. In the longer term, we intend to target our development efforts at the treatment of co-occurring disorders, an under-served segment of patients having one or more disorders relating to substance abuse, such as nicotine, alcohol or illicit drugs, combined with one or more psychiatric disorders, such as depression or anxiety. We believe competitively positioning CERC-501 as a once-a-day oral dosing treatment for co-occurring disorders has the potential to generate widespread market acceptance. We further believe that, if CERC-501 has the ability to provide rapid onset of antidepressant effect, the market opportunity will be further expanded.

COMTi Platform

In March 2013, we acquired rights to our COMTi platform by means of an exclusive, worldwide license from Merck. Our COMTi platform consists of a library of approximately 1,800 compounds specifically engineered to penetrate the nervous system and to preferentially inhibit COMT in the brain. COMT is an enzyme that breaks down dopamine and its inhibition has demonstrated applicability in treating certain neuropsychiatric conditions, including schizophrenia, Parkinson's disease and various impulse control disorders. We believe potent, brain-specific COMT inhibitors will selectively increase dopamine levels in the prefrontal cortex, which is the region of the brain that is responsible for verbal learning, working memory, attention tasks and decision making, thereby improving executive function. Moreover, our development efforts are specifically focused on a new generation of potent COMT inhibitors that avoid off-target toxicity and side effects, such as liver toxicity and diarrhea, which are often seen with the previous generation of inhibitors, such as tolcapone and entacapone.

CERC-406

In January 2015, we selected CERC-406 as our first preclinical lead candidate from the COMTi platform. In 2015 and 2016, we intend to establish the data set necessary to select additional preclinical lead candidates and to initiate programs for treatment of various conditions where impaired executive function is a core symptom. These programs will target the improvement of working memory and executive function, which are key components of cognition.

CERC-406 is a small molecule, selective COMT inhibitor with low inhibitory activity on peripheral COMT. We anticipate developing CERC-406 as a first in class, oral adjunctive medication for patients who have MDD with significant, measureable impairments in executive function and working memory. We selected CERC-406 as our preclinical lead candidate from our COMTi platform because in preclinical testing it demonstrated lower potential of peripheral, off target side effects, rapid absorption and bioavailability, good brain penetration and a favorable dose-dependent biomarker profile in rats.

CERC-406 has also demonstrated off-rate on brain COMT that is slower than tolcapone, implying good duration of effect. Finally, CERC-406 has demonstrated a favorable safety profile in all studies conducted to date. In preliminary studies it appears that CERC-406 may have favorable drug distribution and metabolism properties, suggesting that has the potential to be administered orally on a once or twice daily basis. In 2015, we intend to advance CERC-406 by engaging the FDA in a preliminary discussion about the appropriate developmental and regulatory roadmaps, including clinical endpoints and trial concepts that would constitute guidance for a regulatory approval path for such an indication. We plan to file an IND for CERC-406 in the first half of 2017 and, upon acceptance of this IND filing, we will commence Phase 1 studies to examine human safety, tolerability and pharmacokinetics that will determine suitability for further development.

Our Strategy

Our goal is to be a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. Our strategic objectives include:

- rapidly advancing the clinical development of CERC-301;
- rapidly advancing the clinical development of CERC-501;
- rapidly advancing our preclinical lead candidate, the COMTi inhibitor CERC-406,
- leveraging our COMTi platform to build a pipeline of future product candidates for disease states where impaired executive function is a core symptom;
- establishing collaborations to maximize value;
- expanding our product candidate portfolio through in-license and strategic acquisitions; and
- establishing specialty segment commercialization and marketing capabilities in the United States.

Management

Members of our management team have extensive pharmaceutical product development and commercialization experience and they have played key roles in the development or commercialization of Prozac®, Zyprexa®, Lyrica®, Cymbalta® and Neurontin®, each of which is a neuroscience product that has generated over $1.0 billion of annual revenues. Collectively, our directors and officers have contributed to the submission of numerous Investigational New Drug Applications, or INDs, and nine NDAs to the FDA. Leveraging the experience of our management team, we obtained IND clearance and received fast track designation for CERC-301 from the FDA, completed two clinical trials of CERC-301, selected CERC-406 as the initial candidate from our COMTi platform and, most recently, broadened our clinical pipeline by in-licensing CERC-501.

Risks Associated with Our Business

Our ability to implement our business strategy is subject to numerous risks and uncertainties that you should be aware of before making an investment decision. As a clinical-stage biotechnology company, we face many risks inherent in our business and our industry generally. You should carefully consider all of the information set forth in this prospectus and, in particular, the information under the heading "Risk Factors," prior to making an investment in our common stock. These risks include, among others, the following:

- we have not received, and we may not receive, regulatory approval for CERC-301, CERC-501 or any other product candidates;
- we have no source of predictable revenue and have incurred significant operating losses since inception which has raised substantial doubt regarding our ability to continue as a going concern

and has resulted in our independent registered public accounting firm including an explanatory paragraph in its report on our financial statements as of and for the year ended December 31, 2014 with respect to our ability to continue as a going concern;

- we may never become profitable and we may incur substantial and increasing net losses for the foreseeable future as we continue development of, seek marketing approvals for and begin to commercialize our product candidates and, as of December 31, 2014, we had an accumulated deficit of $43.1 million;
- we will need to obtain additional funding to continue operations, which may not be available to us on acceptable terms, or at all;
- our success is primarily dependent on the successful development, marketing approval and commercialization of our product candidates, all of which are in early development;
- if clinical trials of our product candidates fail to demonstrate safety and efficacy or do not otherwise produce positive results, such as the failure of our discontinued product candidate, FP01, to meet the primary endpoint in two Phase 2 studies and the failure of CERC-301 to meet the primary endpoint in one Phase 2 study, we may be unable to obtain marketing approvals and commercialize our product candidates;
- we are subject to marketing approval processes that are lengthy, expensive, time-consuming and unpredictable;
- the third-party coverage and reimbursement status of our product candidates is uncertain, and failure to obtain or maintain adequate coverage and reimbursement for products could limit our ability to market those products and decrease our ability to generate revenue;
- we must obtain state manufacturer and/or wholesaler licenses for the sale and distribution of our products into each state, and if we are delayed in obtaining these state licenses, or denied the licenses, even with FDA approval, we would not be able to sell or ship product into that state;
- we may be unable to recruit or retain key employees, including our senior management team, which may prevent us from successfully developing and commercializing our product candidates or otherwise implementing our business plan;
- we may not be able to obtain and enforce patent rights or other intellectual property rights that cover our product candidates and that are of sufficient breadth to prevent third parties from competing against us; and
- we depend on the performance of third parties, including contract research organizations and third-party manufacturers.

Our Corporate Information

We were incorporated as Ceregen Corporation in Delaware on January 31, 2011, and we subsequently changed our name to Cerecor Inc. Our principal executive offices are located at 400 E. Pratt Street, Suite 606, Baltimore, Maryland 21202 and our telephone number is (410) 522-8707. Our website address is *www.cerecor.com*. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

The trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. We do not intend our use or display of other companies' trademarks, trade names or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other companies or products.

Implications of Being an Emerging Growth Company

As a company with less than $1.0 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 $1.0 billion in annual revenues, have more than $700.0 million in market value of our capital stock held by non-affiliates or issue more than $1.0 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.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

Common stock offered	shares
Common stock to be outstanding immediately following this offering	shares
Over-allotment option	We have granted to the underwriters the option, exercisable for 45 days from the date of this prospectus, to purchase up to additional shares of common stock.
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million, or approximately $ million if the underwriters exercise their over-allotment option in full, based on 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 the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, to fund the costs of Phase 2 clinical development of CERC-301 and CERC-501, preclinical research for CERC-406, research and development to build our COMTi platform and potential in licensing or other acquisitions and for working capital and general corporate purposes. See "Use of Proceeds."
Risk Factors	You should read the "Risk Factors" section of this prospectus beginning on page 12 for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Proposed NASDAQ Capital Market symbol	"CERC"

The number of shares of our common stock to be outstanding after this offering is based on 18,193,930 shares of our common stock outstanding as of December 31, 2014 and includes 111,455,955 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our convertible preferred stock.

The number of shares of our common stock to be outstanding immediately following this offering excludes:

- 15,477,272 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2014, at a weighted-average exercise price of $0.33 per share;
- 14,425,474 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.94 per share, which warrants will remain outstanding upon the closing of this offering in accordance with their terms;
- 4,668,221 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.2999 per share, which warrants will expire upon the closing of this offering in accordance with their terms, unless exercised prior thereto;

- 625,208 shares of our common stock issuable upon the exercise of the warrant outstanding as of December 31, 2014 at an exercise price of $0.2999 per share, which warrant is exercisable to purchase shares of Series B convertible preferred stock prior to the completion of this offering, and which warrant is expected to remain outstanding upon the closing of this offering;

- shares of our common stock issuable upon the exercise of a warrant issued in connection with this offering at an exercise price of $, assuming an initial public offering price of $ per share, which is the midpoint of this price range set forth on the cover page of this prospectus;

- 5,946,733 shares of our common stock available for future issuance under our 2011 Stock Incentive Plan as of December 31, 2014; and

- shares of our common stock available for future issuance under our 2015 equity compensation plan, which will become effective upon the closing of this offering.

Unless otherwise indicated, all information in this prospectus assumes or gives effect to:

- a for reverse stock split of our common stock effected on , 2015;

- no exercise of the outstanding options or warrants described above;

- the warrants outstanding as of December 31, 2014 to purchase an aggregate of 14,425,474 shares of our common stock will remain outstanding upon the closing of this offering in accordance with their terms at a weighted-average exercise price of $0.94 per share;

- the warrant outstanding as of December 31, 2014 to purchase 625,208 shares of Series B preferred stock has become, in accordance with its terms, a warrant to purchase 625,208 shares of common stock at an exercise price of $0.2999 per share upon the closing of this offering;

- no exercise by the underwriters of their option to purchase up to additional shares of our common stock to cover over-allotments;

- the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 111,455,955; and

- the amendment and restatement of our certificate of incorporation and bylaws upon the closing of this offering.

SUMMARY FINANCIAL DATA

The following tables set forth our summary financial data for the periods indicated. The following summary financial data for the years ended December 31, 2013 and 2014 are derived from our audited financial statements appearing elsewhere in this prospectus.

This summary financial data should be read together with the historical financial statements and related notes to those statements, as well as "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this prospectus. See note 3 to our audited financial statements appearing elsewhere in this prospectus for information regarding computation of basic and diluted net loss per share of common stock, unaudited pro forma basic and diluted net loss per share of common stock and the unaudited pro forma weighted average basic and diluted common shares outstanding used in computing pro forma basic and diluted net loss per common share.

	Years Ended December 31,	
	2013	2014
Operating expenses:		
Research and development	$ 8,914,084	$ 12,240,535
General and administrative	4,020,364	4,875,030
Total operating expenses	12,934,448	17,115,565
Loss from operations	(12,934,448)	(17,115,565)
Other income (expense):		
Change in fair value of warrant liabilities and investor rights obligation	(121,115)	2,266,161
Interest income (expense), net	10,555	(1,206,187)
Total other income (expense)	(110,560)	1,059,974
Net loss	(13,045,008)	(16,055,591)
Net loss attributable to common stockholders	$ (13,126,972)	$ (3,521,153)
Net loss per share of common stock, basic and diluted	$ (0.74)	$ (0.20)
Weighted-average shares of common stock outstanding, basic and diluted	17,742,808	17,977,534
Pro forma net loss per share of common stock—basic and diluted (unaudited)		
Pro forma weighted-average shares of common stock outstanding, basic and diluted (unaudited)		

The following table presents our summary balance sheet data:

- on an actual basis as of December 31, 2014;
- on a pro forma basis to give effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 111,455,955 shares of our common stock; and
- on a pro forma as adjusted basis to give further effect to our sale of shares of common stock in this offering at 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.

The pro forma as adjusted information presented in the summary balance sheet data is illustrative only and will change based on the actual initial public offering price and other terms of this offering

determined at pricing. 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 each of cash and cash equivalents, total assets and total stockholders' equity (deficit) on a pro forma as adjusted basis 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. Similarly, each increase or decrease of 1.0 million shares offered by us at the assumed initial public offering price would increase or decrease each of cash and cash equivalents, total assets and total stockholders' equity (deficit) on a pro forma as adjusted basis by approximately $ million.

	As of December 31, 2014		
Balance Sheet Data:	**Actual**	**Pro forma (unaudited)**	**Pro forma as adjusted (unaudited)**
Cash and cash equivalents	$ 11,742,349		
Total assets	12,316,894		
Total liabilities	10,302,027		
Convertible preferred stock	28,345,531		
Total stockholders' deficit	(26,330,664)		

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before making your decision to invest in shares of our common stock, you should carefully consider the risks described below, together with the other information contained in this prospectus, including our financial statements and the related notes appearing at the end of this prospectus. We cannot assure you that any of the events discussed below will not occur. These events could have a material and adverse impact on our business, results of operations, financial condition, cash flows and future growth. If that were to happen, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to Our Financial Position and Capital Needs

We have incurred significant net losses in every period since our inception and anticipate that we will continue to incur net losses in the future.

We are a clinical-stage biotechnology company with a limited operating history. 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 an adequate effect or acceptable safety profile, gain marketing approval and become commercially viable. To date, we have financed our operations primarily through private placements of our common and convertible preferred stock and convertible debt. 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. As a result, we are not profitable and have incurred significant losses in each period since our inception in 2011. For the years ended December 31, 2013 and 2014, we reported a net loss of $13.0 million and $16.1 million, respectively. As of December 31, 2014, we had an accumulated deficit of $43.1 million. Substantially all of our operating losses have resulted from costs incurred in connection with our research and development program and from general and administrative costs associated with our operations.

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 marketing approvals for, our product candidates. If we do not successfully develop and obtain marketing approval for our product candidates and effectively market and sell any product candidates that are approved, we may never generate product sales. Even if we do generate product sales, we may never achieve or sustain profitability on an annual basis. Furthermore, following this offering, we expect to incur additional costs associated with operating as a public company. We may also 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 currently have no source of product revenue and may never become profitable.

Our ability to generate product revenue and achieve profitability depends on our ability, alone or with partners, to successfully complete the development of, and obtain the marketing approvals necessary to commercialize, our product candidates. To date, we have not generated any revenues from commercialization of our product candidates and we do not know when, or if, we will generate any such revenues. Our ability to generate product revenue and ultimately become profitable depends upon our ability, alone or partnered, to successfully commercialize products, including any of our current product candidates or other product candidates that we may develop, in-license or acquire in the future. We do not anticipate generating revenue from the sale of products for the foreseeable future.

Our ability to generate future product revenue from our current or future product candidates also depends on a number of additional factors, including our ability to:

- successfully complete research and clinical development of current and future product candidates;
- seek and obtain marketing approvals for product candidates for which we complete clinical trials;
- establish and maintain supply and manufacturing relationships with third parties, and ensure adequate and legally compliant manufacturing of bulk drug substances and drug products to maintain that supply;
- launch and commercialize product candidates for which we obtain marketing approval, if any, and if launched independently or under a co-promotion agreement, successfully establish a sales force, marketing and distribution infrastructure;
- identify and validate new product candidates;
- obtain coverage and adequate product reimbursement from third-party payors, including government payors;
- achieve market acceptance for our or our partners' products, if any;
- implement additional internal systems and infrastructure as needed;
- negotiate favorable terms in any collaboration, licensing or other arrangements into which we may enter;
- address any competing technological and market developments;
- establish, maintain and protect our intellectual property rights, including patents, trade secrets and know-how; and
- attract, hire and retain qualified personnel.

In addition, because of the numerous risks and uncertainties associated with biopharmaceutical product development, including that our product candidates may not advance through development or achieve the endpoints of applicable clinical trials, we are unable to predict the timing or amount of increased expenses. In addition, our expenses could increase beyond expectations if we decide to or are required by the United States Food and Drug Administration, or FDA, or foreign regulatory authorities to perform studies or trials in addition to those that we currently anticipate. Even if we complete the development and regulatory processes described above, we anticipate incurring significant costs associated with launching and commercializing these products, which may not gain market acceptance or achieve commercial success.

Even if we generate revenues from the sale of any of our products that may be approved, we may not become profitable and may need to obtain additional funding to continue operations. If we fail to become profitable or do not sustain profitability on a continuing basis, then the market price of our common stock could be depressed and we may be unable to raise capital, expand our business, diversify our product offerings, including obtaining new product candidates, or otherwise continue our operations at planned levels and be forced to reduce our operations. We do not know if or when we will achieve or maintain profitability.

Even if this offering is successful, we will require additional capital to finance our operations, which may not be available to us on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

As a research and development company, our operations have consumed substantial amounts of cash since inception. Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and 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 or obtain and advance additional product candidates. We estimate that the net proceeds from this offering will be approximately $, based on an assumed initial public offering price of $, 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. We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will fund our projected operating requirements into the of . See "Use of Proceeds." However, circumstances may cause us to consume capital more rapidly than we currently anticipate. For example, as we move our product candidates CERC-301 and CERC-501 through clinical trials, we may fail to meet our primary or secondary endpoints, which occurred for our first Phase 2 study for CERC-301, requiring us to complete more trials than originally expected or we may discover serious adverse side effects. Moreover, as we move our COMT inhibitor, or COMTi, product candidates, such as CERC-406, through preclinical studies, submit Investigational New Drug Applications, or INDs, and initiate clinical trials, we may produce adverse results requiring us to find new product candidates. Any of these events may increase our development costs more than we expect. We may need to raise additional funds or otherwise obtain funding through collaborations if we choose to initiate additional clinical trials for product candidates. In any event, we will require additional capital to obtain marketing approval for, and to commercialize, future product candidates.

If 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. If we do not raise additional capital when required or on acceptable terms, we may need to:

- significantly delay, scale back or discontinue the development or commercialization of one or more of our product candidates or cease operations altogether;
- seek strategic alliances for research and development programs at an earlier stage than we would otherwise desire or on terms less favorable than might otherwise be available; or
- relinquish, or license on unfavorable terms, our rights to technologies or any future product candidates that we otherwise would seek to develop or commercialize ourselves.

If we need to conduct additional fundraising activities and we do not raise additional capital in sufficient amounts or on terms acceptable to us, we may be prevented from pursuing development and commercialization efforts, which will have a material adverse effect on our business, financial condition, results of operations and prospects.

Our forecast of the period of time through which our financial resources will adequately support our operations is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed elsewhere in this "Risk Factors" section. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect.

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

- the initiation, progress, timing, costs and results of preclinical 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 FDA and comparable foreign regulatory authorities, including the potential for such authorities to require that we perform more studies than we currently expect to perform;
- 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, prosecuting, defending and enforcing 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;
- the cost and timing of selecting, auditing and potentially validating a manufacturing site for commercial-scale manufacturing; and
- the cost of establishing sales, marketing and distribution capabilities for our product candidates for which we may receive marketing approval and that we determine to commercialize ourselves or in collaboration with our partners.

If a lack of available capital results in our inability to expand our operations or otherwise capitalize on our business opportunities, our business, financial condition and results of operations could be materially adversely affected.

Raising additional capital may cause dilution to our existing stockholders or restrict our operations.

Until we can generate a sufficient amount of revenue from our products, if ever, we expect to finance future cash needs through public or private equity or debt offerings. Additional capital may not be available on reasonable terms, if at all. If we raise additional funds through the issuance of additional debt or equity securities, such raises could result in dilution to our existing stockholders and/or increased fixed payment obligations. Furthermore, these securities may have rights senior to those of our common stock and could contain covenants that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Any of these events could significantly harm our business, financial condition and prospects.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change federal net operating loss carryforwards, or NOLs, and other pre-change federal tax attributes (such as research tax credits) to offset its post-change income may be limited. We may experience ownership changes in the future as a result of the closing of this offering and subsequent shifts in our stock ownership. State NOL carryforwards may be similarly or more stringently limited. As a result, if we earn net taxable income, our ability to use our pre-change NOLs to offset United States federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us.

In connection with the reporting of our financial condition and results of operations, we are required to make estimates and judgments which involve uncertainties, and any significant differences between our estimates and actual results could have an adverse impact on our financial position, results of operations and cash flows.

Our discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been 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 judgments that affect the reported amounts of assets, liabilities, expenses and revenues and related disclosure of contingent assets and liabilities. For example, we estimate clinical trial costs incurred using subject data and information from our contract research organizations, or CROs. If we underestimate or overestimate these expenses, adjustments to expenses may be necessary in future periods. Any significant differences between our actual results and our estimates and assumptions could negatively impact our financial position, results of operations and cash flows.

Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We commenced active operations in the second quarter of 2011 and our operations to date have included organizing and staffing our company, business planning, raising capital and developing our product candidates and platform. Two of our product candidates, CERC-301 and CERC-501, are currently in Phase 2 development and we anticipate receipt of top-line data in the first half of 2016 from the Phase 2 studies we are initiating for each product candidate. We have not yet, however, demonstrated our ability to successfully obtain marketing approvals, manufacture a commercial scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, as an early stage business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be able to successfully complete such a transition.

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.

We may engage in in-licensing acquisitions or other strategic transactions that could impact our liquidity, increase our expenses and divert a significant amount of our management's time.

Since inception, we have in-licensed each of our product candidates and our COMTi platform. From time to time we may consider additional in-licensing of products and other strategic transactions, such as acquisitions of companies, asset purchases and out-licensing of product candidates or technologies. Additional potential transactions that we may consider include a variety of different business arrangements, including strategic partnerships, collaborations, joint ventures, business combinations and investments. Any such transaction may require us to incur non-recurring or other charges, may increase our near and long-term expenditures and may pose significant integration challenges or disrupt our management or business, which could adversely affect our operations and financial results. For example, these transactions may entail numerous operational and financial risks, including:

- exposure to unknown liabilities;

- disruption of our business and diversion of our management's time and attention in order to develop acquired products, product candidates or technologies;
- incurrence of substantial debt or dilutive issuances of equity securities to pay for acquisitions;
- higher than expected acquisition and integration costs;
- write-downs of assets or goodwill or impairment charges;
- increased amortization expenses;
- difficulty and cost in combining the operations and personnel of any acquired businesses with our operations and personnel;
- impairment of relationships with key suppliers or other counterparties of any acquired businesses due to changes in management and ownership; and
- inability to retain key employees of any acquired businesses.

Our recurring operating losses and negative cash flows from operations have raised substantial doubt regarding our ability to continue as a going concern.

Our recurring operating losses and negative cash flows from operations raise substantial doubt about our ability to continue as a going concern. 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, 2014 with respect to this uncertainty. We have no current source of revenues to sustain our present activities, and we do not expect to generate revenues until, and unless, the FDA or other regulatory agencies approve our product candidates and we successfully commercialize any such product candidates. Accordingly, our ability to continue as a going concern will require us to obtain additional financing to fund our operations. The perception of our ability to continue as a going concern may make it more difficult for us to obtain financing for the continuation of our operations and could result in the loss of confidence by investors, suppliers and employees.

Risks Related to Our Business and Industry

We are heavily dependent on the success of our product candidates, CERC-301 and CERC-501. If we fail to obtain marketing approval for and commercialize CERC-301 and CERC-501, or experience delays in doing so, our business will be materially harmed.

We intend to invest a significant portion of our efforts and financial resources in the development of our product candidates, CERC-301 and CERC-501; and we anticipate that we will allocate the majority of the proceeds of this offering toward their development. To date we have not marketed, distributed or sold any products. Our ability to generate revenues is substantially dependent on the development and commercialization of CERC-301 and CERC-501. If our clinical development for CERC-301 is successful, we plan to submit an NDA seeking approval to commercialize CERC-301 as an oral, adjunctive antidepressant for the treatment of patients with MDD who are failing to achieve an adequate response to their current antidepressant treatment and, are severely depressed. If our clinical development for CERC-501 is successful, we plan to submit an NDA seeking approval to commercialize CERC-501 as a treatment of co-occurring disorders. We cannot commercialize our product candidates prior to obtaining marketing approval from the FDA. Each of CERC-301 and CERC-501 is susceptible to the risks of failure inherent at any stage of drug development, including the appearance of unexpected adverse events, the failure to demonstrate efficacy and the FDA's determination that such candidate is not approvable. If we do not receive marketing approval for and commercialize either CERC-301 or CERC-501, we will not be able to generate product revenues in the foreseeable future, or at all.

If, following submission, our NDA for either product candidate is not accepted for substantive review or approved, the FDA may require that we conduct additional clinical or preclinical trials, manufacture additional validation batches or develop additional analytical test methods before it will reconsider our application for such product candidate. If the FDA 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 FDA may not consider any additional required trials that we perform and complete to be sufficient.

Even if we believe that the data from our clinical trials and analytical testing methods support marketing approval of CERC-301 or CERC-501 in the United States, the FDA may not agree with our analysis and approve our NDA. Any delay in obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing CERC-301 or CERC-501, generating revenues and achieving profitability.

Only two of our product candidates that we intend to commercialize are in clinical development. Preclinical testing of other product candidates may not lead to them advancing into clinical trials. If we do not successfully complete preclinical testing of our product candidates or experience significant delays in doing so, our business will be materially harmed.

We have invested a significant portion of our efforts and financial resources in the identification and preclinical and clinical development of product candidates. For example, a significant portion of our financial resources were dedicated to the development of FP01, which we no longer plan to develop. Our ability to generate product revenues, which we do not expect will occur for many years, if ever, will depend heavily on our ability to advance our preclinical product candidates into clinical development. The outcome of preclinical studies may not predict the success of clinical trials. Preclinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in preclinical studies have nonetheless failed in clinical development. Our inability to successfully complete preclinical development could result in additional costs to us relating to product development and obtaining marketing approval and impair our ability to generate product revenues and commercialization and sales milestone payments and royalties on product sales.

If clinical trials of our product candidates fail to demonstrate safety and efficacy to the satisfaction of regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our product candidates.

Before obtaining required approvals from regulatory authorities for the sale of future product candidates, we alone, or with a partner, must conduct extensive clinical trials to demonstrate the safety and efficacy of the product candidates in humans. Clinical testing is expensive and difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. For example, the Clin301-201 study for CERC-301 failed to meet its primary endpoint and, in addition, our discontinued product candidate FP01 failed to meet its primary endpoint in two Phase 2 clinical studies. The outcome of preclinical studies and early clinical trials may not predict the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. 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. Our product candidates will require additional clinical and preclinical development, management of clinical, preclinical and manufacturing activities, regulatory approval in multiple jurisdictions, obtaining manufacturing supply on our own or from a third party, building of a commercial organization, and substantial investment and significant marketing efforts before we generate any revenues from product sales. We do not know whether the clinical trials we or our partners may conduct will demonstrate adequate efficacy and safety

to result in regulatory approval to market any of our product candidates in any particular jurisdiction or jurisdictions. If later stage clinical trials do not produce favorable results, our ability to achieve regulatory approval for any of our product candidates would be adversely impacted.

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

We do not know whether any clinical trials will begin as planned, whether the design will be revised prior to or during conduct of the study, completed on schedule or conducted 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. Events which may result in a delay or unsuccessful completion of clinical development include:

- delays in reaching an agreement with or failure in obtaining authorization from the FDA, other regulatory authorities or institutional review boards, or IRBs, to commence or amend a clinical trial;
- imposition of a clinical hold or trial termination following an inspection of our clinical trial operations or trial sites by the FDA or other regulatory authorities, or due to concerns about trial design, or a decision by the FDA, other regulatory authorities, IRBs or the company, or recommendation by a data safety monitoring board, to place the trial on hold or otherwise suspend or terminate clinical trials at any time for safety issues or for any other reason;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical 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;
- delays in the importation and manufacture of clinical supply;
- delays in the testing, validation and delivery of the clinical supply of the product candidates to the clinical sites;
- for clinical trials in selected subject populations, delays in identification and auditing of central or other laboratories and the transfer and validation of assays or tests to be used to identify selected subjects;
- delays in recruiting suitable subjects to participate in a trial;
- delays in having subjects complete participation in a trial or return for post-treatment follow-up;
- delays caused by subjects dropping out of a trial due to side effects or disease progression;
- delays in adding new investigators and clinical trial sites;
- withdrawal of clinical trial sites from our clinical trials as a result of changing standards of care or the ineligibility of a site to participate in our clinical trials; or
- changes in government regulations or administrative actions or lack of adequate funding to continue the clinical trials.

Any inability by us or our partners to timely complete clinical development could result in additional costs to us relating to product development and obtaining marketing approval and impair

our ability to generate product revenues and commercialization and sales milestone payments and royalties on product sales.

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

Identifying and qualifying subjects to participate in clinical trials of our product candidates is critical to our success. The timing of our clinical trials depends on the speed at which we can recruit appropriate subjects to participate in testing our product candidates as well as completion of required follow-up periods. If subjects are unwilling to participate in our trials because of negative publicity from adverse events in the biotechnology industry or for other reasons, including competitive clinical trials for similar subject populations, the timeline for recruiting subjects, conducting trials and obtaining marketing approval of potential products may be delayed. These delays could result in increased costs, delays in advancing our product development, delays in testing the effectiveness of our technology or termination of the clinical trials altogether. Many factors affect subject enrollment, including:

- the size and nature of the subject population;
- the number and location of clinical sites we enroll;
- the proximity of subjects to clinical sites;
- perceived risks and benefits of the product candidate under trial;
- competition with other companies for clinical sites or subjects;
- competing clinical trials;
- the eligibility and exclusion criteria for the trial;
- the design of the clinical trial;
- effectiveness of publicity for the clinical trials;
- inability to obtain and maintain subject consents;
- ability to monitor subjects adequately during and after the administration of the product candidate and the ability of subjects to comply with the clinical trial requirements;
- risk that enrolled subjects will drop out or be withdrawn before completion; and
- clinicians' and subjects' perceptions as to the potential advantages 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.

There is significant competition for recruiting subjects in clinical trials for product candidates for the treatment of depression and impaired executive function, and we or our partners may be unable to enroll the subjects we need to complete clinical trials on a timely basis or at all. Furthermore, we rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials, and while we have agreements governing their committed activities, we have limited influence over their actual performance. If we are unable to enroll sufficient subjects in our clinical trials, if enrollment is slower than we anticipate, or if our clinical trials require more subjects than we anticipate, our clinical trials may be delayed or may not be completed. If we experience delays in our clinical trials, the commercial prospects of our product candidates will be harmed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues.

We may in the future conduct, clinical trials for certain of our product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations.

We may in the future choose to conduct one or more of our clinical trials outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with ethical principles and current Good Clinical Practice, or GCPs. The trial population must also adequately represent the United States population, and the data must be applicable to the United States population and United States medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to seek approval in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable United States laws and regulations. There can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from any of our clinical trials that we determine to conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of the product candidate.

We may fail to successfully identify, in-license, acquire, develop or commercialize potential product candidates.

The success of our business depends in part upon our ability to identify and validate new therapeutic targets and identify, develop and commercialize therapeutics, which we may develop ourselves, in-license or acquire from others. Research programs designed to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Our research efforts may initially show promise in identifying potential therapeutic targets or candidates, yet fail to yield product candidates for clinical development for a number of reasons, including:

- our methodology, including our screening technology, may not successfully identify medically relevant potential product candidates;
- our competitors may develop alternatives that render our product candidates obsolete;
- we may encounter product manufacturing difficulties that limit yield or produce undesirable characteristics that increase the cost of goods, cause delays or make the product candidates unmarketable;
- our product candidates may cause adverse effects in subjects, even after successful initial toxicology studies, which may make the product candidates unmarketable;
- our product candidates may not be capable of being produced in commercial quantities at an acceptable cost, or at all;
- our product candidates may not demonstrate a meaningful benefit to subjects; and
- our potential collaboration partners may change their development profiles or plans for potential product candidates or abandon a therapeutic area or the development of a partnered product.

Additionally, we may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful. If any of these events occur, we may be forced to abandon our development efforts for a program or programs, which would have a material adverse effect on our business, operating results and prospects and could potentially cause us to cease operations.

We may not be successful in our efforts to leverage and expand our COMTi platform to build a pipeline of product candidates.

A key element of our strategy is to leverage and expand our COMTi platform to build a pipeline of product candidates for conditions with impairment of executive function, and to progress these product candidates through clinical development for the treatment of a variety of different types of diseases states involving impaired executive functioning. To date, we have selected a preclinical lead candidate for our COMTi platform, CERC-406, but CERC-406 or any other product candidates developed from our COMTi platform may not be safe or effective. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates based upon our technological approach, we will not be able to obtain product revenues in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

The marketing approval processes of the FDA and comparable foreign regulatory authorities are lengthy, time-consuming, costly and inherently unpredictable. Our inability to obtain regulatory approval for our product candidates would substantially harm our business.

The time required to obtain approval to market new drugs by the FDA and comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of preclinical studies and clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any future product candidates will ever obtain regulatory approval. Moreover, the filing of an 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.

Our product candidates could fail to receive regulatory approval from the FDA or a comparable foreign regulatory authority for many reasons, including:

- the FDA or comparable foreign regulatory authorities may disagree on the design or implementation of our clinical trials, including the methodology used in our studies, our chosen endpoints, our statistical analysis, or our proposed product indication. For instance, the FDA may find that the designs that we are utilizing in our completed and planned Phase 2 clinical trials of CERC-301 and CERC-501 do not support an adequate and well-controlled study. The FDA also may not agree with the various depression and other disease scales and evaluation tools that we are using in our clinical trials to assess the efficacy of our product candidates. Further, the FDA may not agree with our endpoints and/or indications selected for our studies for CERC-301 and CERC-501;

- our failure to demonstrate to the satisfaction of the FDA or comparable regulatory authorities that a product candidate is safe and effective for its proposed indication;

- our clinical trials may fail to meet the level of statistical significance required for approval. For example, in a proof of concept study of CERC-301 conducted by the National Institute of Mental Health, CERC-301 failed to provide a significant improvement in subjects receiving the compound as compared to those receiving a placebo, as measured by the Montgomery-Asberg Depression Rating Scale, the primary assessment tool. Significant improvements were, however, observed using alternative assessment tools, such as the Hamilton Depression Inventory 17 item

scale or the Beck Depression Inventory. Further, our Clin301-201 Phase 2 study for CERC-301 failed to meet its primary endpoint;

- we may fail to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- data collected from clinical trials of our product candidates may be insufficient to support the submission and filing of an NDA, other submission or to obtain marketing approval. For example, the FDA may require additional studies to show that our product candidates are safe or effective;
- we may fail to obtain approval of the manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies; or
- there may be changes in the approval policies or regulations that render our preclinical and clinical data insufficient for approval.

The FDA or comparable foreign regulatory authority may require more information, including additional preclinical or clinical data to support approval, which may delay or prevent approval and our commercialization plans, or we may decide to abandon the development program. This lengthy approval process, as well as the unpredictability of future clinical trial results, may result in our failing to obtain approval to market our product candidates, which would significantly harm our business, results of operations and prospects. In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, including more limited patient populations, may require that contraindications, warnings or precautions be included in the product labeling, including a black-boxed warning, may grant approval contingent on the performance of costly post-marketing clinical trials or other post-market requirements, 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.

A fast track product, breakthrough therapy or priority review designation by the FDA for our product candidates may not lead to faster development or regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval.

We have received a fast track product designation for CERC-301 for the treatment of MDD and we may seek a breakthrough therapy designation and priority review designation. For CERC-501, or for certain of our other product candidates, if supported by the results of clinical trials, we may seek fast track product designation, breakthrough therapy designation and priority review designation. A fast track product designation is designed to facilitate the clinical development and expedite the review of drugs intended to treat a serious or life-threatening condition which demonstrate the potential to address an unmet medical need. 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. Priority review designation is intended to speed the FDA marketing application review timeframe for drugs that treat a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. For drugs and biologics that have been designated as fast track products or breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development. Sponsors of drugs designated as fast track products or breakthrough therapies may also

be able to submit marketing applications on a rolling basis, meaning that the FDA may review portions of a marketing application before the sponsor submits the complete application to the FDA, as long as the sponsor pays the user fee upon submission of the first portion of the marketing application. For products that receive a priority review designation, the FDA's marketing application review goal is shortened to six months, as opposed to ten months under standard review. This review goal is based on the date the FDA accepts the marketing application for review, which typically adds approximately two months to the timeline for review and decision from the date of submission.

Designation as a fast track product, breakthrough therapy or priority review product is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a fast track product, breakthrough therapy or priority review product, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of such a designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate marketing approval by the FDA. In addition, with regard to fast track products and breakthrough therapies, the FDA may later decide that the products no longer meet the conditions for qualification as either a fast track product or a breakthrough therapy or, for priority review products, decide that the time period for FDA review or approval will not be shortened.

As appropriate, we intend to seek all available periods of regulatory exclusivity for our product candidates. However, there is no guarantee that we will be granted these periods of regulatory exclusivity or that we will be able to maintain these periods of exclusivity.

The FDA grants product sponsors certain periods of regulatory exclusivity, during which the agency may not approve, and in certain instances, may not accept, certain marketing applications for competing drugs. For example, product sponsors may be eligible for five years of exclusivity from the date of approval of a new chemical entity, seven years of exclusivity for drugs that are designated to be orphan drugs, and/or a six-month period of exclusivity added to any existing exclusivity period or patent life for the submission of FDA requested pediatric data. While we intend to apply for all periods of market exclusivity that we may be eligible for, there is no guarantee that we will receive all such periods of market exclusivity. Additionally, under certain circumstances, the FDA may revoke the period of market exclusivity. Thus, there is no guarantee that we will be able to maintain a period of market exclusivity, even if granted. Moreover, we have not sought to obtain orphan drug designation for any of our product candidates, which the FDA must first grant to be eligible for orphan drug exclusivity, but may if we determine that we may be eligible. In the case of orphan designation, other benefits, such as tax credits and exemption from user fees may be available. If we are not able to obtain or maintain orphan drug designation or any period of market exclusivity to which we may be entitled, we will be materially harmed, as we will potentially be subject to greater market competition and may lose the benefits associated with programs.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their marketing approval, limit the commercial profile of an approved label, or result in significant negative consequences following any marketing approval.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of marketing approval by the FDA or other comparable foreign regulatory authority. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. For example, our Phase 2 clinical trials for CERC-301 could reveal adverse events, including, but not limited to, dose-related increases in blood pressure, palpitations, sleepiness, forgetfulness, headache, dizziness, fatigue, lightheadedness or impaired concentration. Also, based on the previous studies conducted for CERC-501, Phase 2 studies of CERC-501 could reveal adverse

events, including, but not limited to, dizziness, nausea, diarrhea, headache, anxiety, tachycardia and dyspepsia. In such an event, we could suspend or terminate our trials or the FDA or comparable foreign regulatory authorities as well as IRBs could order us to suspend or cease clinical trials. The FDA or comparable regulatory authorities could also deny approval of our product candidates for any or all targeted indications or only for a limited indication or patient population or could require label warnings, contraindications or precautions, including black box warnings, post-market studies, testing and surveillance programs or other conditions including distribution restrictions or other risk management mechanisms under a risk evaluation and mitigation strategy, or REMS. Drug-related side effects could affect subject recruitment or the ability of enrolled subjects to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, 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 on the label or other label modifications;
- the FDA or other 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 other restrictions on marketing and distribution, 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 patients or restrict distribution of our products and impose burdensome implementation requirements on us;
- regulatory authorities may require that we conduct post-marketing studies;
- we could be sued and held liable for harm caused to subjects or patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate or otherwise materially harm the commercial prospects for the product candidate, if approved, and could significantly harm our business, financial condition, results of operations and prospects.

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

As product candidates are developed through preclinical studies to late-stage clinical trials towards regulatory approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered 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, FDA notification 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 regulatory approval of our product candidates and jeopardize our ability to commence product sales and generate revenue.

Similarly, changes in the location of manufacturing or addition of manufacturing facilities may increase our costs, and require additional studies and FDA approval. This may require us to ensure

that the new facility meets all applicable regulatory requirements, is adequately validated and qualified, and to conduct additional studies of product candidates manufactured at the new location

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 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. Regulatory authorities also may approve a product candidate for fewer or more limited indications than requested, may impose significant limitations in the form of narrow indications, warnings, including black-box warnings, precautions or contra-indications with respect to conditions of use or may grant approval subject to the performance of costly post-marketing clinical trials or other post-marketing requirements, including a REMS. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. For instance, in 2007, the FDA requested that makers of all antidepressant medications update an existing black-box warning about an increased risk of suicidal thought and behavior in young adults, ages 18 to 24, during initial treatment. Our drugs, if approved, may be required to carry warnings comparable to this and other class-wide warnings. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if our product candidates receive marketing approval, we will still be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. 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 marketing approval for a product candidate, we would be subject to ongoing requirements by the FDA and comparable foreign regulatory authorities governing the manufacture, quality control, further development, labeling, packaging, storage, distribution, safety surveillance, import, export, advertising, promotion, recordkeeping and reporting of safety and other post-market information. The FDA and comparable foreign regulatory authorities will continue to closely monitor the safety profile of any product even after approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any of our product candidates, they may withdraw approval, require labeling changes or establishment of a REMS or similar strategy, impose significant restrictions on a product's indicated uses or marketing, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. In addition, any marketing approvals that we obtain for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing and other requirements, including Phase 4 clinical trials, imposition of a REMS and surveillance to monitor the safety and efficacy of the product candidate. For example, during a meeting with the FDA regarding CERC-301, the FDA noted that it does not currently accept the explicit labeling claim of a rapid-acting antidepressant, or RAAD, and indicated that we may therefore be subject to limitations on our ability to label and promote the product as a RAAD upon approval.

In addition, manufacturers of drug products and their facilities, including contracted facilities, are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current Good Manufacturing Practice, or GMP, regulations and standards. If we or a regulatory agency discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, we may be subject to reporting obligations and a regulatory agency may impose restrictions on that product, the manufacturing facility or us, or our suppliers, including requesting recalls or withdrawal of the product from the market or suspension of manufacturing. If we, our product candidates, our contractors, the manufacturing facilities for our product candidates or others working on our behalf fail to comply with applicable regulatory requirements, either before or after marketing approval, a regulatory agency may:

- issue Warning Letters or Untitled Letters;
- mandate modifications to promotional materials or labeling, or require us to provide corrective information to healthcare practitioners;
- 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 or criminal penalties or monetary fines, restitution or disgorgement, as well as imprisonment;
- suspend or withdraw marketing approval;
- suspend or terminate any ongoing clinical studies;
- refuse to approve pending applications or supplements to applications filed by us;
- debar us from submitting marketing applications, exclude us from participation in federal healthcare programs, require a corporate integrity agreement or deferred prosecution agreements, debar us from government contracts and refuse future orders under existing contracts;
- suspend or impose restrictions on operations, including restrictions on marketing, distribution 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 request that we initiate a product recall.

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

Advertising and promotion of any product candidate that obtains approval in the United States will be heavily scrutinized by the FDA, the Department of Justice, the Department of Health and Human Services' Office of Inspector General, state attorneys general, members of Congress and the public. While the FDA does not restrict physicians from prescribing approved drugs for uses outside of the drugs' approved labeling, known as off-label use, pharmaceutical manufacturers are prohibited from promoting and marketing their products for such uses. Violations, including promotion of our products for off-label uses, are subject to enforcement letters, inquiries, investigations, civil and criminal sanctions by the government, corporate integrity agreements, deferred prosecution agreements, debarment from government contracts and refusal of future orders under existing contracts, and exclusion from participation in federal healthcare programs. Additionally, comparable foreign regulatory authorities will heavily scrutinize advertising and promotion of any product candidate that obtains approval outside of the United States.

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 and criminal penalties and fines, debarment from government contracts and refusal of future orders under existing contracts, deferred prosecution agreements, and corporate integrity agreements with governmental authorities that materially restrict the manner in which a company promotes or distributes drug products. These false claims statutes include the federal civil False Claims Act, which allows any individual to bring a lawsuit against a pharmaceutical company on behalf of the federal government alleging submission of false or fraudulent claims, or causing to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government decides to intervene and prevails in the lawsuit, the individual will share in any fines or settlement funds. If the government does not intervene, the individual may proceed on his or her own. Since 2004, these False Claims Act lawsuits against pharmaceutical companies have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements, such as settlements regarding certain sales practices promoting off-label drug uses involving fines that are as much as $3.0 billion. This growth in litigation has increased the risk that a pharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, agree to comply with burdensome reporting and compliance obligations, and be excluded from Medicare, Medicaid and other federal and state healthcare programs. If we do not lawfully promote our approved products, we may become subject to such litigation and, if we do not successfully defend against such actions, those actions may have a material adverse effect on our business, financial condition, results of operations and prospects.

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay marketing approval, 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, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

If we are unable to, or are delayed in obtaining, state regulatory licenses for the distribution of our products, we would not be able to sell our product candidates in such states.

The majority of states require manufacturer and/or wholesaler licenses for the sale and distribution of drugs into that state. The application process is complicated, time consuming and requires dedicated personnel or a third party to oversee and manage. If we are delayed in obtaining these state licenses, or denied the licenses, even with FDA approval, we would not be able to sell or ship product into that state which would adversely affect our sales and revenues.

If any of our product candidates are ultimately regulated as controlled substances, we, our contract manufacturers, as well as distributors, prescribers, and dispensers will be required to comply with additional regulatory requirements which could delay the marketing of our product candidates, and increase the cost and burden of manufacturing, distributing, dispensing, and prescribing our product candidates.

Before we can commercialize our product candidates, the United States Drug Enforcement Administration, or DEA, may need to determine the controlled substance Schedule, taking into account the recommendation of the FDA. This may be a lengthy process that could delay our marketing of a product candidate and could potentially diminish any regulatory exclusivity periods for which we may be eligible. While we currently do not know whether any of our product candidates will be considered to be controlled substances, certain of our product candidates may be regulated as controlled substances.

If any of our product candidates are regulated as controlled substances, depending on the controlled substance Schedule in which the product candidates are placed, we, our contract manufacturers, and any distributers, prescribers, and dispensers of the scheduled product candidates

may be subject to significant regulatory requirements, such as registration, security, recordkeeping, reporting, storage, distribution, importation, exportation, inventory, quota and other requirements administered by the DEA. Moreover, if any of our product candidates are regulated as controlled substances, we and our contract manufacturers would be subject to initial and periodic DEA inspection. If we or our contract manufacturers are not able to obtain or maintain any necessary DEA registrations, we may not be able to commercialize any product candidates that are deemed to be controlled substances or we may need to find alternative contract manufacturers, which would take time and cause us to incur additional costs, delaying or limit our commercialization efforts.

Because of their restrictive nature, these laws and regulations could limit commercialization of our product candidates, should they be deemed to contain controlled substances. Failure to comply with the applicable controlled substance laws and regulations can also result in administrative, civil or criminal enforcement. The DEA may seek civil penalties, refuse to renew necessary registrations, or initiate administrative proceedings to revoke those registrations. In some circumstances, violations could result in criminal proceedings or consent decrees. Individual states also independently regulate controlled substances.

Our failure to obtain regulatory approval in international jurisdictions would prevent us from marketing our product candidates outside the United States, which would limit our market opportunities and adversely affect our business.

In order 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 FDA approval. The regulatory approval process outside the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside the United States, we must secure product reimbursement approvals before regulatory authorities will approve the product for sale in that country. 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. If we fail to comply with the regulatory requirements in international markets and 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. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions. Approval by one regulatory authority outside the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. Also, regulatory approval for any of our product candidates may be withdrawn. However, the failure to obtain approval in one jurisdiction may negatively impact our ability to obtain 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.

If we obtain approval to commercialize our product candidates outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

If any of our product candidates are approved for commercialization, we may enter into agreements with third parties to market them on a worldwide basis or in more limited geographical regions. We expect that we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for approval of drugs in foreign countries;

- the potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market (with low or lower prices) rather than buying them locally;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- 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 revenues, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the Foreign Corrupt Practices Act of 1977 or comparable foreign regulations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

These and other risks associated with our international operations may materially adversely affect our ability to attain or maintain profitable operations.

We face substantial competition and rapid technological change and the possibility that others may discover, develop or commercialize products before or more successfully than us.

The biotechnology and pharmaceutical industries are 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 marketing 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 depression and, consequently, competition in the depression market is intense. 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 non patent regulatory exclusivity, and others are available on a generic basis. For example, CERC 301 will compete with drugs used as adjunctive therapies for the treatment of MDD such as Abilify, marketed by Otsuka America Pharmaceutical, Inc.; Seroquel XR, marketed by AstraZeneca Pharmaceuticals LP, or AstraZeneca; and buproprion, a generic drug. In addition, to our knowledge, there are five competitive rapid onset antidepressant or anti-suicide programs in development: esketamine, which is in Phase 2 development by Johnson & Johnson, or J&J, and is being developed to be administered as a nasal spray; AZD8108, which is in Phase 1 development by AstraZeneca and is being developed to be administered orally; Rapastinel, which is in Phase 3 development by Naurex Inc., or Naurex, and is being developed to be administered intravenously; NRX 1074 by Naurex has completed a single intravenously administered dose Phase 2 study, which, along with oral and intravenous Phase 1 pharmacokinetic, or PK, findings, will be used to select an oral dose for a repeat-dose Phase 2 study; and ALKS-5461, which is in Phase 3 development by Alkermes plc, or Alkermes, and is being developed to be administered orally as an adjunctive therapy and has shown signals of rapid onset as an adjunctive therapy. With respect to CERC-501, to our knowledge, there are no approved treatments for co-occurring disorder, however, there are three competitive programs in development: ALKS 5461, which is believed to be acting as a functional KOR antagonist that is now in Phase 3 development for MDD as an adjunctive in patients who have no more than two inadequate responses to antidepressant therapy; EVP-6124, which is in Phase 3 development by Forum Pharmaceuticals Inc., and is being developed for the treatment of cognitive impairment in schizophrenia and for symptomatic treatment of Alzheimer's Disease; and LY2940094, which is in Phase 2 development by Eli Lilly and Company, or Lilly, and is being developed for the treatment of both MDD and alcohol dependence

Insurers and other third-party payors may also encourage the use of generic products or specific branded products. We expect that if CERC-301 is approved, it may be priced at a significant premium over competitive generic, including branded generic, products. 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. This may make it difficult for us to differentiate our product from currently approved therapies, which may adversely impact our business strategy. If we are not able to compete effectively against our current and future competitors, our business will not grow and our financial condition and operations will suffer. Moreover, many other companies are developing new therapeutics, and we cannot predict what the standard of care will be as our product candidates progress through clinical development.

We believe that our ability to successfully compete will depend on, among other things:

- the efficacy and safety profile of our product candidates, including relative to marketed products and product candidates in development by third parties;
- the claims we may make for our product candidates based on the approved label or any restrictions placed upon our marketing and distribution of our product candidates;
- the time it takes for our product candidates to complete clinical development and receive marketing approval;
- how quickly and effectively we alone, or with a partner, can market and launch any of our product candidates that receive marketing approval;
- the ability to commercialize any of our product candidates that receive marketing approval;
- the price of our products, including in comparison to branded or generic competitors;
- the ability to collaborate with others in the development and commercialization of new products;

- whether coverage and adequate levels of reimbursement are available under private and governmental health insurance plans, including Medicare;
- the ability to establish, maintain and protect intellectual property rights related to our product candidates;
- the entry of generic versions of our products onto the market;
- the number of products in the same therapeutic class as our product candidates;
- the ability to secure favorable managed care formulary positions, including federal healthcare program formularies;
- the ability to manufacture commercial quantities of any of our product candidates that receive marketing approval; and
- acceptance of any of our product candidates that receive marketing approval by physicians and other healthcare providers.

Our product candidates may not achieve adequate market acceptance among physicians, patients, third-party payors and others in the medical community necessary for commercial success.

Even if our product candidates receive marketing approval, they may not gain adequate market acceptance among physicians, patients and others in the medical community. 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 any of our approved product candidates will depend on a number of factors, including:

- the efficacy and safety profile as demonstrated in clinical trials;
- the claims we may make for our product candidates based on the approved label or any restrictions placed upon our marketing and distribution of our product candidates;
- the timing of market introduction of the product candidate as well as competitive products;
- the clinical indications for which the product candidate is approved;
- acceptance of the product candidate as a safe and effective treatment by physicians, providers and patients;
- the potential and perceived advantages of product candidates over alternative treatments, including any similar generic treatments;
- the cost of treatment in relation to alternative treatments;
- the availability of coverage and adequate reimbursement by third parties and government authorities;
- relative convenience and ease of administration;
- the frequency and severity of adverse events;
- the effectiveness of sales and marketing efforts; and
- unfavorable publicity relating to the product candidate.

If any product candidate is approved but does not achieve an adequate level of acceptance by physicians, hospitals, third-party payors and patients, we may not generate or derive sufficient revenue from that product candidate and may not become or remain profitable.

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

Our ability to commercialize any products successfully will depend in part on the extent to which coverage and adequate reimbursement for these products will be available from government authorities (such as Medicare and Medicaid), private health insurers, health maintenance organizations and other entities. These third-party payors determine which medications they will cover and establish reimbursement levels, and increasingly attempt to control costs by limiting coverage and the amount of reimbursement for particular medications. Several third-party payors are requiring that drug companies provide them with predetermined discounts from list prices, are using preferred drug lists to leverage greater discounts in competitive classes and are challenging the prices charged for drugs. In addition, 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. We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if coverage 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 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 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 for a drug may vary according to the clinical setting in which it is used, and 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 are subject to price controls and private institutions obtain discounts through group purchasing organizations. Net prices for drugs may be further reduced by mandatory discounts or rebates required by government healthcare programs and demanded by 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.

Moreover, the regulations that govern marketing approvals, pricing, coverage 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. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. 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.

Our failure to successfully in-license, acquire, develop and market additional product candidates or approved products would impair our ability to grow our business.

We intend to in-license, acquire, develop and/or market additional neuropsychiatric products and product candidates, as well as other products and product candidates that address nervous system disorders. Because our internal research and development capabilities are limited, we may be dependent upon pharmaceutical and biotechnology companies, academic scientists and other researchers to sell or license products or technology to us. The success of this strategy depends partly upon our ability to identify and select promising pharmaceutical product candidates and products, negotiate licensing or acquisition agreements with their current owners and finance these arrangements.

The process of proposing, negotiating and implementing a license or acquisition of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing, sales and other resources, may compete with us for the license or acquisition of product candidates and approved products. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, businesses and technologies and integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. We may not be able to acquire the rights to additional product candidates on terms that we find acceptable, or at all.

Further, any product candidate that we acquire may require additional development efforts prior to commercial sale, including preclinical or clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, we cannot provide assurance that any approved products that we acquire will be manufactured or sold profitably or achieve market acceptance.

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 managerial resources, we may forego or delay pursuit of opportunities with other product candidates 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 products 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 royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

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.

The United States and many foreign jurisdictions have enacted or proposed legislative and regulatory changes affecting the healthcare system and pharmaceutical industry that could 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 Medicare Modernization Act, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for outpatient prescription drug purchases through pharmacies, by the elderly by establishing Medicare Part D and 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 drugs that Medicare will cover in any therapeutic class under the new 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 Medicare Modernization Act applies only to drug benefits for Medicare beneficiaries, the Medicare and Medicaid programs increasingly are used as models for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and other medical products and services, particularly for new and innovative products and therapies, which has resulted in lower average selling prices. Therefore, any reduction in reimbursement that results from healthcare reform impacting government programs may result in a similar reduction in payments from private payors.

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 Affordable Care Act, a law intended to 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 Affordable Care Act:

- 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;
- revised the definition of "average manufacturer price," or AMP, for reporting purposes, which can increase the amount of Medicaid drug rebates manufacturers are required to pay to states, and created a separate AMP for certain categories of drugs provided in non-retail outpatient settings;
- extended Medicaid drug rebates, previously due only on fee-for-service utilization, to Medicaid managed care utilization;
- 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;
- 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. 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 can cause the required 340B discounts to increase;
- imposed a significant annual fee on companies that manufacture or import branded prescription drug products;
- required manufacturers to provide a 50% discount off the negotiated price of prescriptions filled by beneficiaries in the Medicare Part D coverage gap, referred to as the "donut hole"; and
- enacted substantial new provisions affecting compliance which may affect our business practices with healthcare practitioners.

Notably, a significant number of provisions are not yet, or have only recently become, effective. Although it is too early to determine the full effect of the Affordable Care Act, the new law appears

likely to continue the downward pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act 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 2% per fiscal year, which went into effect on April 1, 2013.

We expect that the Affordable Care Act, as well as other state and federal 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 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.

Moreover, the recently enacted Drug Quality and Security Act imposes new obligations on manufacturers of pharmaceutical products related to product tracking and tracing. Among the requirements of this new legislation, manufacturers will be required to provide certain information regarding drug products to individuals and entities to which product ownership is transferred, label drug products with a product identifier, and keep certain records regarding drug products. The transfer of information to subsequent product owners by manufacturers will eventually be required to be done electronically. Manufacturers will also be required to verify that purchasers of the manufacturers' products are appropriately licensed. Further, under this new legislation, manufacturers will have drug product investigation, quarantine, disposition, and FDA and trading partner notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products such that they would result in serious adverse health consequences or death, 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.

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials and will face an even greater risk if we commercially sell any products that we may develop. Product liability claims may be brought against us by subjects enrolled in our clinical trials, patients, healthcare providers or others using, administering or selling our 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. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against claims that our product candidates or products that we may develop caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any 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;
- significant costs to defend the related litigation;
- substantial monetary awards to trial subjects or patients;
- loss of revenue;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- diversion of management and scientific resources from our business operations;
- the inability to commercialize any products that we may develop; and
- a decline in our stock price.

We currently hold $10.0 million in clinical trial liability insurance coverage, which may not adequately cover all liabilities that we may incur. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. We intend to expand our insurance coverage for products to include the sale of commercial products if we obtain marketing approval for our product candidates in development, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims brought against us, particularly if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

Our relationships with commercial and government customers, healthcare providers, and third-party payors and others will be subject to applicable anti-kickback, fraud and abuse, transparency and other healthcare related laws, regulations and requirements, which could expose us to criminal sanctions, civil penalties, exclusion from participation in federal healthcare programs, contractual damages and consequences, reputational harm, administrative burdens and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our future arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute our products for which we obtain marketing approval. There are also laws, regulations, and requirements applicable to the award and performance of federal grants and contracts. Actions resulting in violations of these laws regulations, and requirements may result in civil and criminal liability, damages and restitution, as well as exclusion from participation in federal healthcare programs, corporate integrity agreements, deferred prosecution agreements, debarment from government contracts and grants and refusal of future orders under existing contracts or contractual damages, and other consequences. Restrictions under applicable federal and state healthcare related laws and regulations, include the following:

- the federal Anti-Kickback Statute prohibits persons from, among other things, knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, the referral of an individual for the furnishing or arranging for the furnishing, or the purchase, lease or order, or arranging for or recommending purchase, lease or order, of any good or service for which payment may be made under a federal healthcare program such as Medicare and Medicaid;
- the civil federal False Claims Act imposes civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for 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 imposes criminal fines or imprisonment against individuals or entities who willfully make or present a claim to the government knowing such claim to be false, fictitious or fraudulent;

- the Veterans Health Care Act requires manufacturers of covered drugs to offer them for sale on the Federal Supply Schedule, which requires compliance with applicable federal procurement laws and regulations and subjects us to contractual remedies as well as administrative, civil and criminal sanctions;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal liability for, among other actions, knowingly and willfully executing a scheme to defraud any healthcare benefit program, knowingly and willfully embezzling or stealing from a health care benefit program, willfully obstructing a criminal investigation of a health care offense, or knowingly and willfully making false statements relating to healthcare matters;

- the civil monetary penalties statute 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;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, also imposes obligations on certain covered entity health care providers, health plans, and health care clearinghouses as well as their business associates that perform certain services involving individually identifiable health information, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information, as well as directly applicable privacy and security standards and requirements;

- the federal Physician Sunshine Act, created under Section 6002 of the Affordable Care Act and its implementing regulations, requires manufacturers of drugs, devices, biologics 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 Centers for Medicare and Medicaid Services, or CMS, information related to payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, and requires applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians (as defined above) and their immediate family members;

- the Foreign Corrupt Practices Act, or FCPA, prohibits any United States 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; and

- analogous or similar state, federal, and foreign laws, regulations, and requirements such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors,

including private insurers; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; laws, regulations, and requirements applicable to the award and performance of federal contracts and grants and state, federal and foreign laws that govern the privacy and security of health and other information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. For example, we must ensure that all applicable price concessions are included in prices calculated and reported to federal agencies. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that governmental 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 and regulations. In addition, recent health care reform legislation has strengthened these laws. For example, the Affordable Care Act, among other things, amends the intent requirement of the federal anti-kickback and certain portions of the 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 Affordable Care Act 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 False Claims Act.

If our operations are found to be in violation of any of these laws or any other governmental regulations or requirements that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, restitution exclusion from government funded healthcare programs, such as Medicare and Medicaid, corporate integrity agreements, deferred prosecution agreements, debarment from government contracts and grants and refusal of future orders under existing contracts, contractual damages, the curtailment or restructuring of our operations and other consequences. If any of the physicians or other healthcare providers or entities with whom we expect to do business are found not to be in compliance with applicable laws, that person or entity may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Moreover, availability of any federal grant funds which we may receive or for which we may apply is subject to federal appropriations law.

If we fail to attract and keep management and other key personnel, as well as our board members, we may be unable to develop our product candidates or otherwise implement our business plan.

Our ability to compete in the highly competitive biotechnology and pharmaceuticals industries depends upon our ability to attract and retain highly qualified managerial, scientific, medical and other personnel. We are highly dependent on Blake M. Paterson, M.D., our Chief Executive Officer and President and member of our board of directors. The loss of the services of Dr. Paterson could impede, delay or prevent the development of our product candidates and could negatively impact our ability to successfully implement our business plan. If we lose the services of Dr. Paterson, we may not be able to find a suitable replacement on a timely basis, or at all, and our business would likely be harmed as a result. We do not maintain a "key man" insurance policy on Dr. Paterson's life or the lives of any of our other employees. We employ all of our executive officers and key personnel on an at-will basis and their employment can be terminated by us or them at any time, for any reason and without notice. In order to retain valuable employees at our company, in addition to salary and cash incentives, we provide incentive stock options that vest over time. The value to employees of stock options that vest

over time will be significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract offers from other companies.

We may not be able to attract or retain qualified management and other key personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses. Our industry has experienced a high rate of turnover of management personnel in recent years. As such, we could have difficulty attracting experienced personnel to our company and may be required to expend significant financial resources in our employee recruitment and retention efforts. Many of the other biotechnology and pharmaceutical companies with whom we compete for qualified personnel have greater financial and other resources, different risk profiles and longer histories 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 that which we have to offer. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience constraints that will impede significantly our ability to implement our business strategy and achieve our business objectives.

In addition, we have scientific and clinical advisors who assist us in formulating our development and clinical strategies. These advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. In addition, our advisors may have arrangements with other companies to assist those companies in developing products or technologies that may compete with ours.

If our employees, independent contractors, principal investigators, CROs, manufacturers, consultants or vendors commit fraud or other misconduct, including noncompliance with regulatory standards and requirements and insider trading, our business may experience serious adverse consequences.

We are exposed to the risk that our employees, independent contractors, principal investigators, CROs, manufacturers, consultants and vendors may engage in fraudulent or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates: (1) FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA, (2) manufacturing standards, (3) federal and state healthcare fraud and abuse laws and regulations or (4) laws that require the true, complete and accurate reporting of financial information or data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. The improper use of information obtained in the course of clinical trials could also result in significant legal sanctions and serious harm to our reputation. In addition, federal procurement laws and regulations impose substantial penalties for misconduct in connection with government contracts and require contractors to maintain a code of business conduct and ethics. In contemplation of this offering, we will adopt a Code of Business Conduct and Ethics, but it is not always possible to identify and deter misconduct by our employees and other third parties, and the precautions we take to detect and prevent this activity 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, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including regulatory enforcement action, the imposition of significant criminal and civil fines, penalties, or other sanctions, including imprisonment, exclusion from participation in federal healthcare programs, and deferred prosecution and corporate integrity agreements.

In addition, during the course of our operations, our directors, executives and employees may have access to material, nonpublic information regarding our business, our results of operations or potential transactions we are considering. In contemplation of this offering, we will adopt an Insider Trading Policy, but despite the adoption of such policy, we may not be able to prevent a director, executive or employee from trading in our common stock on the basis of, or while having access to, material, nonpublic information. If a director, executive or employee was to be investigated, or an action was to be brought against a director, executive or employee for insider trading, it could have a negative impact on our reputation and our stock price. Such a claim, with or without merit, could also result in substantial expenditures of time and money, and divert attention of our management team from other tasks important to the success of our business.

We may encounter difficulties in managing our growth and expanding our operations successfully.

As we seek to advance our product candidates through clinical trials, we will need to expand our development, regulatory, manufacturing, administrative, marketing and sales capabilities or contract with third parties to provide these capabilities for us. As our operations expand, we expect that we will need to manage additional relationships with various strategic partners, suppliers and other third parties. Future growth will impose significant added responsibilities on members of management. 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. The hiring, training and integration of new employees may be more difficult, costly and/or time-consuming for us because we have fewer resources than a larger organization. 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.

If, in the future, we are unable to establish our own sales, marketing and distribution capabilities or enter into licensing or collaboration agreements for these purposes, we may not be successful in commercializing our product candidates.

We currently have a relatively small number of employees and do not have a sales or marketing infrastructure, and we do not have any significant sales, marketing or distribution experience. We will be opportunistic in seeking to either build our own commercial infrastructure to commercialize our product candidates and future products if and when they are approved, or enter into licensing or collaboration agreements to assist in the future development and commercialization of such 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.

Where and when appropriate, we may elect to utilize contract sales forces or strategic partners to assist in the commercialization of our product candidates. 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. In addition, we may not be successful in entering into arrangements with third parties to sell, market and distribute our product candidates or may be unable to do so on terms that are favorable to us. We likely will 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. Such third parties may also not comply with the applicable regulatory requirements, which could potentially expose us to regulatory and legal enforcement actions.

If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

Risks Related to Our Dependence on Third Parties

We may not succeed in establishing and maintaining development collaborations, which could adversely affect our ability to develop and commercialize product candidates.

A part of our strategy is to enter into product development collaborations in the future, including collaborations with major biotechnology or pharmaceutical companies for the development or commercialization of our current and future product candidates. We face significant competition in seeking appropriate development partners and the negotiation process is time-consuming and complex. We may not succeed in our efforts to establish development collaborations or other alternative arrangements for any of our existing or future product candidates and programs because our research and development pipeline may be insufficient, our product candidates and programs may be deemed to be at too early a stage of development for collaborative effort and/or third parties may not view our product candidates and programs as having the requisite potential to demonstrate safety and efficacy.

Furthermore, any collaborations that we enter into may not be successful. The success of our development collaborations will depend heavily on the efforts and activities of our collaborators. Collaborators generally have significant discretion in determining the efforts and resources that they will apply to these collaborations. Disagreements between parties to a development collaboration regarding clinical development and commercialization matters can lead to delays in the development process or commercializing the applicable product candidate and, in some cases, termination of the development collaboration. These disagreements can be difficult to resolve if neither of the parties has final decision making authority.

Even if we are successful in our efforts to establish development collaborations, the terms that we agree upon may not be favorable to us and we may not be able to maintain such development collaborations if, for example, development or approval of a product candidate is delayed or sales of an approved product candidate are disappointing. Any delay in entering into development collaboration agreements related to our product candidates could delay the development and commercialization of our product candidates and reduce their competitiveness if they reach the market. Additionally, collaborations with pharmaceutical or biotechnology companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation.

If we fail to establish and maintain additional development collaborations related to our product candidates:

- the development of certain of our current or future product candidates may be terminated or delayed;
- our cash expenditures related to development of certain of our current or future product candidates would increase significantly and we may need to seek additional financing, which may not be available on favorable terms, or at all;
- we may be required to hire additional employees or otherwise develop expertise, such as sales and marketing expertise, for which we have not budgeted;
- we will bear all of the risk related to the development of any such product candidates; and
- the competitiveness of any product candidate that is commercialized could be reduced.

We rely on third parties to conduct, supervise and monitor our 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 marketing approval for or commercialize our product candidates in a timely manner or at all.

We rely upon third-party CROs to monitor and manage data for our clinical programs. We rely on these parties for execution of our clinical trials and, while we have agreements governing their activities, we have limited influence over their actual performance 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, 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 GCP requirements, 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 requirements through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs or clinical trial sites fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications, if at all. In addition, we are required to report certain financial interests of our third-party investigators if these relationships exceed certain financial thresholds or meet other criteria. The FDA or comparable foreign regulatory authorities may question the integrity of the data from those clinical trials conducted by principal investigators who previously served or currently serve as scientific advisors or consultants to us from time to time and receive cash compensation in connection with such services. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials complies with GCP requirements. In addition, we must conduct our clinical trials with product produced under applicable GMP requirements. Failure to comply with these regulations may require us to repeat preclinical and clinical trials, which would delay the marketing 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 preclinical 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 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 and we may not be able to obtain marketing approval for or successfully commercialize our product candidates or we may be subject to regulatory enforcement actions. 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.

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.

We use third parties to manufacture all of our product candidates. This may increase the risk that we will not have sufficient quantities of our product candidates to conduct our clinical trials or such quantities at an acceptable cost, which could result in the delay, prevention, or impairment of clinical development and commercialization of our product candidates.

We do not own or operate, and have no plans to establish, any manufacturing facilities for our product candidates. We have limited personnel with experience in drug manufacturing and we lack the resources and the capabilities to manufacture any of our product candidates on a clinical or commercial scale.

We currently outsource all manufacturing of our product candidates to third parties typically without any guarantee that there will be sufficient supplies to fulfill our requirements or that we may obtain such supplies on acceptable terms. Any delays in obtaining adequate supplies with respect to our product candidates may delay the development or commercialization of our other product candidates.

In addition, we do not currently have any agreements with third-party manufacturers for the long-term commercial supply of our product candidates. We may be unable to enter agreements for commercial supply with third-party manufacturers, or may be unable to do so on acceptable terms. Even if we enter into these agreements, the various manufacturers of each product candidate will likely be single source suppliers to us for a significant period of time.

The facilities used by our contract manufacturers to manufacture our product candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit our NDA to the FDA. 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 the regulatory requirements, known as GMP requirements, for manufacture of both active drug substances and finished drug products for clinical supply and eventually for commercial supply, if we receive regulatory approval. 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. Failure of our contract manufacturers to comply with the applicable regulatory requirements may also subject us to regulatory enforcement actions. 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.

Reliance on third-party manufacturers subjects us to risks that would not affect us if we manufactured the product candidates ourselves, including:

- reliance on the third parties for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreements by the third parties because of factors beyond our control;
- the possibility of termination or nonrenewal of the agreements by the third parties because of our breach of the manufacturing agreement or based on their own business priorities; and
- the disruption and costs associated with changing suppliers, including additional regulatory filings.

Our product candidates may compete with other products and product candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under GMP regulations and that are both capable of manufacturing for us and willing to do so. If our existing third-party manufacturers, or the third parties that we engage in the future to manufacture a product for commercial sale or for our clinical trials, should cease to continue to do so for any reason, we likely would experience delays in obtaining sufficient quantities of our product candidates for us to meet commercial demand or to advance our clinical trials while we identify and qualify replacement suppliers. If for any reason we are unable to obtain adequate supplies of our product candidates or the drug substances used to manufacture them, it will be more difficult for us to develop our product candidates and compete effectively.

Our suppliers are subject to regulatory requirements, covering manufacturing, testing, quality control, manufacturing, 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.

Risks Related to Intellectual Property

If we are unable to obtain or maintain intellectual property rights, or if the scope of patent protection is not sufficiently broad, competitors could develop and commercialize products similar or identical to ours, and 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.

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.

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 prosecuting 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 preclinical data and launch their product earlier than might otherwise be the case.

If we breach the license agreements related to our product candidates, we could lose the ability to develop and commercialize our product candidates.

Our commercial success depends upon our ability, and the ability of our licensors and collaborators, to develop, manufacture, market and sell our product candidates and use our and our licensors' or collaborators' proprietary technologies without infringing the proprietary rights of third parties. If we fail to comply with our obligations in the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose the ability to continue the development and commercialization of our product candidates or face other penalties under these agreements. We have entered into exclusive license agreements with Merck & Co., Inc. and its affiliates, or Merck, pursuant to which Merck has granted us rights to the compounds used in CERC-301 and the COMTi platform, including CERC-406. We have also entered into exclusive license agreements with Lilly pursuant to which Lilly has granted us rights to the compounds used in CERC-501. If we fail to comply with the obligations under these agreements, including payment terms, Merck and Lilly may have the right to terminate any of these agreements, in which event we may not be able to develop, market or sell CERC-301, CERC-501 or any product candidate developed from the COMTi platform, including CERC-406. Such an occurrence could materially adversely affect the value of the product candidate being developed under any such

agreement. Termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or reinstated agreements, which may not be available to us on equally favorable terms, or at all, or cause us to lose our rights under these agreements, including our rights to intellectual property or technology important to our development programs. Any of these occurrences may harm our business, financial condition and prospects significantly.

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.

Periodic maintenance and annuity fees on any issued patent are due to be paid to the United States Patent and Trademark Office, or USPTO, and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our licensors or collaborators fail to maintain the patents and patent applications covering our product candidates, our competitors might be able to enter the market, which would have a material adverse effect on our business.

Third parties may initiate legal proceedings against us alleging that we infringe their intellectual property rights or we may initiate legal proceedings against third parties to challenge the validity or scope of intellectual property rights controlled by third parties, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Third parties may initiate legal proceedings against us or our licensors or collaborators alleging that we or our licensors or collaborators infringe their intellectual property rights or we or our licensors or collaborators may initiate legal proceedings against third parties to challenge the validity or scope of intellectual property rights controlled by third parties, including in oppositions, interferences, reexaminations, inter partes reviews or derivation proceedings before the United States or other jurisdictions. These proceedings can be expensive and time-consuming and many of our or our licensors' or collaborators' adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors or collaborators can.

An unfavorable outcome could require us or our licensors or collaborators to cease using the related technology or developing or commercializing our product candidates, or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us or our licensors or collaborators a license on commercially reasonable terms or at all. Even if we or our licensors or collaborators obtain a license, it may be non- exclusive, thereby giving our competitors access to the same technologies licensed to us or our licensors or collaborators. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business.

We may become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time-consuming and unsuccessful and have a material adverse effect on the success of our business.

Third parties may infringe our or our licensors' or collaborators' patents or misappropriate or otherwise violate our or our licensors' or collaborators' intellectual property rights. In the future, we or our licensors or collaborators may initiate legal proceedings to enforce or defend our or our licensors' or collaborators' intellectual property rights, to protect our or our licensors' or collaborators' trade secrets or to determine the validity or scope of intellectual property rights we own or control. Also, third parties may initiate legal proceedings against us or our licensors or collaborators to challenge the validity or scope of intellectual property rights we own or control. The proceedings can be expensive and time-consuming and many of our or our licensors' or collaborators' adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors or collaborators can. Accordingly, despite our or our licensors' or collaborators' efforts, we or our licensors or collaborators may not prevent third parties from infringing upon or misappropriating intellectual property rights we own or control, particularly in countries where the laws may not protect those rights as fully as in the United States. Litigation could result in substantial costs and diversion of management resources, which could harm our business and financial results. In addition, in an infringement proceeding, a court may decide that a patent owned by or licensed to us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our or our licensors' or collaborators' patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our or our licensors' or collaborators' patents at risk of being invalidated, held unenforceable or interpreted narrowly.

Third party preissuance submission of prior art to the USPTO, or opposition, derivation, reexamination, inter partes review or interference proceedings, or other preissuance or post-grant proceedings in the United States or other jurisdictions provoked by third parties or brought by us or our licensors or collaborators may be necessary to determine the priority of inventions with respect to our or our licensors' or collaborators' patents or patent applications. An unfavorable outcome could require us or our licensors or collaborators to cease using the related technology and commercializing our product candidates, or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us or our licensors or collaborators a license on commercially reasonable terms or at all. Even if we or our licensors or collaborators obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us or our licensors or collaborators. In addition, if the breadth or strength of protection provided by our or our licensors' or collaborators' patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates. Even if we successfully defend such litigation or proceeding, we may incur substantial costs and it may distract our management and other employees. We could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares of our common stock.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, including our senior management, were previously employed at universities or at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. We may be subject to claims that we or these employees have used or disclosed confidential information or intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. In addition, we may be subject to claims that former employees, collaborators, or other third parties have an ownership interest in our patents or other intellectual property. While it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement to each party who in fact develops intellectual property that we regard as our own. We could be subject to ownership disputes arising, for example, from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these claims.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such a license may not be available on commercially reasonable terms or at all. Even if we successfully prosecute or defend against such claims, litigation could result in substantial costs and distract management.

Our inability to protect our confidential information and trade secrets would harm our business and competitive position.

In addition to seeking patents for some of our technology and products, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. Though 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, as well as by entering into confidentiality and invention or patent assignment agreements with our employees and consultants, 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 both within and outside the United States may be less willing or unwilling to protect trade secrets. If a competitor lawfully obtained or independently developed any of our trade secrets, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position.

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 United States 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, enforcing and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our or our licensors' or collaborators' intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we and our licensors or collaborators may not be able to prevent third parties from practicing our and our licensors' or collaborators' inventions in all countries outside the United States, or from selling or importing products made using our and our licensors' or collaborators' inventions in and into the United States or other jurisdictions. Competitors may use our and our licensors' or collaborators' 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 and our licensors or collaborators have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our product candidates and our and our licensors' or collaborators' patents or other intellectual property rights may not be effective or sufficient to prevent them from 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 and our licensors or collaborators to stop the infringement of our and our licensors' or collaborators' patents or marketing of competing products in violation of our and our licensors' or collaborators' proprietary rights generally. Proceedings to enforce our and our licensors' or collaborators' patent rights in foreign jurisdictions could result in substantial costs and divert our and our licensors' or collaborators' efforts and attention from other aspects of our business, could put our and our licensors' or collaborators' patents at risk of being invalidated or interpreted narrowly and our and our licensors' or collaborators' patent applications at risk of not issuing and could provoke third parties to assert claims against us or our licensors or collaborators. We or our licensors or collaborators may not prevail in any lawsuits that we or our licensors or collaborators initiate and the damages or other remedies awarded, if any, may not be commercially meaningful.

The requirements for patentability may differ in certain countries, particularly developing countries. For example, unlike other countries, China has a heightened requirement for patentability, and specifically requires a detailed description of medical uses of a claimed drug. In India, unlike the United States, there is no link between regulatory approval of a drug and its patent status. Furthermore, generic or biosimilar drug manufacturers or other competitors may challenge the scope, validity or enforceability of our or our licensors' or collaborators' patents, requiring us or our licensors or collaborators to engage in complex, lengthy and costly litigation or other proceedings. Generic or biosimilar drug manufacturers may develop, seek approval for, and launch biosimilar versions of our products. In addition to India, certain countries in Europe and developing countries, including China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we and our licensors or collaborators may have limited remedies if patents are infringed or if we or our licensors or collaborators are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our and our licensors' or collaborators' efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license.

Risks Related to this Offering and Ownership of Our Common Stock

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, no market for shares of our common stock existed and an active trading market for our shares may never develop or be sustained following this offering. We will determine the initial public offering price for our common stock through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of our common stock after this offering. The market value of our common stock may decrease from the initial public offering price. 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, or at all. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. Furthermore, 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 collaborations 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. As a result of this volatility, you may not be able to sell your common stock at or above the initial public offering price, or at all. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the development status of our product candidates, and when any of our product candidates receive marketing approval;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- our failure to commercialize our product candidates, if approved;
- 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 preclinical studies and clinical trials of our product candidates or those of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, 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;
- the performance of third parties on whom we rely to manufacture our products and product candidates, supply API and conduct our clinical trials, including their ability to comply with regulatory requirements;
- variations in our financial results or those of companies that are perceived to be similar to us;
- variations in the level of expenses related to our product candidates or preclinical and clinical development programs, including relating to the timing of invoices from, and other billing practices of, our CROs and clinical trial sites;
- fluctuations in the valuation of companies perceived by investors to be comparable 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;
- changes in operating performance and stock market valuations of other pharmaceutical companies;
- market conditions in the pharmaceutical and biotechnology sectors;
- our execution of collaborative, co-promotion, licensing or other arrangements, and the timing of payments we may make or receive under these arrangements;
- the public's response to press releases or other public announcements by us or third parties, including our filings with the Securities and Exchange Commission, or SEC, and announcements relating to litigation or other disputes, strategic transactions or intellectual property impacting us or our business;
- the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;

- changes in financial estimates by any securities analysts who follow our common stock, our failure to meet these estimates or failure of those analysts to initiate or maintain coverage of our common stock;
- ratings downgrades by any securities analysts who follow our common stock;
- the development and sustainability of an active trading market for our common stock;
- future sales of our common stock by our officers, directors and significant stockholders;
- other events or factors, including those resulting from war, incidents of terrorism, natural disasters or responses to these events;
- changes in accounting principles; and
- general economic, industry and market conditions.

In addition, the stock market in general, and the market for 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.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and will be able to avail ourselves of reduced disclosure requirements applicable to emerging growth companies, which could make our common stock less attractive to investors and adversely affect the market price of our common stock.

For so long as we remain an "emerging growth company" as defined in the JOBS Act, we may take advantage of certain exemptions from various requirements applicable to public companies that are not "emerging growth companies" including:

- the provisions of Section 404(b) of the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley Act, requiring that our independent registered public accounting firm provide an attestation report on the effectiveness of our internal control over financial reporting;
- the "say on pay" provisions (requiring a non-binding shareholder vote to approve compensation of certain executive officers) and the "say on golden parachute" provisions (requiring a non-binding shareholder vote to approve golden parachute arrangements for certain executive officers in connection with mergers and certain other business combinations) of the Dodd-Frank Act and some of the disclosure requirements of the Dodd-Frank Act relating to compensation of our chief executive officer;
- the requirement to provide detailed compensation discussion and analysis in proxy statements and reports filed under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and instead provide a reduced level of disclosure concerning executive compensation; and
- any rules that the Public Company Accounting Oversight Board may adopt requiring mandatory audit firm rotation or a supplement to the auditor's report on the financial statements.

We may take advantage of these exemptions until we are no longer an "emerging growth company." We would cease to be an "emerging growth company" upon the earliest of: (i) the first fiscal year following the fifth anniversary of this offering; (ii) the first fiscal year after our annual gross revenues are $1 billion or more; (iii) the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt securities; or (iv) as of the end of any fiscal year in

which the market value of our common stock held by non-affiliates exceeded $700 million as of the end of the second quarter of that fiscal year.

Although we are still evaluating the JOBS Act, we currently intend to take advantage of some, but not all, of the reduced regulatory and reporting requirements that will be available to us so long as we qualify as an "emerging growth company." For example, we have irrevocably elected not to take advantage of the extension of time to comply with new or revised financial accounting standards available under Section 102(b) of the JOBS Act. Our independent registered public accounting firm will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an "emerging growth company," which may increase the risk that material weaknesses or significant deficiencies in our internal control over financial reporting go undetected. Likewise, so long as we qualify as an "emerging growth company," we may elect not to provide you with certain information, including certain financial information and certain information regarding compensation of our executive officers, that we would otherwise have been required to provide in filings we make with the SEC which may make it more difficult for investors and securities analysts to evaluate our company. 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(b) 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 and may decline.

Failure to maintain effective internal control over financial reporting could adversely affect investor views of us and the value of our common stock.

Our management had previously concluded that our internal control over financial reporting related to the controls around our accounting review for complex financial instruments was not effective as of September 30, 2013. Under standards established by the Public Company Accounting Oversight Board, a material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected and corrected on a timely basis. Accordingly, we restated our financial statement as of and for the period ending September 30, 2013.

Subsequent to the period in which the material weakness was identified, management implemented measures to remediate the material weakness set forth above. The remediation actions included (i) adding resources to the accounting organization, (ii) additional training and competencies related to accounting review for complex financial instruments and (iii) increasing our use of third party consultants in evaluating and accounting for complex financial instruments. We believe the implemented actions remediated the above identified material weakness.

Although we believe we have taken appropriate actions to remediate the material weakness discussed above, we cannot assure you that we will not discover other material weaknesses in the future. Any failure to maintain or implement required new or improved controls, or any difficulties we encounter in implementation, could cause us to fail to meet our periodic reporting obligations or result in material misstatements in our financial statements. In addition, substantial costs and resources may be required to rectify any internal control deficiencies. If we cannot produce reliable financial reports, investors could lose confidence in our reported financial information, the market price of our common stock could decline significantly, and our business and financial condition could be harmed.

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.

Upon closing of this offering, our executive officers, directors and 5% stockholders and their affiliates will beneficially own approximately of our outstanding voting stock. As a result, these stockholders will have significant influence and 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 concentration of ownership could delay or prevent any acquisition of our company on terms that other stockholders may desire.

We have broad discretion in the use of the net proceeds from this offering and may not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section entitled "Use of Proceeds," and you will be relying on the judgment of our management regarding the application of these proceeds. We intend to use the net proceeds from this offering for:

- Phase 2 clinical development of CERC-301 and CERC-501;
- research and development under our COMTi platform, including the selection of lead candidates and preclinical research for CERC-406; and
- working capital and other general corporate purposes.

In addition, a portion of the net proceeds may also be used to acquire or license products, technologies or businesses. However, we do not currently have any specific plans for use of the net proceeds from this offering, nor have we performed studies or made preliminary decisions with respect to the best use of the capital resources resulting from this offering. As such, our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not necessarily improve our operating results or enhance the value of our common stock. You will be relying on the judgment of our management concerning these uses and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The failure of our management to apply these funds effectively could result in unfavorable returns and uncertainty about our prospects, each of which could cause the price of our common stock to decline.

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. Any adverse determination in litigation could also subject us to significant liabilities.

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. We do not currently have and may never obtain research coverage by securities and industry analysts. If no securities or industry analysts commence coverage of our company, the trading price for our stock would be negatively impacted. If we obtain securities or industry analyst coverage and if one or more of the analysts who covers us

downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price and trading volume to decline.

Future sales of our common stock may depress our stock price.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding shares of common stock based on the number of shares outstanding as of , assuming (i) no exercise of the underwriters' over-allotment option; and (ii) the conversion of all outstanding shares of our convertible preferred stock into 111,455,955 shares of common stock immediately prior to the closing of this offering. shares will be eligible for resale on the public market immediately, and of the shares may be sold after the expiration of lock-up agreements at least 180 days after the date of this prospectus pursuant to Rule 144 or Rule 701 under the Securities Act of 1933, as amended, or the Securities Act, unless held by an affiliate of ours, as more fully described in the section entitled "Shares Eligible for Future Sale."

We also intend to register all shares of common stock that we may issue after this offering under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to the lock-up agreements described above and in the section entitled "Underwriting—Lock-Up Agreements."

If a large number of shares of our common stock or securities convertible into our common stock are sold in the public market after they become eligible for sale, the sales could reduce the trading price of our common stock and impede our ability to raise future capital.

We will incur increased costs as a result of operating as a public company, and our management will devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company, and these expenses may increase even more after we are no longer an "emerging growth company." We will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Protection Act, as well as rules adopted, and to be adopted, by the SEC, the NASDAQ Capital Market and other applicable securities rules and regulations imposed on public companies, including the establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, we expect these rules and regulations to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. The increased costs will increase our net loss. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain sufficient coverage. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

We estimate the additional annual cost that we will incur as a result of our public company reporting obligations is $2.0 million. However, because these rules and regulations are often subject to varying interpretations, it is difficult to accurately estimate or predict the amount or timing of these additional costs. Further, the lack of specificity of many of the rules and regulations may result in an application in practice that may evolve over time as new guidance is provided by regulatory and

governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

If you purchase shares of common stock sold in this offering, you will incur immediate and substantial dilution.

If you purchase shares of common stock in this offering, you will incur immediate and substantial dilution in the pro forma as adjusted amount of $ per share, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, because you will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. This dilution is due in large part to the fact that our earlier investors paid substantially less than the initial public offering price when they purchased their shares. Moreover, investors who purchase shares of common stock in this offering will contribute approximately % of our total funding to date but will own only approximately % of our outstanding shares after giving effect to this offering. In addition, you may also experience additional dilution if the underwriters exercise their over-allotment option, upon future equity issuances, including upon conversion of any outstanding debt, or the exercise of stock options to purchase common stock granted to our employees, consultants and directors under our stock option and equity incentive plans. Please see the section entitled "Dilution."

Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital may be needed in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating a public company. 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 in more than one transaction, 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.

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

Upon the closing 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 that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal 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.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would benefit our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will become effective immediately prior to the closing of this offering, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders, or remove our current management. These provisions include:

- authorizing the issuance of "blank check" preferred stock, the terms of which we may establish and shares of which we may issue without stockholder approval;
- prohibiting cumulative voting in the election of directors, which would otherwise allow for less than a majority of stockholders to elect director candidates;
- 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; and
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management. Because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, which may discourage, delay or prevent someone from acquiring us or merging with us whether or not it is desired by or beneficial to our stockholders. Under the DGCL, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the board of directors has approved the transaction. Any provision of our amended and restated certificate of incorporation or amended and restated bylaws or Delaware law that has the effect of delaying or deterring a change of control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

We have never paid cash dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

The continued operation and expansion of our business will require substantial funding. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. Accordingly, we do not anticipate that we will pay any cash dividends on shares of our common stock for the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend upon results of operations, financial condition, contractual restrictions, restrictions imposed by applicable law and other factors our board of directors deems relevant. Accordingly, if you purchase shares in this offering, realization of a gain on your investment will depend on the appreciation of the price of our common stock, which may never occur. Investors seeking cash dividends in the foreseeable future should not purchase our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that reflect our management's beliefs and views with respect to future events and are subject to substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward- looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue" or the negative of those terms and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

- our estimates regarding our expenses, future revenues, anticipated capital requirements and our needs for additional financing;
- our ability to advance our product candidates into, and successfully complete, clinical trials and the anticipated timing of such clinical trials;
- the timing of and our ability to obtain and maintain marketing approvals for our product candidates and the anticipated regulatory pathways for our product candidates;
- the rate and degree of market acceptance and clinical utility of our product candidates;
- the size and potential growth of the markets for any of our product candidates and our ability to impact the size of those markets;
- our expectations regarding the potential safety, efficacy or clinical utility of our product candidates, particularly in comparison to our competitors' products and product candidates;
- our commercialization, marketing and manufacturing capabilities and strategy;
- the timing of the initiation, progress and results of preclinical studies and research and development programs;
- market and industry trends;
- our ability to leverage the experience of our management team;
- our expectations with respect to future growth and investments in our infrastructure, and our ability to effectively manage any such growth;
- our intellectual property position;
- our ability to identify additional products or product candidates, including from our COMTi platform, with significant commercial potential that are consistent with our commercial objectives; and
- our anticipated use of the net proceeds from this offering.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements. We operate in a very competitive and rapidly changing environment. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make, and accordingly you should not place undue reliance on our forward-looking statements. We have included important factors in the cautionary statements included in this prospectus, particularly in

the "Risk Factors" section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

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 the forward-looking statements in this prospectus by these cautionary statements. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

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, assuming an 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, corporate finance fee and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option in full, we estimate that the net proceeds from this offering will be approximately $ million, assuming an 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, corporate finance fee and estimated offering expenses payable by us.

A $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease the net proceeds 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 and after deducting the estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us.

Similarly, a one million share increase or decrease in the number of shares offered by us would increase or decrease the net proceeds to us by $ million, assuming the initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us.

The principal purposes of this offering are to obtain additional capital to support our operations, to create a public market for our common stock and to facilitate our future access to the public equity markets. As of December 31, 2014, we had cash and cash equivalents of $11.7 million. We plan to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- approximately $ million to fund the costs of our Phase 2 clinical development of CERC-301;
- approximately $ million to fund the costs of our Phase 2 clinical development of CERC-501;
- approximately $ million to fund research and development, and to advance our pipeline of preclinical lead candidates, under the COMTi platform, including the selection of additional candidates and preclinical research for CERC-406; and
- the remainder for working capital, general corporate purposes and potential in-licensing or other acquisitions.

This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. 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 for CERC-301 and CERC-501, 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 retain broad discretion over the allocation of the net proceeds from this offering. We have no current understandings, agreements, commitments or obligations to in-license, acquire or invest in complementary businesses, technologies, products or assets.

Based on our planned use of the net proceeds from this offering and our existing cash and cash equivalents described above, we estimate that such funds will be sufficient to enable us to complete Phase 2 clinical development of CERC-301 and CERC-501, preclinical research for CERC-406, and identify other preclinical lead candidates from our COMTi platform. It is possible that we will not

achieve the progress that we expect with respect to CERC-301 and our COMTi platform because the actual costs and timing of development and marketing approval are difficult to predict and are subject to substantial risks and delays.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and United States government securities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We intend to retain all of our available funds and future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

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

- on an actual basis;
- on a pro forma basis to give effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 111,455,955 shares of our common stock upon the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of our common stock in this offering at 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.

The information in this table is illustrative only and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table in conjunction with the information contained in the "Management's Discussion and Analysis of Financial Condition and Results of

Operations" section of this prospectus and with our financial statements and the notes thereto included elsewhere in this prospectus.

	As of December 31, 2014		
	Actual	Pro forma	Pro forma as adjusted
		(in thousands)	
Cash and cash equivalents	$ 11,742	$	$
Liabilities:			
Term debt (net of debt discount)	$ 7,214		
Convertible Preferred Stock:			
Series A convertible preferred stock, $0.001 par value; 31,116,391 shares authorized, 31,116,391 shares issued and outstanding, actual; no shares designated, issued or outstanding, pro forma and pro forma as adjusted	10,463		
Series A-1 convertible preferred stock, $0.001 par value; 9,074,511 shares authorized, 9,074,511 shares issued and outstanding, actual; no shares designated, issued or outstanding, pro forma and pro forma as adjusted	3,389		
Series B convertible preferred stock, $0.001 par value; 115,000,000 shares authorized, 58,948,735 shares issued and outstanding, actual; no shares designated, issued or outstanding, pro forma and pro forma as adjusted	14,493		
Total convertible preferred stock	28,345		
Stockholders' (deficit) equity:			
Common stock, $0.001 par value; 230,000,000 shares authorized, 18,193,930 shares issued and outstanding, actual; shares authorized, and shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	18		
Preferred stock, par value $0.001; no shares authorized, issued and outstanding, actual; shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted	—		
Additional paid in capital	16,725		
Accumulated deficit	(43,073)		
Total stockholders' (deficit) equity	(26,330)		
Total capitalization	$ 9,229	$	$

A $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase (decrease) each of the pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity and total capitalization 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 and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase (decrease) of 1.0 million shares in the number of shares offered by us would increase (decrease) each of cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity and total capitalization by approximately $ million, assuming that the assumed initial public offering price, which is the midpoint of the price range set forth on the cover page of this prospectus, remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The table above does not include:

- 15,477,272 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2014 at a weighted-average exercise price of $0.33 per share;
- 14,425,474 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.94 per share which warrants are expected to remain outstanding upon the closing of this offering;
- 4,668,221 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.2999 per share, which warrants will expire upon the closing of this offering in accordance with their terms, unless exercised prior thereto;
- 625,208 shares of our common stock issuable upon the exercise of a warrant outstanding as of December 31, 2014 at an exercise price of $0.2999 per share, which warrant is exercisable to purchase Series B convertible preferred stock prior to the completion of this offering and which warrant is expected to remain outstanding upon the closing of this offering;
- shares of our common stock issuable upon the exercise of a warrant issued in connection with this offering at an exercise price of $, assuming an initial public offering price of $ per share, which is the midpoint of this price range set forth on the cover page of this prospectus;
- 5,946,733 shares of our common stock available for future issuance under our 2011 Stock Incentive Plan as of December 31, 2014; and
- shares of our common stock available for future issuance under our 2015 equity compensation plan, which will become effective upon the closing of this offering.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma net tangible book value per share of our common stock after this offering. Net tangible book value per share of our common stock is determined at any date by subtracting our total liabilities from the amount of our total tangible assets (total assets less intangible assets) and dividing the difference by the number of shares of our common stock deemed outstanding at that date.

The historical net tangible book value of our common stock as of was $ million, or $ per share of our common stock, based on shares of our common stock outstanding as of .

The pro forma net tangible book value of our common stock as of was $ million, or $ per share of our common stock, and represents our historical net tangible book deficit as of after giving effect to the conversion of all of our outstanding convertible preferred stock into an aggregate of shares of our common stock.

After giving further effect to the sale of shares of common stock by us in this offering at 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, and after deducting the estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us our pro forma as adjusted net tangible book value as of would have been $ million, or $ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to existing stockholders, and an immediate dilution of $ per share to investors participating in this offering. The table below illustrates this per share dilution.

Investors participating in this offering will incur immediate and substantial dilution. After giving further effect to our issuance and sale of shares of our common stock in this offering at 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, and after deducting the estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of would have been $ million, or $ per share. This represents an immediate increase in pro forma adjusted net tangible book value of $ per share to existing stockholders and immediate dilution of $ per share to new

investors purchasing common stock in this offering. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	$
Historical net tangible book value per share as of	
Pro forma increase in net tangible book value (deficit) per share attributable the conversion of outstanding convertible preferred stock	
Pro forma net tangible book value (deficit) per share before this offering	
Pro forma increase in net tangible book value (deficit) per share attributable to new investors purchasing common stock in this offering	
Pro forma as adjusted net tangible book value (deficit) per share after this offering	
Dilution per share to new investors purchasing common stock in this offering	$

A $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 (decrease) our pro forma as adjusted net tangible book value by $ million or by $ per share and the dilution to new investors in this offering by $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us.

We may also increase or decrease the number of shares we are offering. An increase of 1.0 million shares in the number of shares offered by us would increase our pro forma as adjusted net tangible book value (deficit) as of , by approximately $ million or by $ per share and the dilution per share to new investors purchasing common stock in this offering 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 estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us. Conversely, a decrease of 1.0 million shares in the number of shares offered by us would decrease our pro forma as adjusted net tangible book value (deficit) as of , by approximately $ million or by $ per share and the dilution per share to new investors purchasing common stock in this offering 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 estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us.

If the underwriters exercise their over-allotment option in full, the pro forma as adjusted net tangible book value (deficit) per share after giving effect to this offering would be $ per share, which amount represents an immediate increase in pro forma net tangible book value (deficit) of $ per share of our common stock to existing stockholders and an immediate dilution in net tangible book value (deficit) of $ per share of our common stock to new investors purchasing shares of common stock in this offering.

The following table summarizes, as of , on a pro forma basis after giving effect to the conversion of outstanding convertible preferred stock, the differences between the number of shares purchased from us, the total consideration paid to us, and the average price per share paid to us by existing stockholders and by new investors purchasing shares in this offering at 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, before deducting the estimated underwriting discounts and commissions, corporate finance fee and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price
(in thousands, except per share amounts)	Number	Percentage	Amount	Percentage	Per Share
Existing stockholders		%	$	%	$
New investors					
Total		%	$	%	

The number of shares of our common stock outstanding immediately following this offering is based on 18,193,930 shares of our common stock outstanding as of December 31, 2014 and giving effect to the pro forma conversion of our convertible preferred stock into an aggregate of 111,455,955 shares of our common stock upon the closing of this offering. This number excludes:

- 15,477,272 shares of our common stock issuable upon the exercise of stock options outstanding as of December 31, 2014 at a weighted-average exercise price of $0.33 per share;
- 14,425,474 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.94 per share which warrants are expected to remain outstanding upon the closing of this offering;
- 4,668,221 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 at a weighted-average exercise price of $0.2999 per share, which warrants will expire upon the closing of this offering in accordance with their terms, unless exercised prior thereto;
- 625,208 shares of common stock issuable upon the exercise of a warrant outstanding as of December 31, 2014 at an exercise price of $0.2999 per share, which warrant is exercisable to purchase Series B convertible preferred stock prior to the completion of this offering and which warrant is expected to remain outstanding upon the closing of this offering;
- shares of our common stock issuable upon the exercise of a warrant issued in connection with this offering at an exercise price of $ per share, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus;
- 5,946,733 shares of our common stock available for future issuance under our 2011 Stock Incentive Plan as of December 31, 2014; and
- shares of our common stock available for future issuance under our 2015 equity compensation plan, which will become effective upon the closing of this offering.

To the extent that outstanding stock options are subsequently exercised, there will be further dilution to new investors. If all outstanding options as of December 31, 2014 had been exercised, assuming the treasury stock method, the pro forma net tangible book value per share as of December 31, 2014 (calculated on the basis of the assumptions set forth above) would have been approximately $ million, or $ per share of our common stock, and the pro forma as adjusted net tangible book value would have been $ per share, representing dilution in our pro forma adjusted net tangible book value per share to new investors of $.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital by issuing equity securities or convertible debt, your ownership will be further diluted.

Effective upon the closing of this offering, an aggregate of shares of our common stock will be reserved for future issuance under our equity benefit plans, and the number of reserved shares will also be subject to automatic annual increases in accordance with the terms of the plans. New options that we may grant under our equity benefit plans will further dilute investors purchasing common stock in this offering.

If the underwriters exercise their over-allotment option in full, the following will occur:

- the percentage of shares of our common stock held by existing stockholders will decrease to approximately % of the total number of shares of our common stock outstanding after this offering; and
- the number of shares of our common stock held by new investors will increase to approximately % of the total number of shares of our common stock outstanding after this offering.

SELECTED FINANCIAL DATA

The following tables set forth our summary financial data for the periods indicated. The following summary financial data for the years ended December 31, 2013 and 2014 and the selected balance sheet data as of December 31, 2013 and 2014 are derived from our audited financial statements.

This summary financial data should be read together with the historical financial statements and related notes to those statements, as well as "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this prospectus. See note 3 to our audited financial statements appearing elsewhere in this prospectus for information regarding computation of basic and diluted net loss per share of common stock, unaudited pro forma basic and diluted net loss per share of common stock and the unaudited pro forma weighted average basic and diluted common shares outstanding used in computing pro forma basic and diluted net loss per common share.

	Years Ended December 31,	
	2013	2014
Operating expenses:		
Research and development	$ 8,914,084	$ 12,240,535
General and administrative	4,020,364	4,875,030
Total operating expenses	12,934,448	17,115,565
Loss from operations	(12,934,448)	(17,115,565)
Other income (expense):		
Change in fair value of warrant liabilities and investor rights obligation	(121,115)	2,266,161
Interest income (expense), net	10,555	(1,206,187)
Total other income (expense)	(110,560)	1,059,974
Net loss	(13,045,008)	(16,055,591)
Net loss attributable to common stockholders	$ (13,126,972)	$ (3,521,153)
Net loss per share of common stock, basic and diluted	$ (0.74)	$ (0.20)
Weighted-average shares of common stock outstanding, basic and diluted	17,742,808	17,977,534
Pro forma net loss per share of common stock—basic and diluted (unaudited)		
Pro forma weighted-average shares of common stock outstanding, basic and diluted (unaudited)		

	As of December 31,	
	2013	2014
Balance Sheet Data:		
Cash and cash equivalents	$ 3,421,480	$ 11,742,349
Total assets	5,075,600	12,316,894
Total liabilities	3,065,642	10,302,027
Convertible preferred stock	19,856,633	28,345,531
Total stockholders' deficit	(17,846,675)	(26,330,664)

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 our financial statements and related notes appearing at the end of this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward looking statements that involve risks, uncertainties and assumptions. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in this prospectus.

Overview

We are a clinical stage biopharmaceutical company with the goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We have a portfolio of clinical and preclinical compounds that we believe are best in class and where human proof of concept has been established for the compound or the target. We are currently pursuing regulatory approval of three product candidates: CERC-301, CERC-501 and CERC-406.

CERC-301 is currently in Phase 2 development as an oral, adjunctive antidepressant for the treatment of patients with major depressive disorder, or MDD, who are failing to achieve an adequate response to their current antidepressant treatment and are severely depressed. We received fast track designation by the United States Food and Drug Administration, or FDA, in November 2013 for CERC-301 for the treatment of MDD. CERC-301 belongs to a class of compounds known as antagonists, or inhibitors, of the N-methyl-D-aspartate, or NMDA, receptor, a receptor subtype of the glutamate neurotransmitter system that is responsible for controlling neurological adaptation. We believe CERC-301 will be a first-in-class medication that will cause a significant reduction in depression symptoms in a matter of days, as compared to weeks or months with conventional therapies, because it selectively blocks the NMDA receptor subunit 2B, or NR2B, which we believe provides rapid and significant antidepressant activity without the adverse side effect profile of non selective NMDA receptor antagonists. We are also currently developing CERC-501, which is in Phase 2 development, for co-occurring psychiatric and substance use disorders, or co-occurring disorders. CERC-501 was acquired in February 2015, and is a potent and selective kappa opioid receptor, or KOR, antagonist. KORs are believed to play key roles in modulating stress, mood and addictive behaviors, which form the basis of co-occurring disorders. We are preparing to initiate a clinical study to evaluate the effect of CERC-501 on aspects of tobacco withdrawal and reinstatement by year-end 2015, with the intent of thereafter pursuing additional studies focused on the treatment of co-occurring disorders. CERC-406 is our preclinical lead candidate from our proprietary platform of compounds that inhibit catechol-O-methyltransferase, or COMT, within the brain, which we refer to as our COMTi platform. We anticipate developing CERC-406 for the treatment of residual cognitive impairment symptoms in patients with MDD.

We incorporated in January 2011 and commenced operations in the second quarter of 2011. Since inception, our operations have included organizing and staffing our company, business planning, raising capital and developing our product candidates, CERC-301, CERC-501 and FP01, which we have discontinued developing, and the COMTi platform, including our initial product candidate CERC-406. 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, development and other expenses related to our ongoing operations. We have incurred losses in each period since our inception. We have financed our operations primarily through private placements of our common and convertible preferred stock and convertible debt. As of December 31, 2014, we had an accumulated deficit of $43.1 million. Our

net loss was $13.0 and $16.1 million for the year ended December 31, 2013 and 2014, respectively. Our ability to become and remain profitable depends on our ability to generate revenue. We do not expect to generate any product revenue unless, and until, we obtain marketing approval for, and commercialize, any of our product candidates.

We have received aggregate net proceeds of $51.1 million through December 31, 2014 from the sale of our common and convertible preferred stock and convertible debt. In addition, we received $292,000 pursuant to a grant agreement with the National Heart, Lung, and Blood Institute of the National Institute of Health, or NIH. From inception through December 31, 2014, we had incurred approximately $32.4 million of total research and development expenses and approximately $11.8 million of total general and administrative expenses.

We expect to incur significant expenses and operating losses for the foreseeable future as we continue the development and clinical trials of, and seek marketing approval for, our product candidates. If we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, distribution and outsourced manufacturing, unless we offset our commercialization expenses by entering into a favorable partnering arrangement with a third party. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company. Our ability to achieve profitability is dependent on our ability, alone or with others, to (i) complete the development of our product candidates successfully, (ii) obtain required marketing approvals, (iii) manufacture and market our potential products successfully or have such products manufactured and marketed by others, and (iv) gain market acceptance for such products. There can be no assurance as to whether or when we will achieve profitability.

We will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts. We will seek to fund our operations through the sale of equity, debt financings or other sources, including potential collaborations. However, we may be unable to raise additional funds or enter into such other agreements when needed on favorable terms, or at all. If we fail to raise capital or enter into such other arrangements as, and when, needed, we may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of our product candidates.

Our recurring losses and negative cash flows from operations raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm included an explanatory paragraph regarding this uncertainty in its report on our financial statements as of and for the year ended December 31, 2014. We have no current source of revenues to sustain our present activities, and we do not expect to generate revenues until, and unless, the FDA or other regulatory agencies approve our product candidates and we successfully commercialize any such product candidates. Accordingly, our ability to continue as a going concern will require us to obtain additional financing to fund our operations.

Components of Operating Results

Revenue

To date, we have derived all of our revenue from a research grant from NIH, which we received in 2011. We do not expect any grant revenue during 2015 and, although we plan to submit grant applications from time to time, no assurances can be made that the grant will be awarded.

We have not generated any revenue from commercial product sales. In the future, if any of our product candidates currently under development are approved for commercial sale, we may generate

revenue from product sales, or alternatively, we may choose to select a collaborator to commercialize our product candidates in all or selected markets, thereby reducing revenue from product sales or increasing fees paid to collaborators. We will not generate any commercial revenue, if ever, until one of our product candidates receives marketing approval and we successfully commercialize such product candidates.

Research and Development Expenses

Our research and development expenses consist primarily of costs incurred developing, testing and seeking marketing approval for our product candidates. These costs include both external costs, which are study-specific costs, and internal research and development costs, which are not directly allocated to our product candidates.

External costs include:

- expenses incurred under agreements with third-party contract research organizations, or CROs, and investigative sites that conduct our clinical trials, preclinical studies and regulatory activities;
- payments made to contract manufacturers for drug substance and acquiring, developing and manufacturing clinical trial materials; and
- payments related to acquisitions of our product candidates and preclinical platform and milestone payments.

Internal costs include:

- personnel-related expenses, including salaries, benefits and stock-based compensation expense;
- consulting costs related to our internal research and development programs;
- allocated facilities, depreciation and other expenses, which include rent and utilities, as well as other supplies; and
- product liability insurance.

Research and development costs are expensed as incurred. We record costs for some development activities, such as clinical trials, based on an evaluation of the progress to completion of specific tasks using data such as subject enrollment, clinical site activations or information provided to us by our vendors.

We track external costs by discovery program and subsequently by product candidate once a product candidate has been selected for development. We have incurred a total of $32.4 million in research and development expenses from inception through December 31, 2014, with $11.4 million being spent on external costs primarily for CERC-301 and $11.2 million for our discontinued product candidate FP01, and $1.1 million spent on our COMTi platform and other preclinical programs; the remaining $8.7 million was spent primarily on internal costs, which are predominantly personnel-related costs, including stock-based compensation, and consulting and other costs. Product candidates in later stage clinical development generally have higher research and development expenses than those in earlier stages of development, primarily due to the increased size and duration of the clinical trials. As we advance our product candidates through clinical development, we expect that the amount of our research and development spending allocated to external spending relative to internal spending will continue to grow for the foreseeable future, while our internal research and development spending should grow at a slower and more controlled pace.

During December 2014 and the first quarter of 2015, our research and development headcount was reduced by seven employees due to voluntary terminations. We expect to hire and to use consultants on an as needed basis to perform the work needed as we commence additional trials for

CERC-301 and our first trial for CERC-501 during the second and third quarters of 2015. However, we anticipate that our research and development expenses for 2015 will be less than 2014. We anticipate that our research and development costs will increase in 2016 and beyond, with continued research, development and potential commercialization of our product candidates.

It is difficult to determine with certainty the duration and completion costs of our current or future preclinical programs and clinical trials of our product candidates, whether the trial results will be positive, or if, when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates that obtain marketing approval. We may never succeed in achieving marketing approval for any of our product candidates. The duration, costs and timing of clinical trials and development of our product candidates will depend on a variety of factors, including the uncertainties of future clinical and preclinical studies, uncertainties in clinical trial enrollment rate, the number of clinical sites included in trials, and the need to add more sites, and significant and changing government regulation. In addition, the probability of success for each product candidate will depend on numerous factors, including competition, manufacturing capability, market acceptance and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each product candidate, as well as an assessment of each product candidate's commercial potential. A change in the outcome of any of the variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, based on the results of our Phase 2 clinical trials of FP01, expected future development expenses and the addressable market, we have decided to discontinue the development and commercialization of FP01. Additionally, if the FDA or other regulatory authorities were to require us to conduct clinical trials beyond those which we anticipate, or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

General and administrative expenses consist principally of professional fees, patent costs and salaries, benefits and related costs for executive and other personnel, including stock-based compensation and travel expenses. Other general and administrative expenses include facility-related costs, communication expenses and professional fees for legal, including patent-related expenses, consulting, tax and accounting services, insurance, depreciation and general corporate expenses.

We anticipate that our general and administrative expenses will increase in the future with continued research, development and potential commercialization of our existing and future product candidates and expanded compliance obligations of operating as a public company. These increases will likely include greater costs for insurance, costs related to the hiring of additional personnel, payments to outside consultants and investor relations providers, and costs for legal and accounting professionals, among other expenses. Additionally, if and when we believe a marketing approval of a product candidate appears likely, we anticipate an increase in payroll and expense as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidates.

Change in Fair Value of Warrant Liabilities and Investor Rights Obligation

We have issued warrants for the purchase of our Series B preferred stock and accounted for the obligation to issue additional shares of our Series B preferred as a freestanding financial instrument, which we refer to as the Investor Rights Obligation. The warrants and Investor Rights Obligation are classified as liabilities at their respective fair values. These liabilities are remeasured at each balance sheet date and changes in fair value are recorded within our statement of operations. We will remeasure the warrant liability immediately prior to the closing of this offering and, upon the conversion of such warrant into a warrant to purchase shares of our common stock upon the

completion of this offering, we will reclassify these liabilities to permanent equity. Based on 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, we expect to record a related charge of approximately $ as other expense in our results of operations for the period in which this offering closes. Based on 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, we expect the fair value of the warrant liability that will be reclassified to additional paid-in capital upon consummation of this offering will be $ million. The Investor Rights Obligation will expire upon the closing of this offering in accordance with its terms, unless exercised prior thereto.

Interest Income (Expense), net

Interest income (expense), is primarily related to the amortization of the debt discounts and premiums and deferred financing fees in connection with our debt financing activities during the year ended December 31, 2014. We also made interest payments during the year pursuant to the terms of our term debt facility that we entered into during 2014.

Interest income consists principally of interest earned on our cash and cash equivalent balances.

Critical Accounting Policies and Significant Judgments and Estimates

This discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States of America, or GAAP. The preparation of these financial statements requires us to 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 revenue and expenses during the reported period. In accordance with GAAP, we base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. On an ongoing basis, we evaluate our estimates and assumptions, including those related to clinical and preclinical trial expenses and stock-based compensation. 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 audited financial statements appearing at the end of this prospectus, we believe the following accounting policies are critical to the portrayal of our financial condition and results. We have reviewed these critical accounting policies and estimates with the audit committee of our board of directors.

Research and Development Expenses

Research and development costs are expensed as incurred. We rely heavily on third parties to conduct preclinical and clinical trials, as well as for the manufacture of our clinical trial supplies. 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 subject enrollment, clinical site activations or information provided to us by our vendors with respect to 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 research and development expense, as the case may be.

Income Taxes

As of December 31, 2014, we had $40.9 million of Federal and Maryland net operating loss, or NOL, carryforwards that will begin to expire in 2031. As of December 31, 2014, we had $1.1 million and $0.5 million of Maryland and federal research and development credits, respectively, that will begin to expire in 2018. The NOL and research and development credit carryforwards are subject to review

and possible adjustment by the Internal Revenue Service and state tax authorities. NOL and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three- year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, as well as similar state tax provisions. This could limit the amount of NOLs that we can utilize annually to offset future taxable income or tax liabilities. The amount of the annual limitation, if any, will be determined based on the value of the company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. All of our tax years are currently open to examination by each tax jurisdiction in which we are subject to taxation.

Convertible Preferred Stock

We account for conversion options embedded in our convertible preferred stock in accordance with ASC 480, "*Distinguishing Liabilities from Equity*", ASC 815, "*Derivatives and Hedging*", and ASU 2014-16, an update to ASC 815. GAAP potentially requires companies to bifurcate conversion options from their host instruments and account for them as freestanding derivative financial instruments at their fair value according to certain criteria. The criteria includes circumstances in which (a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, (b) the hybrid instrument that embodies both the embedded derivative instrument and the host contract is not re-measured at fair value under otherwise applicable GAAP with changes in fair value reported in earnings as they occur, and (c) a separate instrument with the same terms as the embedded derivative instrument would be considered a derivative instrument. We evaluated the Series A, A-1 and B convertible preferred stock and their embedded conversion features on the date of issuance and determined the host instruments and the embedded conversion features are more akin to equity and are therefore clearly and closely related as defined by ASC 815. As such, bifurcation of the embedded conversion feature was not required.

Estimated Fair Value of Investor Rights Obligation

On July 11, 2014 and August 19, 2014, we issued, Series B convertible preferred stock for aggregate proceeds of $15 million. In addition, we issued Series B convertible preferred stock upon conversion of our demand notes that had a an aggregate principal balance of $1 million at the time of conversion, as well as the conversion of our convertible promissory notes that had an aggregate principal balance of $1,250,000 and accrued interest of $9,016. At any time after the initial offering and prior to the earlier of (i) an initial public offering, or IPO, (ii) a deemed liquidation event, or (iii) June 30, 2017, the majority holders of the Series B convertible preferred stock issued may purchase up to an additional 53,351,117 shares under the same terms and conditions of the initial offering.

We have determined that our obligation to issue, and our investor's obligation to purchase, additional shares of convertible preferred stock represented a freestanding financial instrument, which we accounted for as a liability. The freestanding financial instrument liability was initially recorded at fair value, with fair value changes recognized at each balance sheet date as increases or decreases to other income (expense), net in the statement of operations. At the time of the exercise of the option which, pursuant to its terms, must occur prior to an IPO, we will remeasure the obligation to fair value with the change recognized in other income (expense), net, in the statements of operations and immediately reclassify the liability to temporary equity.

Estimated Fair Value of Convertible Preferred Stock Warrants

Warrants for shares that are contingently redeemable, such as our Series B convertible preferred stock, are accounted for as freestanding financial instruments. These warrants are classified as liabilities on our consolidated balance sheets and are recorded at their estimated fair value. At the end of each

reporting period, changes in the estimated fair value during the period are recorded as a component of other income (expense), net. We will continue to adjust these liabilities for changes in fair value until the earlier of the expiration or the exercise of the warrants.

Stock-Based Compensation

We measure stock-based awards granted to our employees and nonemployee directors at fair value on the date of grant and recognize the corresponding compensation expense of those awards, net of estimated forfeitures, over the requisite service period, which is generally the vesting period of the respective award. Generally, we issue stock options and restricted stock with only service-based vesting conditions and record the expense for these awards using the straight-line method. We have historically granted stock options with exercise prices no less than the fair market value of our common stock as of the date of grant.

We measure stock-based awards granted to nonemployee consultants at the fair value of the award on the date at which the related service is complete. Compensation expense is recognized over the period during which services are rendered by such nonemployee consultants until completed. At the end of each financial reporting period prior to the completion of the service, the fair value of these awards is re-measured using, for options, the then-current fair market value of our common stock and updated assumptions in the Black-Scholes option-pricing model and using, for restricted stock, the then-current fair market value of our common stock.

The fair value of each stock option grant is estimated using the Black-Scholes option-pricing model. We are a private company and lack company-specific historical and implied volatility information. Therefore, we estimate our expected volatility based on the historical volatility of our publicly traded peer companies and expect to continue to do so until such time as we have adequate historical data regarding the volatility of our traded stock price. The expected term of our options has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options, while the expected term of our options granted to consultants and nonemployees has been determined based on the contractual term of the options. The risk-free interest rate is determined by reference to the United States Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that we have never paid cash dividends and do not expect to pay any cash dividends in the foreseeable future.

The assumptions we used to determine the fair value of stock options granted to employees and directors are as follows, presented on a weighted average basis:

	Year Ended December 31,	
	2013	2014
Risk-free interest rate	0.85 - 1.90%	0.85 - 1.97%
Expected term of options (in years)	6.0	5.0 - 6.25
Expected volatility	70.0%	70.0%
Dividend yield	0.0%	0.0%

These assumptions represented our best estimates, but the estimates involve inherent uncertainties and the application of our judgment. As a result, if factors change and we use significantly different assumptions or estimates when valuing our stock options, our stock-based compensation expense could be materially different. We recognize compensation expense for only the portion of awards that are expected to vest. In developing a forfeiture rate estimate for pre-vesting forfeitures, we have considered our historical experience of actual forfeitures. If our future actual forfeiture rate is materially different from our estimate, our stock-based compensation expense could be significantly different from what we have recorded in the current period.

Stock-based compensation expense totaled $749,000 and $1.1 million for the years ended December 31, 2013 and 2014, respectively. We record stock-based compensation expense as a component of research and development expenses or general and administrative expenses, depending on the function performed by the grantee. For the years ended December 31, 2013 and 2014, we allocated stock-based compensation as follows:

	Year Ended December 31,	
	2013	2014
	(in thousands)	
Research and development	$ 166	$ 202
General and administrative	583	885
Total	$ 749	$ 1,087

As of December 31, 2014, we had $201,000 of total unrecognized stock-based compensation expense, which we expect to recognize over a weighted-average remaining vesting period of approximately 0.59 years. In future periods, our stock-based compensation expense is expected to increase as a result of recognizing our existing unrecognized stock-based compensation for awards that will vest and as we issue additional stock-based awards to attract and retain our employees.

Determination of the Fair Market Value of Common Stock

We are a privately held company with no active public market for our common stock. Therefore, in the absence of a public trading market for our common stock, our board of directors has determined the fair market value of our common stock at various dates, with input from management, considering our most recently available third-party valuations of common stock and its assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent valuation through the date of the grant. Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for our board of directors to determine the fair market value of our common stock in connection with our accounting for granted stock options and shares of restricted stock, as the fair market value of our common stock will be its trading price on The NASDAQ Capital Market.

We have periodically determined the fair market value of our common stock at various dates using contemporaneous valuations performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. Our common stock valuations were performed using a hybrid method, which used market approaches to determine our enterprise value. The hybrid method is a probability-weighted expected return method where the equity value in one or more of the scenarios is calculated using an option-pricing method. We selected the method based on availability and the quality of information to develop the assumptions for the methodology. We performed these contemporaneous valuations, with the assistance of a third-party valuation specialist, as of July 11, 2014 and December 31, 2014. In addition, our board of directors considered various objective and subjective factors, along with input from management, to determine the fair market value of our common stock as of each grant date, including the following:

- prices at which we sold shares of our preferred stock and the superior rights and preferences of our preferred stock relative to our common stock;
- the progress of our research and development programs, including the status of non-clinical studies and clinical trials for our product candidates;
- our stage of development and commercialization and our business strategy;

- our financial condition, including cash on hand;
- our historical and forecasted performance and operating results;
- the composition of, and changes to, our management team and board of directors;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as a sale of our company or an initial public offering, or IPO, given prevailing market conditions;
- the analysis of IPOs and the market performance of similar companies in the biopharmaceutical industry;
- external market conditions affecting the biopharmaceutical industry; and
- trends within the biopharmaceutical industry.

The assumptions underlying these valuations represent management's determinations, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our equity-based compensation could be materially different.

Following the closing of this offering, the fair market value of our common stock will be determined based on the quoted market price of our common stock.

The following table summarizes by grant date the number of shares subject to options granted since January 1, 2014, the per share exercise price of the options, the fair market value of common stock underlying the options on date of grant and the per share fair value of the options:

Date of Issuance	Number of Shares Underlying Options Granted	Exercise Price per Share	Fair Market Value per Common Share	Fair Value of Options per Share
5/13/2014	1,250,000	$ 0.36	$ 0.19	$ 0.09
7/10/2014	2,198,000	$ 0.36	$ 0.19	$ 0.09 - 0.10
7/10/2014	1,521,897	$ 0.60	$ 0.19	$ 0.06

In valuing our common stock, the board of directors determined the equity value of our business by considering a number of valuation approaches and allocation methodologies. Valuation techniques considered included the Current Value Method, the Probability-Weighted Expected Return Method, or PWERM, the Option Pricing Method, or OPM, and the Hybrid Method. Given the range of possible financing and exit events that existed at the time we completed our valuations, we concluded the PWERM to be the most appropriate for purposes of valuing our common stock given our expected time to a liquidity event, subjectivity with regards to estimating possible proceeds from a future liquidation event and subjectivity with regards to the ability to estimate the probability of an IPO, sale or other financing events. The PWERM explicitly considers the various terms of our investor related documents, including various rights of each class of our stock, at the date of the liquidity event when those rights will either be executed or abandoned. Under the PWERM, the value of each class of our stock is estimated using a probability-weighted analysis of the present value of the returns afforded to our stockholders under each of our possible future exit scenarios. The scenarios included within the PWERM analysis included IPOs, a sale transaction, remaining private and dissolution.

Discrete future outcomes considered under the PWERM included non-IPO market based outcomes as well as IPO scenarios. In the non-IPO scenarios, a large portion of the equity value is allocated to the preferred stock to incorporate higher aggregate liquidation preferences. In the IPO scenarios, the equity value is allocated pro rata among the shares of common stock and each series of preferred stock, which causes the common stock to have a higher relative value per share than under the non-IPO scenario. The fair value of the enterprise determined using the IPO and non-IPO scenarios will be weighted according to the board of directors' estimate of the probability of each scenario.

Once our common stock commences trading it will not be necessary to determine the fair value of new stock-based awards pursuant to the methodology described above.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update No. 2014-09, *Revenue From Contracts With Customers*, or ASU 2014-09. Pursuant to this update, an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. For a public entity, ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early application is not permitted. We have not yet determined the impact of adoption on the financial statements.

In June 2014, the FASB issued ASU No. 2014-10, *Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation*, or Topic 915. The guidance set forth in Topic 915 is intended to reduce the overall cost and complexity associated with financial reporting for development stage entities without reducing the availability of relevant information. The FASB also believes the changes will simplify the consolidation accounting guidance by removing the differential accounting requirements for development stage entities. As a result of these changes, there no longer will be any accounting or reporting differences in generally accepted accounting principles, or GAAP, between development stage entities and other operating entities. For organizations defined as public business entities, the presentation and disclosure requirements in Topic 915 will no longer be required starting with the first annual period beginning after December 15, 2014, including interim periods therein. Early application is permitted for any annual reporting period or interim period for which the entity's financial statements have not yet been issued (public business entities) or made available for issuance (other entities). We early adopted this guidance during the year ended December 31, 2014 and, as a result, we no longer present inception-to-date information about the statements of operations, cash flows, and stockholders' deficit.

In August 2014, FASB issued ASU 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, or ASU 2014-15. ASU 2014-15 explicitly requires a company's management to assess an entity's ability to continue as a going concern, and to provide related footnote disclosures in certain circumstances. The new standard will be effective in the first annual period ending after December 15, 2016, although early application is permitted. We are currently evaluating the potential impact of the adoption of this standard, but believe its adoption will have no impact on our financial position, results of operations or cash flows.

In November 2014, the FASB issued ASU No. 2014-16, *Determining Whether the Host Contract in a Hybrid Financial Instrument Issued in the Form of a Share is more akin to Debt or to Equity*, or ASU 2014-16. ASU 2014-16 clarifies how current GAAP should be interpreted in evaluating the economic characteristics and risks of a host contract in a hybrid financial instrument that is issued in the form of a share. Specifically, ASU 2014-16 provides that an entity should consider all relevant

terms and features, including the embedded derivative feature being evaluated for bifurcation, in evaluating the nature of the host contract. ASU 2014-16 is effective for public companies for fiscal years and interim periods within those fiscal years beginning after December 15, 2015 with early adoption permitted. We adopted this guidance for the year ended December 31, 2014 and have properly applied it to hybrid financial instruments.

In April 2015, the FASB issued ASU No. 2015-03, *Simplifying the Presentation of Debt Issuance Costs*, or ASU 2015-03. ASU 2015-03 requires debt issuance costs to be presented in the balance sheet as a direct deduction from the carrying value of the associated debt liability, consistent with the presentation of a debt discount. The standard also aligns the GAAP presentation with International Financial Reporting Standards and will remedy the long-standing conflict with the guidance in FASB Concepts Statement No. 6, *Elements of Financial Statements*, which indicates that debt issuance costs do not meet the definition of an asset, because they provide no future economic benefit. For public companies, ASU No. 2015-03 is effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. For all other entities, ASU No. 2015-03 is effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within fiscal years beginning after December 15, 2016. Early adoption is permitted for financial statements that have not been previously issued. ASU No. 2015-03 will be applied on a retrospective basis. We are currently evaluating the potential impact of the adoption of this standard, but believe its adoption will not have a material impact on our financial position, results of operations or cash flows.

JOBS Act

The JOBS Act contains provisions that, among other things, reduce reporting requirements for an "emerging growth company." As an emerging growth company, we have elected to not take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards and, as a result, will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies.

Internal Control Over Financial Reporting

Assessing our staffing and training procedures to improve our internal control over financial reporting is an ongoing process. We are not currently required to comply with Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and are therefore not required to make an assessment of the effectiveness of our internal control over financial reporting. As a result, our management did not perform an evaluation of our internal control over financial reporting as of December 31, 2014. Further, our independent registered public accounting firm has not been engaged to express, nor have they expressed, an opinion on the effectiveness of our internal control over financial reporting.

Results of Operations

Comparison of Years Ended December 31, 2014 and 2013

Research and development

Research and development expenses increased by $3.3 million, from $8.9 million for the year ended December 31, 2013 to $12.2 million for the year ended December 31, 2014. During 2013, we had a partial year of FP01 clinical trial costs and minimal costs in 2014 due to the completion of the FP01 clinical trials. In 2014, we continued the development of CERC-301 and our COMTi platform. In the aggregate, these external research and development costs increased by $3.4 million. There was also an increase of $456,000 related to compensation and benefits related to personnel and related costs in 2014 as compared to 2013. Other research and development costs decreased by $569,000 due primarily

to the inclusion of costs in 2013 for a research project on a compound that was discontinued. We expect future research and development expenses to increase due to the continued development of CERC-301 and our COMTi platform, including CERC-406, as well as the commencement of the development of CERC-501.

The following table summarizes our research and development expenses for the years ended December 31, 2013 and 2014:

	Year Ended December 31,	
	2013	2014
	(in thousands)	
FP01	$ 2,990	$ 28
CERC-301	2,717	8,711
COMTi	353	761
Stock-based compensation	166	202
Other personnel-related costs	1,857	2,277
Other research and development	831	262
	$ 8,914	$ 12,241

General and Administrative

General and administrative expenses increased by $0.9 million for the year ended December 31, 2014 compared to the same period in 2013. Compensation and benefits expenses in 2014 were $0.6 million higher than in 2013 primarily due to option awards that were fully vested at the time of the award. We also incurred $0.6 million in additional consulting and professional fees in connection with the initial submission of our registration statement. These increases were offset by a $0.3 million reduction in marketing and business development expenses in 2014.

Change in Fair Value of Warrants and Investor Rights Obligation

We recognized a loss on the change in fair value of our warrants and Investor Rights Obligation of $0.1 million during the year ended December 31, 2013 compared to a gain of $2.3 million in 2014. The change in fair value of warrants and Investor Rights Obligation is primarily due to the issuance of warrants for shares of Series B convertible preferred stock and our Investor Rights Obligation in 2014 and their respective changes in fair value.

Interest Expense, Net

Interest expense increased by $1.2 million for the year ended December 31, 2014 compared to the same period in 2013. The increase is primarily due to the amortization of debt discounts, premiums, and deferred financing fees in connection with our financing activities in 2014 as well as the interest paid under our secured term loan facility that was entered into in August 2014.

Liquidity and Capital Resources

We have devoted most of our cash resources to research and development and general and administrative activities. Since our inception, we have incurred net losses and negative cash flows from our operations. We expect to incur significant expenses and operating losses for the foreseeable future as we continue the development and clinical trials of, and seek marketing approval for, our product candidates. We incurred net losses of $13.0 million and $16.1 million for the years ended December 31, 2013 and 2014, respectively. At December 31, 2014, we had an accumulated deficit of $43.1 million, working capital of $7.2 million and cash and cash equivalents of $11.7 million. To date, we have not

generated any revenues from the sale of products and we do not anticipate generating any revenues from the sale of our product candidates for the foreseeable future. Historically, we have financed our operations principally through private placements of common and convertible preferred stock, convertible and nonconvertible debt. Through December 31, 2014 we have received aggregate net proceeds of $51.1 million primarily from the issuance of common and convertible preferred stock and debt. We anticipate funding our operations over the next several years from further sales of debt and equity securities, including this offering.

Cash Flows

The following table summarizes our cash flows for the years ended December 31, 2013 and 2014:

	Year Ended December 31,	
	2013	2014
	(in thousands)	
Net cash (used in) provided by:		
Operating activities	$ (11,485)	$ (15,518)
Investing activities	(29)	(20)
Financing activities	5,416	23,859
Net increase (decrease) in cash and cash equivalents	$ (6,098)	$ 8,321

Net cash used in operating activities

Net cash used in operating activities was $11.5 million for the year ended December 31, 2013 and consisted primarily of a net loss of $13.0 million offset by a non-cash increase of $749,000 of stock-based compensation and a $1.1 million increase in accounts payable and accrued expenses due primarily to increased clinical trial activities.

Net cash used in operating activities was $15.5 million for the year ended December 31, 2014 and consisted primarily of a net loss of $16.1 million, a $2.3 million non-cash gain on the change in fair value of our warrants and Investor Rights Obligation liabilities, and a decrease in our net operating assets of $0.4 million primarily due to the timing of payments related to our personnel and clinical trial activities. These decreases were offset by $3.2 million in non-cash charges that are primarily related to stock-based compensation expense, non-cash interest, and the expensing of offering costs that were initially reflected as a financing cash outflow of $1.1 million, $1.0 million and $1.1 million, respectively.

Net cash used in investing activities

Net cash used in investing activities for the years ended December 31, 2013 and 2014 was $29,000 and $20,000, respectively. Cash used in investing activities primarily consisted of purchases of fixed assets related to purchases of furniture and computer equipment.

Net cash provided by financing activities

Net cash provided by financing activities was $5.4 million for the year ended December 31, 2013, which was primarily due to net proceeds of $6.1 million received from the sale and issuance of our Series A-1 convertible preferred stock and warrants offset by $0.7 million in payments of deferred financing fees related to our IPO efforts.

Net cash provided by financing activities was $23.9 million for the year ended December 31, 2014, which was primarily due to the proceeds received from our convertible debt, demand notes, and Series B convertible preferred stock equity issuance aggregating $17.3 million and $7.4 million from a

term loan. We also paid $0.4 million in financing fees related to the equity and debt financings and $0.4 million for IPO-related deferred financing costs.

Operating and Capital Expenditure Requirements

We have not achieved profitability since our inception and we expect to continue to incur net losses for the foreseeable future. We expect our cash expenditures to increase in the near term as we fund our future development of CERC-301, CERC-501 and our COMTi platform, including preclinical development for CERC-406. Following this offering, we will be a publicly traded company and will incur significant legal, accounting and other expenses that we were not required to incur as a private company. In addition, the Sarbanes-Oxley Act, as well as rules adopted by the Securities and Exchange Commission, or SEC, and the NASDAQ Stock Market, requires public companies to implement specified corporate governance practices that are currently inapplicable to us as a private company. We expect these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. We may also acquire or in-license new product candidates.

Based on our research and development plans and our timing expectations related to the progress of our programs, we expect that the net proceeds from this offering, together with our existing cash and cash equivalents as of December 31, 2014, will enable us to fund our operating expenses and capital expenditure requirements through the end of 2016. Each of our product candidates are still in the early stages of clinical and preclinical development and the outcome of these efforts is uncertain. We cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our product candidates or whether, or when, we may generate revenue. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity or debt financings and exploring the possibility of entering into collaboration arrangements.

We will need to raise substantial additional financing in the future to fund our operations. In order to meet these additional cash requirements, we may seek to sell additional equity or convertible securities that may result in dilution to our stockholders. If we raise additional funds through the issuance of convertible securities, these securities could have rights senior to those of our common stock and could contain covenants that restrict our operations. There can be no assurance that we will be able to obtain additional equity or debt financing on terms acceptable to us, if at all. If we raise additional funds through collaboration and licensing agreements with third parties, it may be necessary to relinquish valuable rights to our product candidates, technologies or future revenue streams or to grant licenses on terms that may not be favorable to us. Our future capital requirements will depend on many forward-looking factors, including:

- the progress and results of the Phase 2 clinical program for CERC-301 and changes to our development plan with respect to CERC-301, if any;
- the progress and results of the clinical trials being conducted, or contemplated being conducted, for CERC-501 and changes to our development plan with respect to CERC-501, if any;
- our plan and ability to enter into collaborative agreements for the development and commercialization of our product candidates;
- the number and development requirements of any other product candidates that we pursue;
- the scope, progress, results and costs of researching and developing our product candidates or any future product candidates, both in the United States and in territories outside the United States;

- the costs, timing and outcome of regulatory review of our product candidates or any future product candidates, both in the United States and in territories outside the United States;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution for any of our product candidates for which we receive marketing approval;
- the costs and timing of any product candidate acquisition or in-licensing opportunities;
- any product liability or other lawsuits related to our products;
- the expenses needed to attract and retain skilled personnel;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs involved in preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending our intellectual property-related claims, both in the United States and in territories outside the United States; and
- the timing and success of this offering.

Please see "Risk Factors" for additional risks associated with our substantial capital requirements.

Contractual Obligations and Commitments

The following is a summary of our long-term contractual cash obligations as of December 31, 2014 (in thousands):

Contractual Obligation(1)	Total	Less than One Year	1 - 3 Years	3 - 5 Years	More than 5 Years
Long Term Debt Obligations(2)	$ 8,428	$ 2,633	$ 5,795	$ —	$ —
Operating lease obligations(3)	612	147	306	159	—
Total contractual obligations	$ 9,040	$ 2,780	$ 6,101	$ 159	$ —

(1) This table does not include any contingent milestone or royalty payments that may become payable to third parties under license agreements because the timing and likelihood of such payments are not known.

(2) Amount represents principal and interest cash payments over the life of the debt obligations, including anticipated interest payments that are not recorded on our balance sheet.

(3) Operating lease obligations reflect our obligations pursuant to the terms of a lease agreement entered into on August 8, 2013 for our new office space located in Baltimore, Maryland.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as defined by applicable SEC rules and regulations.

Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. These market risks are principally limited to interest rate fluctuations. We had cash and cash equivalents of $3.4 million and $11.7 million as of December 31, 2013 and December 31, 2014, respectively, consisting of cash and money market funds. We do not enter into investments for trading or speculative purposes. We do not

believe an immediate 10% increase in interest rates would have a material effect on the fair market value of our cash and money market funds, and accordingly we do not expect our operating results or cash flows to be materially affected by a sudden change in market interest rates.

We contract with CROs, clinical research organizations and contract manufacturers globally. We may be subject to fluctuations in foreign currency rates in connection with some of these agreements. To date, we have not incurred material effects from foreign currency changes on these contracts. Transactions denominated in currencies other than the United States dollar are recorded based on exchange rates at the time such transactions arise.

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company with the goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We have a portfolio of clinical and preclinical compounds that we believe are best-in-class due to their unique mechanism of action and where human proof of concept has been established for the compound or the target. We are currently pursuing regulatory approval of three product candidates: CERC-301, CERC-501 and CERC-406.

CERC-301 is currently in Phase 2 development as an oral, adjunctive antidepressant for the treatment of patients with major depressive disorder, or MDD, who are failing to achieve an adequate response to their current antidepressant treatment and are severely depressed. We received fast track designation by the Food and Drug Administration, or FDA, in November 2013 for CERC-301 for the treatment of MDD. CERC-301 belongs to a class of compounds known as antagonists, or inhibitors, of the N-methyl-D-aspartate, or NMDA, receptor, a receptor subtype of the glutamate neurotransmitter system that is responsible for controlling neurological adaptation. We believe CERC-301 will be a "first-in-class" medication that will cause a significant reduction in depression symptoms in a matter of days, as compared to weeks or months with conventional therapies, because it selectively blocks the NMDA receptor subunit 2B, or NR2B, which we believe provides rapid and significant antidepressant activity without the adverse side effect profile of non selective NMDA receptor antagonists. We are also currently developing CERC-501, which is in Phase 2 development, for co-occurring psychiatric and substance use disorders, or co-occurring disorders. CERC-501 was acquired in February 2015, and is a potent and selective kappa opioid receptor, or KOR, antagonist. KORs are believed to play key roles in modulating stress, mood and addictive behaviors, which form the basis of co-occurring disorders. We are preparing to initiate a clinical study to evaluate the effect of CERC-501 on aspects of tobacco withdrawal and reinstatement by year-end 2015, with the intent of thereafter pursuing additional studies focused on the treatment of co-occurring disorders. CERC-406 is our preclinical lead candidate from our proprietary platform of compounds that inhibit catechol-O-methyltransferase, or COMT, within the brain, which we refer to as our COMTi platform. We anticipate developing CERC-406 for the treatment of residual cognitive impairment symptoms in patients with MDD.

Members of our management team have extensive pharmaceutical product development and commercialization experience and they have played key roles in the development or commercialization of Prozac®, Zyprexa®, Lyrica®, Cymbalta® and Neurontin®, each of which is a neuroscience product that has generated over $1.0 billion of annual revenues. Collectively, our officers and directors have contributed to the submission of numerous Investigational New Drug Applications, or INDs, and nine New Drug Applications, or NDAs, to the FDA. Leveraging the experience of our management team, within the last 18 months we obtained IND clearance and received fast track designation for CERC-301 from the FDA, completed two clinical trials of CERC-301, selected CERC-406 as our preclinical lead candidate from our COMTi platform and, most recently, broadened our clinical pipeline by in-licensing CERC-501.

Our Strategy

Our goal is to be a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We systematically identify platforms and product candidates for which human proof of concept exists in the intended indication, for either the target or the compound, and for which biomarkers are available to measure therapeutic response. We target conditions where we believe current treatments fail to address unmet medical needs, and where we can apply clinical strategies to increase efficacy signal detection. These strategies include using personalized therapeutic approaches and placebo mitigation techniques to facilitate regulatory approval for our product candidates.

Our strategic objectives include:

- ***Rapidly Advance the Clinical Development of CERC-301.*** We are currently developing CERC-301 as an oral, adjunctive medication for patients with MDD who are failing to achieve an adequate response to their current antidepressant treatment and are severely depressed. We have recently completed a seven day, inpatient exploratory Phase 1 study of CERC-301 in 48 healthy volunteers in order to determine maximal dose range, in addition to an outpatient Phase 2 clinical trial of an 8 mg daily dose of CERC-301 as an adjunctive therapy in 137 subjects who were severely depressed despite ongoing antidepressant treatment and, who have recently experienced active suicidal ideation. In the second half of 2015, we plan to initiate a Phase 2 efficacy study for CERC-301 in order to evaluate doses greater than 8 mg and a revised dosage regimen. If we demonstrate safety and efficacy in these and subsequent Phase 2 and 3 studies, we will consider also initiating separate development programs in other indications, such as active suicidal ideation, bipolar depression and other neuropsychiatric conditions.

- ***Rapidly Advance the Clinical Development of CERC-501.*** We plan to initiate a proof of concept clinical trial in nicotine dependence by year-end of 2015, which will provide us with the opportunity to evaluate the effect of CERC-501 on tobacco reinstatement behavior and assess subjects' craving, mood and anxiety during abstinence periods. We also expect to receive data from four additional studies concerning CERC-501, including studies in cocaine addiction, treatment resistant depression, or TRD, and the inability to experience pleasure, or anhedonia, three of which are being conducted under the auspices of the National Institute of Mental Health, or NIMH. If these studies are successful, we plan to develop CERC-501 as an oral medication for people suffering from co-occurring disorders.

- ***Advance CERC-406 into IND-enabling Studies.*** We anticipate developing CERC-406 as an oral, adjunctive treatment for patients with residual cognitive impairment symptoms suffering from MDD. We expect to develop a pre-IND package and meet with the FDA regarding our development plan, during 2015 and 2016, to ultimately complete IND-enabling studies with the expectation that we will submit an IND for CERC-406 by the first half of 2017.

- ***Use our COMTi Platform to Build a Pipeline of Product Candidates for Conditions Where Impaired Executive Function is a Core Symptom.*** By targeting COMT inhibition, for which human proof of concept in multiple conditions exists for the COMT inhibition class of drugs, we have the ability to address the impairment of executive function in a highly specific manner, guided by biomarkers and pharmacogenomics. Our COMTi platform, which we licensed from Merck & Co., Inc. and its affiliates, or Merck, provides exclusive access to a library of approximately 1,800 compounds that inhibit COMT. In 2015 and 2016, in addition to progressing the development of CERC-406, we intend to establish the data set necessary to select additional lead candidates from the library for treatment of various conditions where impaired executive function is a core symptom. In addition to compounds that we may develop on our own, we are exploring early development collaborations with third parties on an indication-specific basis in order to maximize the value of our COMTi platform.

- ***Establish Specialty Segment Commercialization and Marketing Capabilities in the United States.*** We intend to selectively retain commercialization rights for certain of our product candidates and to build specialty commercialization capabilities in the United States, which we may complement with co-promotion agreements with partners. We may also seek to commercialize any of our approved products outside of the United States, although we plan to do so with one or more collaborators.

- ***Establish Collaborations to Maximize Value.*** Collaborations, through licenses or strategic partnerships, may provide access to the considerable scientific, development, regulatory and commercial capabilities of biopharmaceutical corporations, potentially providing us with

additional infrastructure to more efficiently develop and commercialize assets in our product candidate portfolio. Our selection criteria for potential partners include market presence in complementary areas and geographies, in addition to a demonstrated ability to contribute to the creation of the highest quality data sets and registration materials for submission to regulatory authorities when we seek marketing approval for our product candidates.

- ***Expand our Product Candidate Portfolio Through Strategic Acquisitions.*** In migrating away from the centralized research and development model of the past, many major pharmaceutical companies have deemphasized their neuroscience discovery and development programs in recent years. Given our focus and expertise, these programs may represent compelling acquisition opportunities. We believe we have the ability to identify, evaluate and procure valuable product programs that are consistent with our goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We plan to continue to leverage these opportunities to expand our product candidate portfolio in a fashion that fits within our core strategy and enhances our overall value.

Product Pipeline

The following table summarizes key information about our three product candidates and our current platform:

Product Candidate / Platform	Potential Indication(s)	Stage of Development	Anticipated Milestones
CERC-301	MDD adjunctive antidepressant in patients failing to achieve an adequate response to current antidepressant treatment and are severely depressed with rapid onset	Phase 2	Top-line data in the first half of 2016
CERC-501	Substance use disorders (e.g., nicotine, cocaine) in patients with psychiatric disorders (e.g., TRD, anhedonia)	Phase 2	Top-line data in the first half of 2016
CERC-406	Residual cognitive impairment symptoms in MDD	Preclinical	Pre-IND meeting with the FDA anticipated second half of 2015 and IND submission anticipated in the first half of 2017
COMTi Platform	Conditions with impairment of executive function	Preclinical	Additional candidates identified in the first half of 2017

CERC-301

Current Depression Treatment Paradigm and Limitations

Depression is one of the most common serious medical and psychiatric disorders, with greater than 150 million adults worldwide suffering from MDD at any given time, according to a 2003 report by the World Health Organization, or WHO, titled *Investing In Mental Health*. According to the U.S. National Comorbidity Survey Replication published in 2007, or the NCS-R, approximately 20 million adults in

the United States, which represents approximately 6.7% of its entire adult population, will suffer from a MDD episode in a 12 month period. Furthermore, according to the NCS-R, approximately 30% of these cases can be classified as severe, and suicide is often a grave complication associated with depression. Studies have shown that approximately 60% to 80% of severely depressed patients have experienced suicidal ideation. Over the past 50 years, most depression therapies have primarily been based on changing the levels of monoamine neurotransmitters, such as serotonin, norepinephrine and dopamine, in the brain. Manipulating these neurotransmitters impacts mood, but monoamine antidepressants are slow in onset, requiring approximately three to six weeks to take effect, and patients frequently suffer from sexual dysfunction and other side effects from such treatment.

Numerous studies have shown that many patients do not respond to their initial antidepressant therapy. For example, according to a 2006 report titled *Acute and Longer-Term Outcomes in Depressed Outpatients Requiring One or Several Treatment Steps: A STAR-D Report*, or the STAR-D Report, which was funded by the NIMH, 51.4% of patients failed to respond, defined as achieving a 50% reduction in symptoms, and only 36.8% became symptom free, or achieved remission, after their initial 12-week treatment course with monoamine antidepressants. Currently, physicians are relegated to switching to other monoamine antidepressants, and patients will frequently undergo two or three courses of treatment, each lasting several months, before achieving satisfactory relief. The depression frequently persists and additional medications may need to be used adjunctively. These adjunctive agents include atypical antipsychotics, like aripiprazole and quetiapine, or other agents such as buproprion and lithium. While certain patients experience improvement in their depressive symptoms when these additional therapies are added to their existing treatments, many do not. For example, according to a study published by Dr. Robert Berman and others in 2007, entitled *The Efficacy and Safety of Aripiprazole as Adjunctive Therapy in Major Depressive Disorder: A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study*, only 33.7% of patients with treatment resistant depression responded to six weeks of adjunct treatment of the atypical antipsychotic aripiprazole.

According to the IMS Institute for Healthcare Informatics' 2012 report titled *The Use of Medicines in the United States: Review of 2011*, over 264 million prescriptions totaling $11 billion were filled for depression in the United States in 2011. According to the STAR-D Report, most marketed depression therapies are subject to significant limitations, including:

- ***Time to therapeutic response.*** Current monoamine antidepressants are slow in onset, allowing depressive symptoms to persist for three to six weeks before patients experience the onset of the drugs' therapeutic effect; full effect is frequently not seen until 12 weeks.

- ***High rates of treatment failures and low rates of remission.*** Even with the widespread availability of serotonin reuptake inhibitors, or SSRIs, or serotonin norepinephrine reuptake inhibitors, or SNRIs, MDD remains a leading cause of disability in the world. In the STAR-D Report, despite four courses of different antidepressant medications, 33% of patients did not achieve remission.

- ***Side effects.*** Common side effects seen with current depression therapies include gastrointestinal disturbance, dizziness, drowsiness, insomnia and sexual dysfunction. A common symptom of depression is a loss of libido. Compounding this issue, although most side effects associated with SSRIs and SNRIs subside within the first few weeks of treatment, sexual dysfunction often persists throughout the course of treatment. According to the STAR-D Report, many patients who experience side effects discontinue treatment. In addition, currently used adjunctive treatments include antipsychotic agents which have both efficacy and treatment-limiting side effects, including weight gain, increased risk of diabetes and cardiovascular risk.

Emergence of NMDA Receptor Antagonists as Antidepressants

Recently, a new class of antidepressant has emerged known as antagonists of the NMDA receptor, a receptor subtype of the glutamate neurotransmitter system that is responsible for controlling neurological adaptation. Multiple controlled clinical studies, such as A Randomized Trial of an N methyl D aspartate Antagonist in Treatment Resistant Major Depression study conducted from November 2004 to September 2005 by Dr. Carlos A. Zarate, Jr. and others, have provided evidence that NMDA antagonists can provide significant antidepressant mood effects within 24 hours of administration, acting as rapid acting antidepressants, or RAADs, in MDD and bipolar depression. Moreover, studies have also demonstrated that ketamine, in contrast to conventional antidepressants that may actually worsen suicidal ideation, causes a rapid reduction in suicidal ideation. Efficacy of the class is further supported by the common off label use of ketamine throughout the United States, administered intermittently as a RAAD for MDD and bipolar depression.

Accumulating evidence, such as an article published in 2014 by Dr. Ashley Lepack and others, titled *BDNF Release Is Required for the Behavioral Actions of Ketamine*, suggests that the antidepressant effect of this new class of antidepressant is associated with increasing neuronal growth and sprouting in the brain, which is driven by increases in the synthesis of neuronal proteins. A messenger of this synthetic activity is brain derived neurotrophic factor, or BDNF, which we believe is increasingly considered to be a biomarker of depression and anti-depressant effect. BDNF levels have been found to be low in subjects with major depression compared to normal controls, correlate negatively with the severity of depression and recover to levels associated with normal subjects after successful antidepressant treatment. However, non selective NMDA antagonists such as ketamine have significant limitations. Ketamine is an anesthetic, is not approved for use as an antidepressant, and causes increases in heart rate and blood pressure, hallucinations and intoxication. In addition, psychiatric use of ketamine is limited by the need for intravenous administration, the unapproved nature of the treatment, the need for repeated infusions and the unknown safety profile of multiple infusions administered sub chronically to humans. Ketamine is scheduled by the Drug Enforcement Administration or DEA, as a Schedule III controlled substance and is prone to abuse. The classification of ketamine as a Schedule III controlled substance means that manufacturers, distributors, and health care providers that handle or prescribe ketamine must, among other things, register with the DEA, keep accurate and complete records, take special precautions to secure the drug and prevent its loss or theft, and may need to periodically file reports with the DEA. These extra regulatory requirements may increase the cost of manufacturing, distributing and prescribing the drug.

Recent research on RAADs has unveiled new insights into NMDA inhibition and the neurobiology of depression, and points to new and otherwise unexpected classes of antidepressant medications such as antagonists of the NR2B subunit containing NMDA receptors. We believe that NR2B inhibitors, which work on the glutamate system by blocking only NR2B containing NMDA receptors, have the potential to provide rapid and significant antidepressant activity without many of the adverse side effects of ketamine and other non selective NMDA receptor antagonists, as demonstrated in clinical trial published in 2008, titled *An Innovative Design to Establish Proof of Concept of the Antidepressant Effects of the NR2B Subunit Selective N Methyl D Aspartate Antagonist, CP 101, 606, in Patients With Treatment Refractory Major Depressive Disorder*, conducted by Dr. Sheldon Preskorn and others. According to a 2013 Decision Resources report, Unipolar Depression, patients suffering from MDD need more effective agents with a faster onset of action, a higher remission rate, better efficacy for comorbid symptoms and a better side effect profile than that of conventional monoamine drugs—all potential qualities of this new class of antidepressants.

Our Solution

CERC-301 is a selective NR2B antagonist that we are currently developing as a "first-in-class," oral adjunctive medication for patients with MDD who are failing to achieve an adequate response to

their current antidepressant treatment and are severely depressed. Furthermore, we believe CERC-301 will have a rapid onset of effect, be well tolerated and may have fewer side effects than the leading adjunctive treatments currently available, such as atypical antipsychotics, whose treatment efficacy is hindered by side effects such as weight gain and increased risk of diabetes. We expect that a drug with these attributes will lead to improved compliance and outcomes. We believe an antidepressant with rapid onset of effect can possibly provide its greatest benefit by quickly relieving suicidality, a risk factor for suicide. Studies have shown that approximately 60% to 80% of severely depressed patients have experienced suicidal ideation.

We licensed MK-0657, which is now known as CERC-301, from Merck and we believe that its selective NR2B inhibition has the potential to provide both the rapid antidepressant and suicidality reduction effects of non-selective NMDA antagonists, without many of their side effects, including increases in heart rate, blood pressure and mental status changes. Preliminary studies by Merck failed to demonstrate clinically significant changes in mental status or heart rate, however, modest changes in blood pressure were observed. As discussed in a 2009 article titled *Allosteric Modulators of NR2B-Containing NMDA Receptors: Molecular Mechanisms and Therapeutic Potential*, there is animal evidence that compounds selectively targeting NR2B receptor subunits, such as CERC-301, retain many of the beneficial effects while reducing many of the less desirable side effects of other NMDA antagonists.

We believe CERC-301 may have the following advantages over ketamine and other non-selective NMDA antagonists:

- minimal psychotomimetic effects, including hallucinations and intoxication;
- available in a convenient, oral dosing form suitable for daily or intermittent dosing; and
- ability to use for the prevention of a relapse of depression.

Additionally, we believe that CERC-301 may have the following advantages over conventional antidepressant therapies and currently approved adjunctive therapies:

- more rapid onset of action, including reduction in suicidality;
- higher rate of response and remission;
- reduced/absent sexual side-effect profile; and
- enhanced safety profile with respect to weight gain and increased risk of diabetes.

We received fast track designation for CERC-301 in November 2013 for the treatment of MDD. Fast track designation may help facilitate our development of CERC-301 and expedite the FDA's review of our marketing application as it may allow us to have more frequent meetings and correspondence with the FDA and the FDA may initiate review of sections of an NDA on a rolling basis before the application is complete.

Our Program

Current Development Status

In August 2012, Dr. Lobna Ibrahim and others at the NIMH reported the results of a study of CERC-301 titled *A Randomized, Placebo-Controlled, Crossover Pilot Trial of the Oral Selective NR2B Antagonist MK-0657 in Patients with Treatment-Resistant Major Depressive Disorder,* which we refer to as the 2012 NIMH Study. The study was conducted in five subjects with moderate TRD, as indicated by the subject's baseline scores on the Hamilton Depression Inventory 17 item scale, or HAMD-17. The 2012 NIMH Study demonstrated increases in plasma BDNF and a rapid onset of antidepressant effect of 8 mg doses of CERC-301 in TRD subjects without observations of significant changes in blood

pressure or other side effects commonly seen with non-selective NMDA receptor antagonists. In 2014, we completed an exploratory inpatient pharmacokinetic, or PK, and pharmacodynamics, or PD, study in healthy volunteers, which we refer to as the PK/PD study, and a Phase 2 outpatient efficacy study for the adjunctive treatment of subjects with severe MDD who had recently experienced suicidal ideation. The PK/PD study provided evidence of safety and tolerability at daily doses up to 20 mg for seven days. Plasma levels of BDNF appeared to be higher in subjects receiving 16 mg and 20 mg doses of CERC-301 as compared to those subjects receiving placebo. In the Phase 2 study, CERC-301 was administered daily at a dose of 8 mg for 28 days as an adjunctive treatment to subjects' current medications. The primary endpoint was antidepressant effect at seven days as measured by the HAMD-17. The 8 mg dose was well tolerated, there were no differences in mean blood pressure effects or heart rate between the treatment groups. However, the 8 mg dose of CERC-301 failed to achieve its primary endpoint and plasma BDNF levels did not change, which we believe suggests that drug exposure was inadequate. Given the safety and tolerability observed and the increases in BDNF seen at higher doses in the PK/PD study, we recently proposed to the FDA that doses higher than 8 mg can be tested in outpatient depression studies and that the potential of CERC-301 may be optimized with a higher dosing regimen. We expect to initiate a Phase 2 study utilizing a revised dosing regimen, Clin301-203, in the second half of 2015 with top-line results becoming available in the first half of 2016.

Study Clin301-203: A Randomized, Double-Blind, Placebo-Controlled Study of Intermittent Doses of CERC-301 in the Treatment of Subjects with Severe Depression Despite Antidepressant Treatment

Study Overview: Clin301-203 is designed as a randomized, double blinded placebo-controlled trial in order to distinguish effects of drug treatment in an efficient and unbiased manner. We will evaluate the antidepressant effect of 12 mg and 20 mg doses of CERC-301 and enroll approximately 96 subjects with MDD who are currently experiencing a severe depressive episode despite stable ongoing treatment with either a SSRI or SNRI. This study will enable us to evaluate both the rapid onset of antidepressant effect and the duration of effect of CERC-301 over a seven and 14 day period after the last administration of the study drug.

Study Design: Clin301-203 includes two dose administrations seven days apart, followed by 14 days of observation, for a total study duration of 21 days. The primary endpoint of Clin301-203 is to evaluate the antidepressant effect of CERC-301, in 12 mg and 20 mg dosages, compared to placebo averaged between one and two days post-treatment with study drug, assessed by the 6-item unidimensional sub-set of the HAMD-17, or Bech-6. This approach will allow detection of acute drug effects as well as duration of drug effect. The key secondary endpoints include evaluating the antidepressant effect of CERC-301 averaged between one and two days post-study drug administration, assessed by the HAMD-17 and the 7-item unidimensional subset of the HAMD-17, or the Santen-7. In addition, the antidepressant effects of CERC-301 at one, two, seven and 14 days after last administration of study drug assessed by the Bech-6, Santen-7, HAMD-17, Generalized Anxiety Disorder-7 Self Report, or GAD-7-SR, and Snaith-Hamilton Pleasure Scale Self Report, or SHAPS-SR will be evaluated. Antidepressant effect will also be assessed using the Quick Inventory of Depressive Symptomatology Self Report, or QIDS-SR, Clinical Global Impression-Improvement, or CGI-I, and CGI-Severity, or CGI-S at seven and 14 days after last administration of study drug. We will also evaluate the safety and tolerability of intermittent doses of CERC-301 and the relationship between baseline symptoms and rate/magnitude of response. Qualified site raters will administer clinician-administered scales and the subjects will administer self-reported scales. Clin301-203 will include a total of nine study visits, with four of the nine visits conducted remotely via telephone in order to mitigate the burden on the subjects.

Enrollment Strategies: The study will be performed in subjects with MDD currently experiencing a severe depressive episode despite current treatment with either a SSRI or SNRI. Subjects will be screened directly from psychiatric clinic referrals, from depression clinical study databases, and from

advertising. Potential subjects will be extensively screened by the study sites for all inclusion, exclusion and diagnostic criteria in order to determine eligibility for the study. Subjects will also be screened via an independent third party to determine eligibility.

Adjunctive Therapy: CERC-301 will be administered as an adjunctive therapy to current antidepressant treatment in subjects who have failed to adequately respond to their current therapy. We believe that initially pursuing approval as an adjunctive treatment addresses a key unmet medical need while enhancing our ability to achieve appropriate level of pricing, formulary access and reimbursement.

Summary of Prior Clinical and Preclinical Studies

Clinical Studies

Clin301-201: A Randomized, Double-Blind, Placebo-Controlled, Sequential Parallel Study of CERC-301 in the Adjunctive Treatment of Subjects with Severe Depression and Recent Active Suicidal Ideation Despite Antidepressant Treatment

Clin301-201 randomized 137 subjects to evaluate safety and efficacy of an 8 mg dose of CERC-301 for 28 days using a sequential parallel comparison design, or SPCD design. The primary endpoint of the study was to evaluate the antidepressant effect of CERC-301 after seven days of treatment assessed by the HAMD-17. Secondary endpoints were to evaluate the sustained antidepressant effect defined as the average between seven and 28 days of study drug treatment and the antidepressant effect of CERC-301 after 28 days of treatment assessed by the HAMD-17. In accordance with the SPCD experimental paradigm, subjects were randomized to one of three treatment sequences: 28 days of CERC-301 followed by seven days of placebo (12 mg loading dose on day 0 followed by 8 mg dose for 28 days), seven days of placebo followed by 28 days of CERC-301, or 35 days of placebo. While there was a numerical superiority for CERC-301 for the seven day primary endpoint, the results failed to reach statistical significance. There was no evidence for antidepressant effect at the 28 day endpoint, while a numerical superiority for placebo was observed. There were no clinically meaningful or statistically significant changes in plasma BDNF levels with CERC-301 compared with placebo. There were no differences in mean blood pressure effects or heart rate between the treatment groups. These results suggest drug exposure was inadequate in this study and that higher exposures should be explored in future studies.

In general, CERC-301 was well tolerated with rates of adverse events similar to that of placebo. The most common treatment emergent adverse events were nervous system disorders, occurring in 25.9% and 26.9%, respectively, of subjects in the two active treatment sequences compared to 22.4% of subjects who received placebo during the entire study. Of the nervous system treatment emergent adverse events, dizziness was most common, occurring in 18.5% and 7.7%, respectively, of subjects in the two active treatment sequences compared to 2.0% of subjects who received placebo during the entire study. There was no difference in mean blood pressure effects in active groups compared to the placebo group. There was no detectable pattern of blood pressure increase either at pre-dose clinic measurements or transiently after dosing. Three serious adverse events were reported during the conduct of the study, one in a subject randomized to placebo (suicide attempt; alcoholism) and two in subjects that received CERC-301 (worsening depression with psychotic features and unstable angina).

Clin301-200-A: A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Two-Part Safety, Pharmacokinetic, and Pharmacodynamic Study of CERC-301 in Healthy Subjects

In the fourth quarter of 2014 we completed a 48-subject, three-part, seven day, inpatient exploratory study of CERC-301. The study investigated the dose-response relationship between CERC-301 and pharmacodynamic effects on blood pressure and BDNF in healthy subjects, including young, intermediate and elderly cohorts, and provided the repeat dose response data needed to support

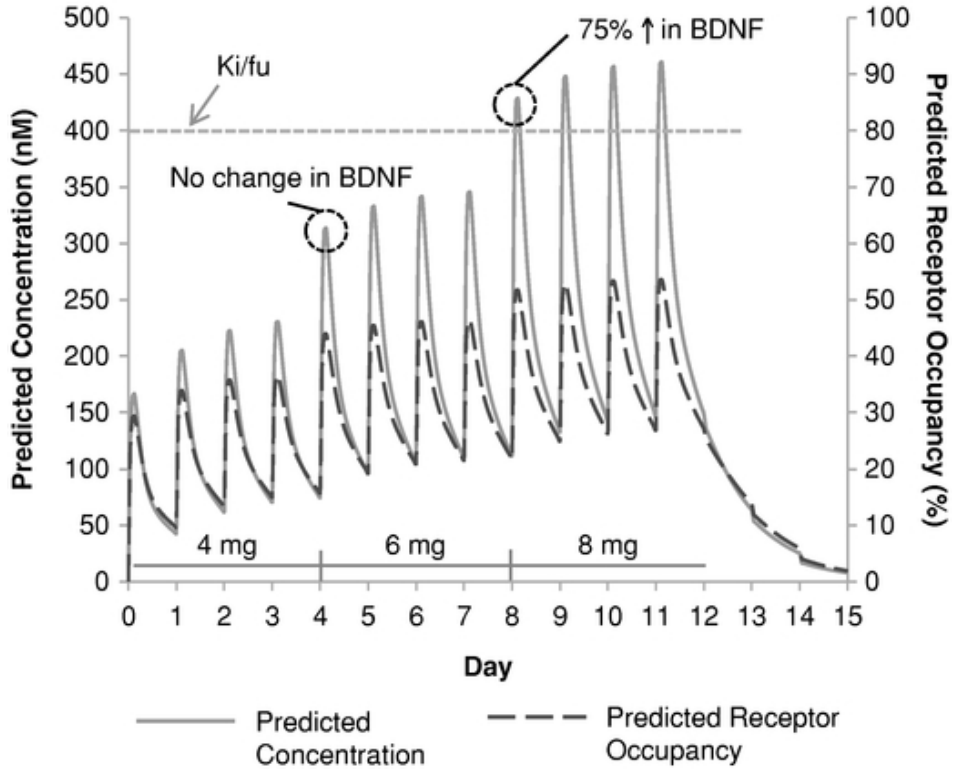
studies of CERC-301 at possibly higher doses and in larger, more diverse subject populations. Doses of 8 mg to 20 mg were administered in an inpatient setting to better understand the relationship among dose, plasma concentrations and adverse event profile, and to assess potential effects of subject age and gender. The study demonstrated near linear PK profile for CERC-301 with doses up to 20 mg daily in fed-state subjects being well tolerated. The most commonly reported adverse events across the young dose groups were headache, feeling of relaxation, feeling abnormal, elevated mood, dizziness, increased energy and abnormal vision. The incidence of adverse event reporting was similar between young and intermediate age subjects, but was decreased in elderly subjects. Relative to placebo, subjects who received CERC-301 demonstrated an increase in blood pressure, as measured by ambulatory blood pressure measurements, at all dose levels and experienced a trend of increased average 7-day BDNF levels at 16 mg and 20 mg. Blood pressure appeared to have the biggest change in the first four days of dosing for all doses, except for the 20 mg dose, which increased further from Day 4 to Day 7, consistent with CERC-301 exposure profile, which reaches steady state values after three and four days of dosing. Relative to placebo, the mean awake time changes were < 7 mm Hg on average across all doses and day measures, except in the 20 mg group at day seven, where on average there was a 15 mm Hg elevation in systolic blood pressure relative to day one. There was no apparent age effect on blood pressure elevations across the three age groups and this study demonstrated no clear difference between genders across various cohorts. Ambulatory blood pressure measurements demonstrated that the changes were transient, with maximum change occurring between two and three hours post-dose, consistent with CERC-301 peak plasma exposure in fed-state.

Human Proof of Concept Study in Treatment Resistant Depression

The 2012 NIMH Study was a single center, randomized, double-blind, placebo-controlled crossover study of five subjects with TRD to evaluate the potential antidepressant efficacy and tolerability of CERC-301. It was conducted at the Mood and Anxiety Disorders Program of the NIMH Research Campus, where subjects were hospitalized for the duration of the study. Male and female subjects of the NIMH, ages 18 to 55 years, were recruited to participate; all subjects were diagnosed with MDD and were currently depressed without psychotic features. Subjects were required to have a score of 22 or higher on the Montgomery-Asberg Depression Rating Scale, or MADRS, at screening and at baseline, the day of first dose of study medication. In addition, subjects had to have previously failed at least two adequate antidepressant trials in the current depressive episode. Exclusion criteria included a recent history of drug abuse, diagnosis of bipolar disorder, psychotic features, suicidal ideation, serious unstable medical disorder or condition, previous use of ketamine or phencyclidine, and concomitant treatment with psychotomimetic medications in the two weeks before the study or electroconvulsive therapy in the three months before the study.

Following a one week drug-free period, five subjects were randomized in a double-blind manner to receive either CERC-301 or placebo for 12 days. Initial doses were 4 mg/day of CERC-301 for four days, then escalated to 6 mg/day for four days and then 8 mg/day for four days. The study's medication dose was increased in a blinded fashion every four days until completion of the treatment. At day 12, the study drug was discontinued; subjects remained drug-free for 14 days and then crossed over to the other treatment condition. Dosage in the second experimental treatment condition (days 27 through 38) was identical to the first crossover phase. By day nine, plasma BDNF levels were significantly higher in subjects receiving CERC-301 than in those receiving placebo, with $p = 0.03$. The results of a clinical trial are statistically significant if they are unlikely to have occurred by chance. Statistical significance of the trial results are typically based on widely used, conventional statistical methods that establishes the p-value of the results. A p-value of 0.05 or less is required to demonstrate statistical significance. As such, these BDNF levels are considered to be statistically significant. This

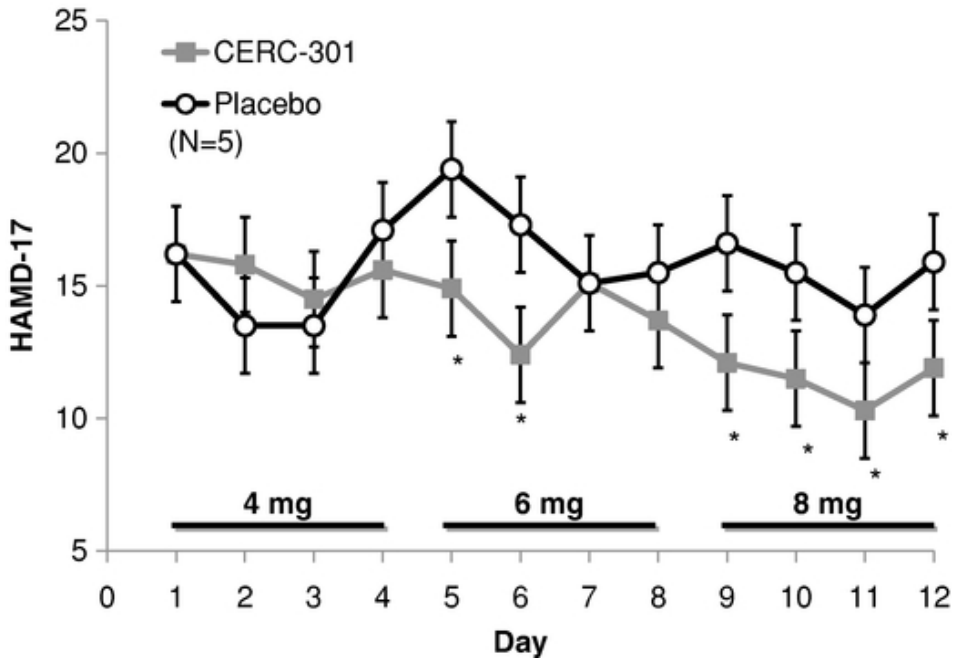
corresponded to the achievement of 50% receptor occupancy, predicted, in the first day of 8 mg dosing, as demonstrated in the accompanying graphic.



CERC-301 demonstrated significant antidepressant effects as early as day five compared to placebo, in two of the three standard scales used in assessing antidepressant response, the HAMD-17 (p=0.001) and Beck Depression Inventory, or BDI (p = 0.01). These two scales were two of the study's secondary endpoints. There were no significant adverse side effects observed, including changes in blood pressure. No improvement was noted with the third antidepressant scale, the MADRS, which was

the primary efficacy parameter of the study. The following chart illustrates the results on the HAMD-17 antidepressant response scale:

Treatment effect emerged after 6mg daily dose and was sustained



Additional Phase 1 Studies: In 2004 through 2005, three Phase 1 clinical trials of CERC-301 in a total of 60 healthy volunteers were completed by Merck, each of which measured the safety and assessed the pharmacokinetics, or PK, of CERC-301. The first study, Study 001, measured single doses of the drug in a healthy, fasted and young male population. The second study, Study 002, measured multiple doses in a healthy, fed and young male population. The final study, Study 003, measured single doses in healthy elderly male and female populations. CERC-301 was generally well tolerated, with the exception of dose-related increases in blood pressure and some limited adverse events that were primarily limited to central nervous system related adverse effects, all of which were transient and mild to moderate in severity. No serious adverse effects were experienced in these studies. In subjects who received the highest dose of 20 mg while fasting, adverse events such as mild forgetfulness, dizziness, drowsiness and difficulty concentrating were observed. Further, no clinically significant abnormalities were noted in respiratory rate, heart rate, routine blood and urine chemistry panels, electrocardiogram tests, or physical examinations, including neurologic examinations. CERC-301 demonstrated an acceptable safety profile in the fed state at 8 mg dose in these PK studies. In the 2012 NIMH Study, where CERC-301 was administered on an increasing basis to 8 mg daily in the fed state, no clinically significant elevations in blood pressure, dissociative adverse effects or serious adverse effects were observed.

Two additional Phase 1B studies were completed in subjects with moderate Parkinson's disease, for a total of 38 subjects, which did not show efficacy to control movement disorders. However, contrary to what was observed in earlier studies, both studies, at single doses of 7 mg in the fed state, showed no clinically significant blood pressure elevations compared to placebo.

Preclinical Studies

Preclinical studies conducted by Merck include the evaluation of safety pharmacology, PK and toxicology of CERC-301 in conscious animals, all of which have demonstrated a safety profile sufficient to enable ongoing and planned human clinical studies. The engagement of CERC-301 with brain NR2B, or target engagement, has also been demonstrated in rats, dogs, monkeys and in human cadaver tissue. The predicted blood exposure required to achieve target engagement has been described in these species. Live animal model studies have provided promising support for CERC-301's efficacy in treating Parkinson's disease related movement disorders, chronic pain and depression. In 2014, we conducted a Forced Swim Test, or FST, study that is a validated animal model of clinical MDD that demonstrates predictive validity for all known classes of effective antidepressants. Antidepressant-like activity is indicated by reductions in immobility. We tested doses of CERC-301 at 0.1, 0.3, 1, 3, 10, or 30 mg/kg and determined that CERC-301 exhibited antidepressant effects at the 1, 3, 10, and 30 mg/kg dose levels compared to the vehicle. Additional preclinical studies are ongoing.

Future Clinical Development

Upon completion of Clin301-203, and dependent upon study results, we will conduct a multi-dose, six week Phase 2 study as adjunctive treatment in subjects with MDD who are currently experiencing a severe depressive episode despite stable ongoing treatment with a SSRI or SNRI. We expect to initiate this dose ranging study in the second half of 2016 with top-line results becoming available in the second half of 2017. Thereafter we plan to engage the FDA in an end-of-phase 2 meeting to align plans and activities for potential regulatory approval which would include Phase 3 clinical studies, non-clinical NDA enabling studies and manufacturing activities.

CERC-501

Co-Occurring Disorders

Mood, anxiety and substance use disorders, such as nicotine and alcohol dependence, are highly co-morbid in humans. Greater than 150 million adults worldwide suffer from MDD at any given time, according to a 2003 report by WHO titled, *Investing In Mental Health,* and, according to the NCS-R, approximately 20 million adults in the United States, which represents approximately 6.7% of its entire adult population, will suffer from a MDD episode in a 12 month period. According to the National Survey on Drug Use and Health and a study conducted in 2013 by the Substance Abuse and Mental Health Services Administration, without considering nicotine dependence, there are more than 5 million adults in the United States alone who suffer from co-occurring depression and substance use disorders. According to the NCS-R, 3.1 million, or 5.6%, adults in the United States that smoke suffer from depression, and approximately 41.3% of patients in a depressive episode smoke. Such comorbidities puts patients at greater risk because comorbid substance use in depressed patients is typically associated with greater symptom severity, inadequate treatment response, poorer prognosis, including increased risk of suicide, and persistence of depressive symptoms. Recent studies suggest that a history of MDD is associated with a decreased ability to quit smoking and an increased likelihood of smoking relapse. One common link between the co-occurrence of depression and substance use disorders is stress. Sustained stressful experiences can induce despair and increase the risk of clinical depression and substance use. Stress and mood are significant components of addiction relapse according to a 2000 article written by Watkins et al., titled *Neural Mechanisms Underlying Nicotine Addiction: Acute Positive Reinforcement and Withdrawal* published by the Journal of Nicotine & Tobacco

Research. Substance use often provides relief from stress, such that the substance of abuse often becomes a potent behavioral reinforcer. This highly prevalent combination of one or more disorders relating to substance abuse combined with one or more psychiatric disorders is referred to as co-occurring disorders. Present treatments for co-occurring disorders consist either of treatment for the psychiatric disorder or the treatment for the addiction, but not the treatment of the underlying connection between the two. For example, the nonselective opioid antagonist naltrexone, an FDA-approved medication for alcohol dependence is not FDA approved as an antidepressant or an antianxiety agent. The smoking cessation aid varenicline, a mixed nicotinic agent, is associated with depression as a serious side effect. Similarly, antidepressant medication exerts a modest beneficial effect for patients with combined depressive and substance-use disorders. It is not a stand-alone treatment, and concurrent therapy directly targeting the addiction is also indicated, according to a 2004 review written by Nunes and Levin titled *Treatment of Depression in Patients with Alcohol or Other Drug Dependencies: A Meta-analysis,* published in the Journal of the American Medical Association (JAMA). Therefore, we believe a tremendous need exists for pharmacotherapies effective in the treatment of co-occurring disorders.

Mood, Stress, Addiction and Kappa Opioid Receptors

Kappa opioid receptors, or KORs, and their native ligand dynorphin are localized in areas of the brain which effect reward and stress and are believed to play a key role in mood, stress and addictive disorders according to a study titled *k Opioids Selectively Control Dopaminergic Neurons Projecting to the Prefrontal Cortex* conducted by Margolis et al., and published in the Proceedings of the National Academy of Sciences in 2006. According to a study by Shippenberg et al., titled *Dynorphin and the Pathophysiology of Drug Addiction* and published in the Journal of Pharmacology and Therapeutics in 2007, both KORs and dynorphin, together comprising the kappa opioid system, are upregulated by stress and chronic substance exposure, are thought to mediate the negative emotional states seen in drug withdrawal and play a crucial role in stress-induced reinstatement of drug seeking behavior. In animal models it has been observed that stress produces a depressive state that is believed to be associated with the activation of KOR and subsequent downstream signaling events. Administration of agents that stimulate the KOR system, or KOR agonists like dynorphin, decrease dopamine levels in areas of the brain involved with emotion and control, produce anxiety-like and depression-like behaviors in animals and humans, exacerbate drug withdrawal behaviors and increase the reinforcing effects of substances of abuse.

KOR Antagonism

Much of the current knowledge of the kappa opioid system comes from studies of two prototypical KOR antagonists, nor-BNI and JDTic. In these studies, such as those conducted by Jackson and McLaughlin titled *Effects of the Kappa Opioid Receptor Antagonist Norbinaltorphimine, on Stress and Drug-induced Reinstatement of Nicotine-conditioned Place Preference in Mice,* published in Psychopharmacology in 2013, and, Jackson et al., titled *Effect of the Selective Kappa Opioid Receptor Antagonist JDTic on Nicotine Antinocipetion, Reward, and Withdrawal in the Mouse*, published in the journal of Psychopharmacology in 2010, or the KOR Studies, KOR antagonists induced antidepressant-like effects in animal models and attenuate both physical symptoms of withdrawal and the anxiety behaviors associated with withdrawal. The therapeutic potential of KOR antagonism has been demonstrated in animal models of anhedonia, depression, and anxiety, and KOR antagonists reduce the physical and affective signs of nicotine, heroin and alcohol withdrawal in rodent models of dependence. Based on the results of these studies, stress-induced reinstatement to drug seeking is blunted in mice who have their KOR system genetically deleted, and can also be blocked in wild-type mice by treatment with nor-BNI and JDTic. Based on the KOR studies, KOR antagonists reduce ethanol intake in a number of animal models. Overall, we believe the preclinical data to date support the emerging consensus that selective kappa opioid antagonists have antidepressant- and antianxiety-

like effects, reduce addictive substance consumption, and reduce behaviors and signs of drug withdrawal. As these studies demonstrate efficacy in animal models of both mood and addictive disorders, we believe that these studies provide the basis for the use of KOR antagonists in mood and substance use disorders and have the potential to reduce co-morbid mood disorders.

Our Solution

In February 2015, we acquired rights to CERC-501, which was previously referred to as LY2456302 and OpRA Kappa, through an exclusive, worldwide, license from Eli Lilly and Company, or Lilly. CERC-501 is a high-binding, selective KOR antagonist. We believe that the availability of a highly selective, well tolerated oral daily kappa antagonist like CERC-501 represents a unique drug development opportunity for substance use and mood disorders. We believe CERC-501 may have the following advantages over conventional antidepressant and addiction therapies:

- highly specific and selective to KOR and, therefore, minimal off-target pharmacology;
- available in convenient, once-a-day oral dosing;
- rapid onset of action;
- efficacy against substance use disorders;
- efficacy against mood disorders; and
- ability to treat co-occurring disorders such as nicotine or alcohol dependence and depression or anxiety.

In the long term, we currently intend to target our development efforts at the treatment of co-occurring disorders, an under-served segment of patients having one or more disorders relating to substance abuse, such as nicotine, alcohol or illicit drugs, combined with one or more psychiatric disorders, such as depression or anxiety. We currently plan to pursue a co-occurring disorders indication in a sequential manner, first seeking marketing approval for a single substance use disorder accompanied by a single psychiatric disorder. We then plan to seek additional regulatory approvals for co-occurring substance use and psychiatric disorders if supported by clinical trials. We believe competitively positioning CERC-501 as a once-a-day oral dosing treatment for co-occurring disorders has the potential to generate widespread market acceptance. We further believe that if CERC-501 has the ability to provide rapid onset of antidepressant effect, the market opportunity will be further expanded. As discussed below, we plan to leverage the external studies funded and conducted by third parties with our own internally funded clinical studies.

Our Program

Current Development Plan

Our long term strategy is to develop CERC-501 as a treatment for co-occurring disorders. For approximately the next 24 months, we will evaluate the potential human utility of CERC-501 in smoking dependence, depression, cocaine dependence, and anhedonia and mood disorders based upon studies conducted by us and four studies conducted by third parties at academic centers, three of which are being conducted under the auspices of NIMH. We will be proposing the conduct of the smoking study to the FDA, which we refer to as Clin501-201.

Study Clin501-201: A Randomized, Double-Blind, Placebo-Controlled, Crossover Design Study of CERC-501 in a Human Laboratory Model of Smoking Cessation.

Study Overview: Clin501-201 is designed as a randomized, placebo-controlled double blind cross-over human laboratory study to evaluate the effects of 5 mg and 10 mg of CERC-501 on tobacco reinstatement and assess craving, mood and anxiety during 18 hours of abstinence in approximately 50

heavy cigarette smokers. Clin501-201 uses a placebo and a crossover design with two periods. We believe that the cross-over design, by allowing for subjects to be their own control, significantly increases trial power as does the conduct of the study in a controlled laboratory environment.

Study Design: Clin501-201 consists of two periods. After the screening period of up to 14 days, subjects will be randomized in a 1:1 manner to one of two treatment regimens, 5 mg or placebo, or 10 mg or placebo. Each period consists of a seven day treatment period followed by a single testing day on Day 8. Subjects will participate in a laboratory session following the McKee Smoking Lapse Test and will be discharged from the clinic to undergo drug washout followed by the second period of the cross-over design. The McKee Smoking Lapse Test involves nicotine deprivation for 18 hours, beginning on the evening of the seventh day, and continuing to mid-day of on the eight day, followed by a delay period, 50 minutes in duration, and a self-administration period, 60 minutes in length, as described in more detail below. After screening, participants will be randomized to arm 1, consisting of placebo and 5 mg CERC-501, or arm 2, consistent of placebo and 10 mg CERC-501. Half of the participants in each arm will be randomized to receive placebo first and half will receive CERC-501 first.

The smoking lapse test involves assessment of tobacco craving, mood ratings and nicotine withdrawal after 18 hours of abstinence followed by the delay period where subjects are presented with a tray containing their preferred brand of cigarettes, a lighter, and an ashtray. Subjects will be instructed that they can begin smoking at any point over the next 50 minutes. However, for each five minute block of time a subject delays smoking, the subject will receive a financial reward. The time will be recorded when a subject announces that the subject wants to smoke. After their first cigarette, a standardized scale known as the Cigarette Effect Scale, or CES, will be administered to assess satisfaction, psychological reward, craving relief, enjoyment of airway sensations and other subjective effects associated with smoking. Upon smoking the first cigarette, the smoking self-administration period begins, and lasts 60 minutes. Subjects will be provided with eight cigarettes of their preferred brand along with a standardized "smoking tab" and will be instructed that for each cigarette they light, it will cost them money from the tab. Money earned for delaying smoking and any unused portion of the "smoking tab" will be paid to the subjects at the end of each laboratory session. The number of cigarettes smoked will be recorded. Upon completion of the McKee Smoking Lapse Test, subjects will be discharged and begin a 14 day washout period, although a five day window has been included to allow for subjects to remain in the study if they have an emergency or a planned vacation or other activity that would not allow them to make the exact visit date, during which they will return to the clinic twice for an in person check-in. Subjects will then return to the clinic to begin the second period of the cross-over design to receive placebo or active, with 5 mg or 10 mg, respectively, and repeat the above procedures and assessments. Upon discharge from the unit after the second period, subjects will be instructed to return for a final follow-up visit seven days later.

Enrollment Strategies: The study will be performed in volunteer subjects who are cigarette smokers currently not seeking treatment, who currently smoke at least 10 cigarettes per day, and smoke within five minutes of awakening every day. Recruitment is planned to be primarily through advertising. Subjects will be compensated for their participation in the study. The study will be performed at up to four sites that will contribute to enrollment. Strategies to maximize retention include dividing the screening procedures into three separate visits that allow the site to meet with subjects on unique occasions and gain an understanding of their reliability and commitment to the study before randomizing.

Overview of Externally Funded and Conducted Studies

As part of the in-licensing of CERC-501 from Lilly, we will acquire the results upon the completion of four clinical trials that are enrolling subjects or will begin enrolling subjects by the end of

the second quarter of 2015. All of these studies are funded by grants from the NIMH or self-funded without any cost to us. The following is a summary of each of the four clinical trials:

- *Impact of the KOPr Antagonist OpRA Kappa in Persons at Specific Stages of Cocaine Addiction Trajectory, Versus Normal Volunteers*. This single site study, which began in September 2014, is being conducted under the leadership of Mary Jeanne Kreek, MD, Professor and Head of Laboratory, The Rockefeller University, and Senior Physician, The Rockefeller University Hospital.

- *Double-Blind, Placebo Controlled, Proof-of-Concept (POC) Trial of LY2456302, a Kappa Selective Opioid Receptor Antagonist, and Augmentation of Antidepressant Therapy in Treatment-Resistant Depression.* The primary investigator for this 5-site study, which is expected to begin by the end of the second quarter of 2015, is Maurizio Fava, MD, Executive Director, MGH Clinical Trials Network and Institute and Executive Vice-Chair, Department of Psychiatry, Massachusetts General Hospital.

- *A Phase 1 Study of the Kappa and Mu Opioid Receptor Occupancy Associated with Repeated Dosing of LY2456302.* The primary investigator for this single site imaging study, which is expected to begin by the end of the second quarter of 2015, is Andrew D. Krystal, MD, MS, Professor, Department of Psychiatry and behavioral Sciences, Duke University Medical Center.

- *A Phase 2a Study to Evaluate the Kappa Opioid Receptor As a Target for the treatment of Mood and Anxiety Spectrum Disorders by Evaluation of Whether LY2456302 Engages Key Neural Circuitry Related to the Hedonic Response.* Dr. Andrew Krystal of Duke University Medical Center serves as the principle investigator of this 6 site study, which is expected to begin by the end of the second quarter of 2015.

Summary of Prior Preclinical and Clinical Studies

Phase 1 Studies

In 2008 through 2011, three Phase 1 clinical trials of CERC-501 in an aggregate of 82 healthy volunteers were completed by Lilly, each of which measured the safety and assessed the PK and PD of CERC-501. Study A was the first-in-human study of single escalating oral doses of CERC-501 administered to 32 healthy subjects and provided safety and PK data while also identifying the doses at which CERC-501 provides KOR inhibition without mu opioid receptor, or MOR, inhibition, thus confirming the doses at which the drug remains KOR selective. The second study, Study B, assessed repeated daily doses of CERC-501 in 37 healthy subjects utilizing a dose range based on the results of Study A. Potential PK and cognitive interactions between CERC-501 and alcohol were also investigated in Study B. Study C was conducted in 13 healthy male subjects to confirm the interaction of single oral doses of CERC-501 of between 0.5 mg to 25 mg with KORs in the brain, using positron emission tomography, or PET, imaging. The combined results from Study A and Study B suggested that CERC-501 was generally well tolerated by the healthy subjects administered up to 60 mg as a single dose, and up to 35 mg as multiple doses administered once daily for 14 days. There were no serious adverse events observed in either study that were attributed to the study drug and no dose-limiting adverse events or other safety variables that were attributed to the study drug. The dose escalations in both studies were not limited by any safety findings. There were no clinically significant changes in neurohormones, including cortisol, prolactin, adrenocorticotropic hormone, and luteinizing hormone in either studies, consistent with pre-clinical pharmacology and toxicology studies that revealed no evidence of hypothalamic or pituitary hormonal toxicities. The estimated PK parameters after single doses of CERC-501 were reasonably consistent across both studies. In Study B, CERC-501 had no effect on ethanol-induced cognitive/motor impairment.

In Study C, PET imaging was conducted and demonstrated that single oral doses of 0.5 mg to 25 mg of CERC-501 blocked KOR in the brain. KOR occupancy, or RO, was measured in high uptake regions of the brain, including amygdala, anterior cingulate, frontal cortex, and insula, at two time-points post-dose, approximately 2.5 hours post-dose and on the second day at around 22.5 hours post-dose. Consistent with preclinical studies, single oral doses of CERC-501 demonstrated rapid penetration and potent receptor occupancy in healthy human subjects, with 74% to 100% KOR occupancy at doses of 2 mg to 25 mg. Study C demonstrated that a single oral dose of 10 mg CERC-501 almost completely saturated kappa receptors at 2.5 hours post-dose, and that the lower range of RO at 22.5 hours post-dose exceeded 60%, supporting the clinical exploration of doses < 10 mg in future studies. Overall, clinical studies to date demonstrate that CERC-501 selectively blocks KOR without evidence of significant MOR antagonism within the dose range of 4 mg to 10 mg in humans, and the studies also suggest such dose levels may present a favorable safety profile. Only a limited number of the adverse effects observed in Studies A, B and C were considered by the investigators to be related to CERC-501. Additionally, there were no clinically significant changes in vital signs or electrocardiogram in the studies attributed to the study drug.

Preclinical Studies

Completed preclinical studies of CERC-501 include the evaluation of safety pharmacology, PK and toxicology of CERC-501 in conscious animals, all of which have demonstrated a safety profile sufficient at the intended dose to enable ongoing and planned human clinical studies. Our preclinical studies have revealed some limited safety findings, such as rat gastrointestinal issues, which we are further investigating. The engagement of CERC-501 with brain KORs, or target engagement, has also been demonstrated in rats and monkeys and the predicted blood exposure required to achieve target engagement has been described in these species. To date, two preclinical studies in nicotine withdrawal, one in depression, and two in alcohol dependence have demonstrated efficacy, two of which are described below.

A standardized model of nicotine dependence involves infusion of nicotine via an attached pump into mice, discontinuation of the infusion is representative of spontaneous nicotine withdrawal. CERC-501, administered at doses ranging from 1 to 10 mg/kg reduced nicotine withdrawal behaviors in a dose-related manner, achieving statistical significance at 10 mg/kg. CERC-501 decreased hyperalgesia at all doses tested and decreased anxiety-like behavior in nicotine-withdrawn mice at 3 and 10 mg/kg. In a FST study, CERC-501 reduced swimming immobility, a measure of depression-like behavior in a dose-dependent manner, with 10 mg/kg achieving efficacy comparable to the tricyclic antidepressant imipramine.

Future Clinical Development

Upon completion of Clin501-201, we plan to conduct a dose ranging Phase 2 study in nicotine dependent smokers. We will also monitor the results from the four externally funded and conducted studies to determine the merits of pursuing a co-occurring disorder indication, such as MDD and an addictive disorder. We also plan to engage the FDA in an end-of-Phase 2 meeting to align plans and activities for potential regulatory approval which would include Phase 3 clinical studies, non-clinical NDA enabling studies and manufacturing activities.

COMTi Platform

In March 2013, we acquired rights to our COMTi platform by means of an exclusive, worldwide license from Merck. COMT is an enzyme that causes the degradation of dopamine and its inhibition in the brain has demonstrated applicability in treating subjects with neuropsychiatric conditions, including depression, schizophrenia, attention deficit hyperactivity disorder, or ADHD, Parkinson's disease and various impulse control disorders. The COMTi platform includes access to a library of approximately

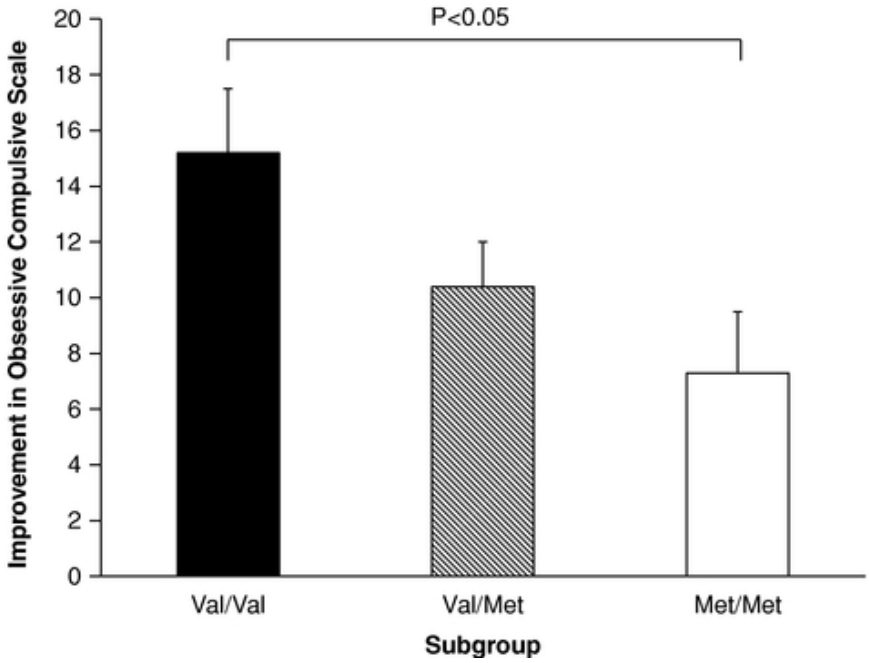
1,800 compounds specifically engineered to increase dopamine levels in the prefrontal cortex, or PFC, which is the region of the brain that is responsible for verbal learning, working memory, attention tasks and decision making, all of which are human attributes that we collectively refer to as executive function. In January 2015, we selected CERC-406 as our first preclinical lead candidate from the COMTi platform. In 2015 and 2016, we intend to establish the data set necessary to select additional preclinical lead candidates and to initiate programs for treatment of various conditions where impaired executive function is a core symptom. These programs will target the improvement of working memory and executive function, which are key components of cognition.

COMT Overview

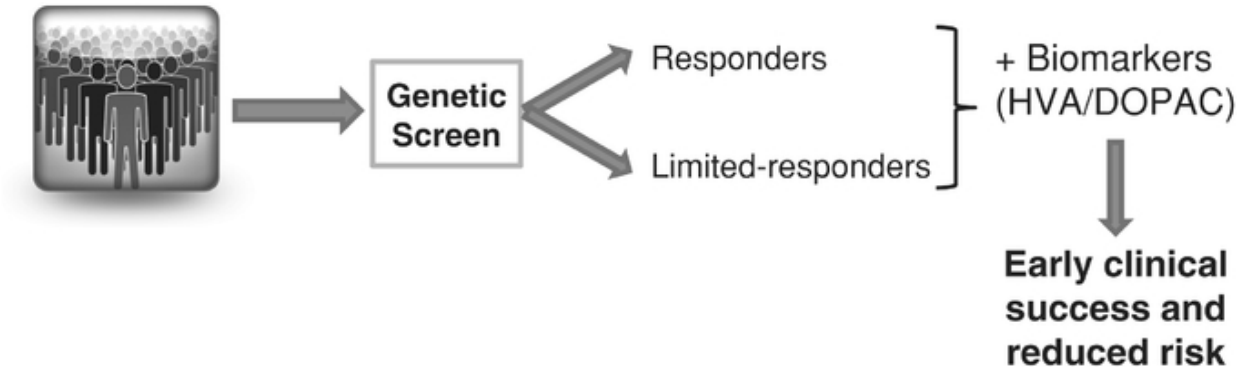
The neurotransmitter systems that are involved in cognitive decline are targets for drug development, and include acetylcholine, serotonin, dopamine, glutamate and histamine. Most of these targets have a wide ranging impact on different brain functions, and, as such, most drug development efforts are fraught with the lack of specificity of clinical effect of the drugs tested. On the other hand, impairment of working memory, attention, verbal learning and decision making or executive function, are governed specifically by dopamine in the PFC. COMT breaks down dopamine and regulates dopamine levels in the PFC and we believe that brain COMT inhibition is a preferred target for treatment of cognitive impairment in conditions where loss of executive function is a key symptom. Specifically, COMT inhibition has been shown to significantly improve executive function in persons suffering from schizophrenia, Parkinson's disease and various impulse control disorders.

Brain COMT inhibition is a target with two key attributes that enable drug development—genetic variability and the availability of biomarkers. A genetic variation in the COMT enzyme, the Val allele, enhances the enzyme's baseline level activity and is linked to reduced executive function in normal volunteers and in disorders associated with cognitive impairment including, schizophrenia, Parkinson's disease, adult attention deficit disorder and various impulse control disorders. The Val:Val allele, which is one of three possible alleles, is present in 40% of the North American population, as stated in a 1999 epidemiology paper titled *Global Variation in the Frequencies of Functionally Different Catechol-o-Methyltransferase Alleles*. In a series of hypotheses-driven studies, it has been repeatedly demonstrated that the Val allele is linked to reduced working memory/executive function and functional MRI-assessed PFC physiological efficiency, and increased response to a currently available COMT inhibitor, tolcapone. These results suggest that COMT inhibition may improve PFC executive function in a genotype-specific and more predictable manner. This represents an opportunity to improve cognitive symptoms in patients with various diseases associated with executive dysfunction and who carry this genetic subtype. Support of this concept of stratification of subjects by genotype, or pharmacogenomic approach, is found in a 2013 article titled *A Proof of Concept Study of Tolcapone for Pathological Gambling: Relationships with COMT Genotype and Brain Activation*, which demonstrated that this genotype is predictive of response to brain COMT inhibition. As indicated in the figure below, in this study of pathological gambling, the Val:Val subjects had a significantly improved response when

compared to the other subject genotypes. By targeting this genotype, we believe we could see a significant improvement in magnitude and reliability of drug response.



The second attribute involves the use of biomarkers to monitor the level of enzyme inhibition by our novel COMT inhibitors. In cerebrospinal fluid, or CSF, the inhibition of COMT leads to an increase in the amounts of dihydroxyphenylacetic, or DOPAC, and a decrease in the amounts of homovanillic acid, or HVA. Samples of CSF are easily obtained in clinical studies via a spinal tap, or lumbar puncture, to measure concentrations of HVA and DOPAC. This allows for immediate measures of central dopamine breakdown. We plan to use these biomarkers in our first clinical trials in order to detect clinical efficacy in Phase 1. By exploiting this biomarker strategy and combining it with a pharmacogenomic approach, we are developing our novel COMT inhibitors as one of the first hypothesis-driven, biology-based, genotype-specific and targeted treatments of the impairment of executive function.



Our COMTi Platform

Our COMTi platform is comprised of a new generation of compounds with selectivity for membrane bound COMT, the dominant form of COMT found within the central nervous system. We believe these potent COMT inhibitors will selectively increase dopamine levels in the PFC, thereby improving executive function. Our development efforts are focused on a new generation of potent inhibitors that avoid off-target toxicity and side effects, such as liver toxicity and diarrhea, which are seen with the previous generation of inhibitors, such as tolcapone and entacapone. Our novel compounds have been engineered to have higher levels of penetration and selectivity for brain COMT, which may lead to higher efficacy with lower administered doses. Our COMTi platform includes compounds with varying degrees of selectivity of peripheral versus brain COMT inhibition, including some that work on both peripheral and brain COMT, and some that work primarily on brain COMT. This provides options for developing different compounds for different disease states. For example, a COMTi for Parkinson's disease may need to provide both central and peripheral inhibition, in order to benefit both to the movement impairments of Parkinson's disease and the cognitive symptoms of the disease.

CERC-406

Residual Cognitive Symptoms in Major Depressive Disorder

Depression is one of the most common serious medical and psychiatric disorders, with greater than 150 million adults worldwide suffering from MDD at any given time, according to the WHO report titled *Investing In Mental Health*. According to the NCS-R, approximately 20 million adults in the United States, which represents approximately 6.7% of its entire adult population, will suffer from a MDD in a 12 month period. The WHO, in a report titled *Depression: A Global Crisis*, published on the occasion of World Mental Health Day, October 10, 2012, predicted that by 2020 MDD would be the second leading cause of disability worldwide.

Several publications including the 2014 article by Lam et al., titled *Cognitive Dysfunction in MDD: Effects on Psychosocial Functions and Implications for Treatment* published in the Canadian Journal of Psychiatry indicate that cognitive dysfunction is an important mediator of disability in MDD. Self-perceived cognitive impairment has always been recognized as a clinical manifestation of MDD. Cognitive domains that are measurably impaired in MDD include attention, memory, psychomotor speed and executive function. According to Lam et al., up to 50% of patients with MDD exhibit measureable cognitive deficits. Moderate deficits in attention and executive function may persist even after remission. Thus, cognitive dysfunction may represent a core dimension of MDD that is independent of mood symptoms. Although standard antidepressants may improve cognitive deficits in MDD, these effects are limited in magnitude. Furthermore, according to a 2009 article by Delgado and Schillerstrom titled *Cognitive Difficulties Associated with Depression* published in Psychiatric Times there is preliminary evidence indicating that cognitive deficits in MDD patients may predict the failure to respond to antidepressants. We believe there is a subgroup of patients exist who require additional treatment alternatives. According to Lam et.al, accumulating clinical evidence suggests that cognitive dysfunction is a core psychopathological feature of the disorder.

Entacapone and tolcapone are two commercially available COMT inhibitors used to treat aspects of Parkinson's disease. Both drugs are designed to inhibit COMT outside of the nervous system, or peripheral COMT, and may be administered, with levodopa, which is the precursor to the neurotransmitter dopamine, multiple times per day. Tolcapone, which has modest brain penetration and inhibits brain COMT, is hampered by side effects including diarrhea and liver toxicity. Entacapone does not penetrate the brain. Because of these factors, neither drug is used clinically to treat executive function impairment and when tolcapone is used in clinical experimentation, it is administered in open label fashion, for reasons of subject safety. Nonetheless, pilot studies using tolcapone have repeatedly demonstrated an improvement in executive function in normal volunteers and in subjects with various

conditions that are associated with cognitive impairment. These changes were associated with functional improvements of the underlying conditions. In an open-label study published by Dr. Maurizio Fava and others in 1999 entitled *Open Study of the Catechol-O-Methyltransferase Inhibitor Tolcapone in Major Depressive Disorder*, tolcapone significantly improved core depressive symptomatology, including HAMD-17 scores, in a cohort of 21 adult subjects with MDD.

Our Solution

CERC-406 is a small molecule, selective COMT inhibitor with low inhibitory activity on peripheral COMT. We are currently planning to develop CERC-406 as a first-in-class, oral adjunctive medication for patients who have MDD with significant, measureable impairments in executive function and working memory. We selected CERC-406 as our preclinical lead candidate from our COMTi platform because in preclinical testing it demonstrated lower potential of peripheral, off target side effects, rapid absorption and bioavailability, good brain penetration and a favorable dose-dependent biomarker profile in rats. CERC-406 has also demonstrated off-rate on brain COMT that is slower than tolcapone, implying a good duration of effect. Finally, CERC-406 has demonstrated a favorable safety profile in all studies conducted to date. In preliminary studies it appears that CERC-406 may have favorable drug distribution and metabolism properties, suggesting that has the potential to be administered orally on a once or twice daily basis.

We believe that CERC-406 will:

- demonstrate efficacy as it is a brain penetrant COMT inhibitor with selectivity for MB-COMT to target the PFC dopamine deficit in this patient population;
- be more effective in Val homozygotes population, who have higher levels of COMT activity and lower prefrontal dopamine receptor activation; and
- be safer than existing COMT inhibitors—existing COMT inhibitors are not ideal as such inhibitors have adverse events such as liver toxicity and diarrhea.

Our Program

We are planning to develop CERC-406 for the enhancement of executive function and working memory in MDD, where we believe a new therapy with efficacy in residual cognitive symptoms will be associated with improved functional outcomes. We may also perform early exploratory clinical studies in subjects with high unmet medical needs, such as individuals with depression, schizophrenia, impulse control disorders or Parkinson's disease. While COMT inhibition may eventually find broad use in multiple neurological and psychiatric diseases, we plan to focus on indications where high COMT activity is known to contribute to the disease process and where the Val:Val genotype has already been identified as a vulnerable population in the condition or disease state. We intend to measure the biomarkers of COMT activity and dopamine metabolism in genetically defined cohorts in our initial human studies, thus providing biological proof of concept and dose response data early in clinical development. By exploiting this biomarker strategy and combining it with a pharmacogenomic approach, we are developing our CERC-406 as one of the first hypothesis-driven, biology-based, genotype-specific and targeted treatments of the impairment of executive function.

Current Development Plan

In 2015, we intend to advance CERC-406 by engaging the FDA in a preliminary discussion about the appropriate developmental and regulatory roadmaps, including clinical endpoints and trial concepts that would constitute guidance for a regulatory approval path for such an indication. We plan to file an IND for CERC-406 in the first half of 2017. Upon acceptance of this IND filing, we will commence Phase 1 studies to examine human safety, tolerability and pharmacokinetics that will determine suitability for further development. Subsequently, other compounds can be brought into development to

target other cognition-related disorders. Alternatively, CERC-406 could be carried forward to target other conditions.

Summary of Preclinical Studies

Preclinical studies on CERC-406 to date have been focused towards demonstration of an acceptable safety, metabolic, and toxicity profile for CERC-406, deeming it qualified for further development and advancement into IND-enabling studies. Preclinical medicinal chemistry synthetic scale-ups, a series of studies related to absorption, distribution, metabolism, excretion, PK characterizations, safety screening for liver toxicity, and target validation with use of cerebrospinal fluid biomarker measurement in rats as proof of concept all have provided supporting data for advancement of CERC-406 towards IND-enabling studies.

Clinical Development Plan

Upon acceptance of CERC-406's IND filing, we will commence Phase 1 studies to examine human safety, tolerability and pharmacokinetics that will determine suitability for further development. Current development with respect to CERC-406 allows us to measure the biomarkers of COMT activity in genetically defined cohorts in our initial human studies, thus providing biological proof of concept and dose response data early in clinical development.

Other Business Development Activities

From time to time we may consider strategic transactions, such as acquisitions of companies, asset purchases and in-licensing of products, product candidates or technologies. Additional potential transactions that we may consider include a variety of different business arrangements, including strategic partnerships, collaborations, joint ventures, business combinations and investments. We believe we have the ability to identify, evaluate and procure valuable product programs that are consistent with our goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. We plan to continue to leverage these opportunities to expand our product candidate portfolio in a fashion that fits within our core strategy and enhances our overall value.

Intellectual Property

We strive to protect the proprietary technologies that we believe are important to our business, including seeking and maintaining patent protection intended to cover the composition of matter of our product candidates, their methods of use, related technology and other inventions that are important to our business. As more fully described below, we have issued patents covering the compounds and compositions of CERC-301 and CERC-501. We have also filed multiple patent applications directed to COMT inhibitor compounds and methods of use. In 2014 and 2015, we received Notices of Allowance for two U.S. patent applications that broadly and/or specifically cover current compounds of interest within the COMTi Platform, including CERC-406. One of the allowed U.S. applications issued as a patent in 2015, while the other allowed U.S. application is expected to issue in the first half of 2015. We also may 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 the valid and enforceable patents and other proprietary rights of third parties. We also rely on know-how,

continuing technological innovation and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in the field of central nervous system disorders.

The patent positions of biopharmaceutical companies 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 its scope can be reinterpreted after issuance. Consequently, we do not know whether any of our product candidates will be protectable or 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 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 of the priority of inventions covered by pending patent applications. Moreover, we may have to participate in interference proceedings declared by the United States Patent and Trademark Office, or USPTO, or a foreign patent office to determine priority of invention or in post-grant challenge proceedings, such as oppositions, that challenge priority of invention or other features of patentability. Such proceedings could result in substantial cost, even if the eventual outcome is favorable to us.

The patent portfolios for our most advanced programs are summarized below.

- ***CERC-301.*** We possess worldwide exclusive rights to manufacture, use and sell certain NR2B antagonist compounds. The CERC-301 patent portfolio consists of three patent families. The first family consists of patents that have issued in the United States, Australia, Canada, Germany, France, Great Britain, Switzerland and Japan. The patents in the first family include composition of matter and use claims of varying scope, including picture claims to CERC-301 or a pharmaceutically acceptable salt thereof. The expiration date of the U.S. patent in the first family is August 31, 2026, not including any patent term extension or market exclusivity period which may apply. The second family consists of patents that have issued in the United States, Germany, France and Great Britain. The patents in the second family include composition of matter claims (in U.S. patent only) and use claims that generically cover CERC-301. The expiration date of the U.S. patent is June 3, 2022, not including any potential patent term extension or market exclusivity period. The third family consists of a U.S. provisional patent application which includes claims to compositions of matter, methods of use, and methods of manufacture. U.S. nonprovisional and international patent applications that claim priority to the provisional application are expected to be filed by December 2015. Any patent issuing from any such U.S. nonprovisional application is predicted to expire in 2035 at the earliest, not including any potential patent term extension or market exclusivity period.

- ***CERC-501.*** We possess worldwide exclusive rights to manufacture, use and sell certain KOR antagonist compounds. The CERC-501 patent portfolio consists of a single patent family with dozens of issued patents and pending patent applications, including patents issued in the U.S., Australia, Canada, China, Europe and Japan. The patents in this family include composition of matter claims, including picture claims to CERC-501 or a pharmaceutically acceptable salt thereof, and/or use claims of varying scope. The expiration date of the two U.S. patents is January 13, 2029, not including any potential patent term extension or market exclusivity period.

- ***CERC-406 and COMTi Platform.*** We possess worldwide exclusive rights to manufacture, use and sell COMT inhibitor compounds. The COMT patent portfolio includes three patent families. Each patent family consists of patent applications filed in the United States, Australia, Brazil, Canada, China, Europe, India, Japan, South Korea, Mexico and Russia. Any patents issuing from these patent applications are predicted to expire at the earliest in 2031, not including any

potential patent term extension or market exclusivity period. In 2014 and 2015, we received Notices of Allowance for two U.S. patent applications that broadly and/or specifically cover current compounds of interest within the COMTi Platform, including CERC-406. One of the allowed U.S. applications issued as a patent in 2015, while the other allowed U.S. application is expected to issue in the first half of 2015.

- ***FP01.*** On March 17, 2015, we provided notice to Johns Hopkins University that we were terminating the exclusive, worldwide license to develop and market FP01 in chronic, persistent cough. Such termination will be effective on June 15, 2015 and, thereafter, we will no longer have any rights to the previously-licensed intellectual property concerning FP01.

The term of any individual patent depends upon the legal term of the patents in the countries in which they are obtained. In most countries where we file, the patent term is 20 years from the earliest date of filing a non-provisional patent application.

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 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 the 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. 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 product candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those product candidates. We intend to seek patent term extensions to any of our issued patents in any jurisdiction where these are available, however 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.

For all of our product candidates, we intend to explore at each stage of the drug discovery process opportunities for follow-on patent filings to maximize patent terms and market exclusivities. Such follow-on patent filings may be directed to new indications, formulations, combination therapies, manufacturing methods, dosages, routes of administration, patient populations, contraindications, drug interactions (or absence of interactions) or other aspects of drug labels.

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 and Clinical Research

We do not have any manufacturing facilities or personnel. We rely on contract manufacturing organizations, or CMOs, to produce our drug candidates in accordance with applicable provisions of the FDA's current Good Manufacturing Practice, or GMP, regulations for use in our clinical studies. The manufacture of pharmaceuticals is subject to extensive GMP regulations, which impose various procedural and documentation requirements and govern all areas of record keeping, production processes and controls, personnel and quality control.

CERC-301

We currently purchase the active ingredient of CERC-301 tablets, which is available from multiple sources, from one supplier. Xcelience currently manufactures the drug product for clinical testing. We intend to identify and qualify multiple manufacturers to provide the active pharmaceutical ingredient, drug product and fill-and-finish services prior to submission of a new drug application to the FDA. In preparation for Clin301-203, we expect to enter into multiple contract service agreements with providers of administrative, data capture, management, monitoring and statistical analysis services relating to our Clin301-203 study. We expect to remain substantially responsible for overseeing and managing the conduct of the Clin301-203 study in the U.S., with separate agreements with investigative sites performing the study, other clinical research organizations and other third-party vendors.

CERC-501

As part of the exclusive license agreement with Lilly, we assumed all accountability and responsibility for existing drug substance, drug product and packaged clinical trial material of CERC-501, as well as all future manufacturing of CERC-501 for development and commercialization. Currently, clinical trial material necessary for supplying the existing studies for CERC-501 are warehoused with one supplier. Almac Group is a provider of a comprehensive range of services extending from research through pharmaceutical and clinical development to commercialization of product. We intend to identify and qualify multiple manufacturers to provide the active pharmaceutical ingredient, drug product and fill-and-finish services prior to submission of a new drug application to the FDA.

In preparation for Clin501-201, we expect to enter into a master contract services agreement with Vince and Associates Clinical Research, or Vince, under which Vince will provide administrative, data capture, management, monitoring and statistical analysis services relating to our Clin501-201 study. We expect that Vince will be substantially responsible for overseeing and managing the conduct of the Clin501-201 study in the U.S., although we will remain ultimately responsible for the study and will have separate agreements with investigative sites performing the study, other clinical research organizations and other third-party vendors.

All of our drug candidates are small compounds and are manufactured in reliable and reproducible synthetic processes from readily available starting materials. The chemistry is amenable to scale up and does not require unusual equipment in the manufacturing process. We expect to continue to develop drug candidates that can be produced cost-effectively at contract manufacturing facilities.

License Agreements

Merck CERC-301 License

In March 2013, we entered into an exclusive license agreement with Merck pursuant to which Merck granted us rights relating to certain small molecule compounds which are known to inhibit or antagonize the activity of the NR2B receptor as its primary mechanism of action and any pharmaceutical product containing such compounds, or an NR2B Product, for the prevention, diagnosis and/or treatment of all disease in humans. Merck retained a co-exclusive right to conduct non-human

and non-clinical research under patents for the licensed NR2B antagonist compounds and NR2B Products. In addition to the license grant, Merck agreed that for a period of three years from the effective date of the license agreement that it would not, either by itself or through collaboration with a third party, develop, manufacture or commercialize anywhere any product comprising an NR2B antagonist compound.

In connection with the license grant of certain NR2B antagonist compounds and NR2B Products, we granted Merck a right of first negotiation to obtain an exclusive, worldwide license and/or other worldwide rights to research, develop, commercialize, sell and/or offer for sale any such NR2B Product. Pursuant to such right of first negotiation, we must provide advance notice to Merck if we intend to offer a license of any kind, or to assign or transfer or otherwise convey any other rights related to the development or commercialization of an NR2B Product. If Merck either chooses not to exercise its right of first negotiation or we fail to enter into an agreement with Merck as provided in the agreement, we will be free to enter into negotiations and contract with third parties with respect to such NR2B Product and will have no further obligation to Merck regarding such NR2B Product.

In consideration of the license, we are required to make an initial aggregate payment of $1.5 million. We made an initial payment of $750,000 pursuant to the terms of the license within 45 days of the execution of the license agreement. The balance of the initial payment is due upon the later of (i) FDA acceptance of Merck preclinical data and (ii) FDA acceptance of data from a study that results in the FDA approving a Phase 3 clinical trial for an NR2B Product candidate. For each NR2B Product we develop, we are required to make milestone payments in an amount not to exceed, in the aggregate, $40.5 million upon the achievement of various development and regulatory milestones, including first commercial sale. Additionally, we are required to make sales milestone payments in an amount not to exceed $15.0 million. Upon commercialization of an NR2B Product, we will pay Merck a royalty in the high single digits on net sales of NR2B Product. The royalty obligation will be on a product-by-product and country-by-country basis until the later of (i) the expiration of the last to expire valid patent claim of a patent licensed to us under the license agreement covering the NR2B Product in such country, and (ii) ten years from the first commercial sale of the NR2B Product in such country.

Our license agreement with Merck will remain in effect on a product-by-product and country-by-country basis until our obligation to pay royalties under the license agreement expire with respect to such product in such country. Upon expiration of the license agreement with respect to a product in a country, our license grant for such product in such country will become a fully paid-up, royalty-free, irrevocable, perpetual non-exclusive license.

We have the unilateral right to terminate the license agreement in its entirety without cause upon 90 days prior written notice to Merck. Either party may terminate the license agreement in its entirety in the event of an uncured material breach by the other party, upon the other party's filing or institution of bankruptcy, reorganization, liquidation or receivership proceeding or upon an assignment of a substantial portion of its assets for the benefit of creditors. Merck may terminate the license agreement with respect to a particular patent licensed to us if we challenge the validity or enforceability of such patent. If Merck terminates the agreement for cause, or if we exercise our right to terminate the agreement without cause, the rights granted to us under this license will revert to Merck.

Lilly CERC-501 License

In February 2015, we entered into an exclusive license agreement with Lilly pursuant to which Lilly granted us rights relating to certain small molecule compounds which are potent and selective kappa opioid receptor, or KOR, antagonists and any pharmaceutical product containing such compounds, or a KOR Product, for the prevention, diagnosis and/or treatment of all disease in humans. In connection with the license grant of certain KOR antagonist compounds and KOR Products, we granted Lilly a right of first negotiation to obtain an exclusive, worldwide license and/or other worldwide rights to develop or commercialize any such KOR Product. Pursuant to such right of first negotiation, we must

provide advance notice to Lilly if we intend to offer a license of any kind, or to assign or transfer or otherwise convey any other rights related to the development or commercialization of a KOR Product. If Lilly either chooses not to exercise its right of first negotiation or we fail to enter into an agreement with Lilly as provided in the agreement, we will be free to enter into negotiations and contract with third parties with respect to such KOR Product and will have no further obligation to Lilly regarding such KOR Product.

In consideration of the license, we are required to make an initial aggregate payment of $1.0 million. We made an initial payment of $750,000 pursuant to the terms of the license within 30 days of the execution of the license agreement. The balance of the initial payment is due 30 days after completion of the final study report for the 9-month toxicology study to be conducted by us in non-human primates. For the first KOR Product we develop, we are required to make milestone payments in an amount not to exceed, in the aggregate, $19.0 million upon the achievement of various development and regulatory milestones, including first commercial sale. Additionally, we are required to make sales milestone payments in an amount not to exceed $30.0 million. Upon commercialization of a KOR Product, we will pay Lilly a tiered royalty on net sales of KOR Product from mid-single digits to low-double digits. The royalty obligation will be on a product by product and country by country basis until the later of (i) the expiration of the last to expire valid patent claim of a patent licensed to us under the license agreement covering the KOR Product in such country, and (ii) eleven years from the first commercial sale of the KOR Product in such country.

Our license agreement with Lilly will remain in effect on a product by product and country by country basis until our obligation to pay royalties under the license agreement expire with respect to such product in such country. Upon expiration of the license agreement with respect to a product in a country, our license grant for such product in such country will become a fully paid up, royalty free, irrevocable, perpetual non exclusive license.

We have the unilateral right to terminate the license agreement in its entirety without cause upon 90 days prior written notice to Lilly. Either party may terminate the license agreement in its entirety in the event of an uncured material breach by the other party, upon the other party's filing or institution of bankruptcy, reorganization, liquidation or receivership proceeding or upon an assignment of a substantial portion of its assets for the benefit of creditors. If Lilly terminates the agreement for cause, or if we exercise our right to terminate the agreement without cause, the rights granted to us under this license will revert to Lilly.

Merck COMTi License

In March 2013, we entered into an exclusive license agreement Merck pursuant to which Merck granted to us certain rights in small molecule compounds which are known to inhibit the activity of COMT as its primary mechanism of action and any pharmaceutical product containing such compounds, or a COMTi Product, in each case for the prevention, diagnosis and/or treatment of all disease in humans. Merck retained a co-exclusive right to conduct non-human and non-clinical research under such patents for certain COMT compounds.

In addition to the agreed-upon COMT compounds that are licensed to us, we have the right to request that up to 60 additional COMT compounds be included in our license grant during the two year period after we entered into the license agreement with Merck. Merck may only reject the inclusion of such COMT compound if such COMT compounds meet certain criteria that we have agreed to with Merck in the license agreement. Otherwise, such COMT compounds will be included in our license grant.

In connection with the license grant of certain COMT compounds and COMT Products, we granted Merck a right of first negotiation to obtain an exclusive, worldwide license and/or other worldwide rights to research, develop, commercialize, sell and/or offer for sale any such COMT

Product. Pursuant to such right of first negotiation, we must provide advance notice to Merck if we intend to offer a license of any kind or to assign or transfer or otherwise convey any other rights related to the development or commercialization of a COMT Product. If Merck either chooses not to exercise its right of first negotiation or we fail to enter into an agreement with Merck as provided in the agreement, we will be free to enter into negotiations and contract with respect to such COMT Product with a third party and will have no further obligation to Merck regarding such COMT Product.

In consideration of the license, we made a $200,000 upfront payment to Merck. For each COMT Product we develop, we are required to pay up to $6.15 million in milestone payments upon achievement of various development and regulatory milestones. Upon commercialization of a COMT Product, we are required to pay Merck a royalty of a low single digit on net sales of a COMT Product. The royalty obligation will be on a product-by-product and country-by-country basis until the later of (a) the expiration of the last to expire valid patent claim of a patent licensed to us under the license agreement covering the COMT Product in such country, and (b) ten years from the first commercial sale of the COMT Product in such country.

Our license agreement with Merck will remain in effect on a product-by-product and country-by-country basis until our obligation to pay royalties under the license agreement expire with respect to such product in such country. Upon expiration of the license agreement with respect to a product in a country, our license grant for such product in such country will become a fully paid-up, royalty-free, irrevocable, perpetual non-exclusive license.

We have the unilateral right to terminate the license agreement in its entirety without cause upon 90 days prior written notice to Merck. Either party may terminate the license agreement in its entirety in the event of an uncured material breach by the other party, upon the other party's filing or institution of bankruptcy, reorganization, liquidation or receivership proceeding or upon an assignment of a substantial portion of its assets for the benefit of creditors. Merck may terminate the license agreement with respect to a particular patent licensed to us if we challenge the validity or enforceability of such patent. If Merck terminates the agreement for cause, or if we exercise our right to terminate the agreement without cause, the rights granted to us under this license will revert to Merck.

Commercialization

We have not yet established a sales, marketing or product distribution infrastructure because our candidates are still in preclinical or early clinical development. We intend to selectively retain commercialization or co-commercialization rights in the United States for CERC-301, CERC-501 and certain indications of our COMTi platform, which we may complement with co-promotion agreements with partners. For those product candidates for which we receive marketing approval, we plan to build a specialty sales force and marketing team as well as to collaborate with third parties to market the approved product candidates in the United States. We may also seek to commercialize any of our approved products outside of the United States, although we only plan to do so with one or more collaborators.

Competition

We face, and will continue to face, intense competition from pharmaceutical and biotechnology companies, as well as numerous academic and research institutions and governmental agencies, both in the United States and abroad. We compete, or will compete, with existing and new products being developed by our competitors. Some of these competitors are pursuing the development of pharmaceuticals that target the same diseases and conditions that our research and development programs target. Even if we and our potential collaborators are successful in developing our product candidates, the resulting products would compete with a variety of established drugs in the areas of depression, bipolar depression, post-partum depression, schizophrenia, Parkinson's disease and impulse control disorders, or ICDs.

CERC-301:

Our lead product candidate, CERC-301, will compete with other drugs used as adjunctive therapies for the treatment of MDD, such as Abilify, marketed by Otsuka America Pharmaceutical, Inc. and Bristol-Myers Squibb; Seroquel XR, marketed by Astra Zeneca; and buproprion, a generic drug. Furthermore, to our knowledge, there are five competitive rapid onset antidepressant or anti-suicide programs in development:

- Esketamine is in Phase 2 development by Johnson & Johnson, or J&J, for administration as a nasal spray;
- AZD8108 is in Phase 1 development by AstraZeneca Pharmaceuticals LP, for [oral] administration;
- Rapastinel is approaching Phase 3 development by Naurex Inc., or Naurex, for intravenous administration;
- NRX 1074 by Naurex has completed a single intravenously administered dose Phase 2 study, which, along with oral and intravenous Phase 1 PK findings, will be used to select an oral dose for a repeat-dose Phase 2 study; and
- ALKS-5461, which is believed to be acting as a functional kappa antagonist, is in Phase 3 development by Alkermes plc, or Alkermes, as an oral application and has shown signals of rapid onset as an adjunctive therapy.

CERC-501:

There are no approved treatments for co-occurring disorder even though there are likely more than 5.0 million Americans alone who suffer from co-occurring depression and substance use disorders. Our second Phase 2 product candidate, CERC-501, is being developed to treat such co-occurring disorders. To our knowledge, there are no other single moiety selective KOR antagonists in development to date. ALKS 5461, however, is believed to be acting as a functional KOR antagonist that is now in Phase 3 development for MDD as an adjunctive antidepressant in patients with MDD who have no more than two inadequate responses to antidepressant therapy. To our knowledge, there are two additional competitive programs that are being studied in depression and substance use disorders:

- EVP-6124 is in Phase 3 development by Forum Pharmaceuticals Inc., or Forum, for the treatment of cognitive impairment in schizophrenia and for symptomatic treatment of Alzheimer's Disease, and in a Phase 2 proof-of-concept as an aid for smoking cessation; and
- LY2940094 is in Phase 2 development by Lilly for the treatment of both MDD and alcohol dependence.

COMT Inhibitor Platform

Our potential products for the treatment of schizophrenia would compete with Zyprexa, marketed by Lilly; Risperdal, marketed by J&J; Abilify, Seroquel, and Clozaril. Zyprexa (olanzapine), Risperdal (risperidone), Seroquel (quetiapine) and Clozaril (clozapine) are all now generic in the United States. Currently, no treatments are approved for cognitive impairment associated with schizophrenia, although Forum is developing EVP-6124 (encenicline) which is in Phase 3 development by for the treatment of cognitive impairment in schizophrenia.

Our potential products for the treatment of the cognitive impairment of Parkinson's disease may compete with existing COMT inhibitors Comtan (entacapone), marketed by Novartis Pharmaceuticals Corp., or Novartis, (licensed from Orion), Tasmar (tolcapone), marketed by Valeant, and Stalevo (fixed combinations of entacapone and levodopa/carbidopa), also marketed by Novartis (licensed from Orion).

Comtan, Tasmar, and Stalevo are all generic in the United States. Currently, no treatments are approved for cognitive impairment in Parkinson's disease.

Our potential products for the treatment of ICDs would compete with the off-label use of SSRIs. In addition, the pure opioid antagonist, Revia (naltrexone) is approved for treating alcohol dependence and the blockage of the effects of exogenously administered opioids and is marketed by Teva Women's. The FDA has not approved specific medications in the treatment of ICDs; however, some medications have proven effective, including SSRI antidepressants.

CERC-406:

There are no approved treatments for cognitive impairment associated with MDD in the U.S. at this time. In March 2015, vortioxetine (Brintellix®), marketed by Takeda Pharmaceuticals, which was originally developed and commercialized for the treatment of MDD, received a positive opinion from the Committee for Medicinal Products for Human Use of the European Medicines Agency to expand the label to include cognitive function in patients with depression.

In addition, the companies described above and other competitors may have a variety of drugs in development or may be awaiting FDA approval that could reach the market and become established before we have a product to sell. Our competitors may also develop alternative therapies that could further limit the market for any drugs that we may develop. Many of our competitors are using technologies or methods different or similar to ours to identify and validate drug targets and to discover novel small compound drugs. Many of our competitors and their collaborators have significantly greater experience than we do in the following:

- identifying and validating targets;
- screening compounds against targets;
- preclinical and clinical trials of potential pharmaceutical products; and
- obtaining FDA and other regulatory clearances.

In addition, many of our competitors and their collaborators have substantially greater advantages in the following areas:

- capital resources;
- research and development resources;
- manufacturing capabilities; and
- sales and marketing.

Smaller companies may also prove to be significant competitors, particularly through proprietary research discoveries and collaborative arrangements with large pharmaceutical and established biotechnology companies. Many of our competitors have products that have been approved or are in advanced development. We face competition from other companies, academic institutions, governmental agencies and other public and private research organizations for collaborative arrangements with pharmaceutical and biotechnology companies, in recruiting and retaining highly qualified scientific and management personnel and for licenses to additional technologies. Our competitors, either alone or with their collaborators, may succeed in developing technologies or drugs that are more effective, safer, and more affordable or more easily administered than ours and may achieve patent protection or commercialize drugs sooner than us. Developments by others may render our product candidates or our technologies obsolete. Our failure to compete effectively could have a material adverse effect on our business.

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacture, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, import and export, pricing, and government contracting related to pharmaceutical products such as those we are developing. The processes for obtaining marketing approvals in the United States and in foreign countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

United States Government Regulation

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining marketing approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, or other actions, such as the FDA's delay in review of or refusal to approve pending NDA, withdrawal of an approval, imposition of a clinical hold or study termination, issuance of Warning Letters or Untitled Letters, mandated modifications to promotional materials or issuance of corrective information, requests for product recalls, consent decrees, corporate integrity agreements, deferred prosecution agreements, product seizures or detentions, refusal to allow product import or export, total or partial suspension of or restriction, or imposition of other requirements relating to production or distribution, injunctions, fines, debarment from government contracts and refusal of future orders under existing contracts, exclusion from participation in federal and state healthcare programs, FDA debarment, restitution, disgorgement or civil or criminal penalties, including fines and imprisonment.

The process required by the FDA before a new drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an IND which must become effective before human clinical trials may begin;
- approval by local or central independent institutional review boards, or IRB, before each clinical trial may be initiated;
- performance of human clinical trials, including adequate and well-controlled clinical trials, in accordance with good clinical practices, or GCP, and regulations to establish the safety and efficacy of the proposed drug product for each indication;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with current good manufacturing practice, or GMP, regulations and to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity, as well as satisfactory completion of an FDA inspection of selected clinical sites to determine GCP compliance; and
- FDA review and approval of the NDA.

Additionally, if a drug is considered a controlled substance, prior to the commencement of marketing, the DEA must also determine the controlled substance schedule, taking into account the recommendation of the FDA.

Preclinical Studies and IND Submission

Preclinical studies include laboratory evaluation of product chemistry, pharmacology, toxicity and formulation, as well as animal studies to assess potential safety and efficacy. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data and any available clinical data or literature, among other things, to the FDA as part of an IND. Some preclinical testing may continue even after the IND is submitted. Once the IND is submitted, the sponsor must wait 30 calendar days before initiating any clinical trials. During this time, among other things, the FDA has an opportunity to review the IND for safety to assure that research subjects will not be subjected to unreasonable risk. The FDA may raise concerns or questions related to one or more proposed clinical trials and place the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial, and review and approval by an IRB. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, the trial procedures, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated, and a statistical analysis plan. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, a central IRB or local IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must continue to oversee the clinical trial, including any changes, while it is being conducted. Information about certain clinical trials, including a description of the study and study results, must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their ClinicalTrials.gov website.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined. In Phase 1, the drug is initially introduced into healthy human subjects or subjects with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness. In Phase 2, the drug typically is administered through controlled studies to a limited subject population with the target disease or condition to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage. In Phase 3, the drug is administered to an expanded subject population, generally at geographically dispersed clinical trial sites, in two adequate and well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product.

The manufacture of investigational drugs for the conduct of human clinical trials is subject to GMP requirements. Investigational drugs and active pharmaceutical ingredients imported into the United States are also subject to regulation by the 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 FDCA.

Progress reports and other summary information detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk or the trial is not being conducted in accordance with the applicable regulatory requirements or the protocol. 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. 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. We may also suspend or terminate a clinical trial based on evolving business objectives and/or competitive climate.

Marketing Approval

Assuming successful completion of the required clinical testing, the results of the preclinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more indications. In most cases, the submission of an NDA is subject to a substantial application user fee. These 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. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has agreed to certain performance goals regarding the timing of its review of an application. The FDA aims to review 90% of all standard review applications within ten months of acceptance for filing and six months of acceptance for filing for priority review applications.

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.

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 ensure the benefits of the drug outweigh the risks. 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 conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are 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 substantive 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 FDCA, before approving a drug for which no active ingredient (including any ester or salt of active ingredients) has previously been approved by the FDA, the FDA must either refer that drug to an external advisory committee or provide in an action letter, a summary of the reasons why the 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 scientific experts, that reviews, evaluates and provides 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.

Before approving an NDA, the FDA will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with GMP requirements and adequate to assure consistent production of the product within required specifications by the manufacturer and all of its subcontractors and contract manufacturers. Additionally, before approving an NDA, the FDA will inspect one or more clinical trial sites to assure compliance with GCP regulations.

The testing and approval process for an NDA requires substantial time, effort and financial resources, and each may take several years to complete. Data obtained from preclinical and clinical testing are not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent marketing approval. The FDA may not grant approval of an NDA on a timely basis, or at all.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA and may require additional clinical or preclinical testing, or other information, in order for FDA to reconsider the application. The FDA has a review goal of completing its review of 90% of resubmissions within two to six months after receipt, depending on the type of information included. 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 conditions have been met to the FDA's satisfaction, the FDA may issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings or precautions be included in the product labeling, including a black boxed warning, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms under a REMS which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, certain circumstances may require FDA notification, review, or approval, as well as further testing. These may include some types of changes to the approved product, such as adding new indications, manufacturing changes, and additional labeling claims, or new safety information

Special FDA Expedited Review and Approval Programs

The FDA has various programs, including fast track designation, accelerated approval, 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 accelerated approval or priority review.

The FDA may give a priority review designation to drugs that are intended to treat serious conditions and provide significant improvements in the safety or effectiveness of the treatment, diagnosis, or prevention of serious conditions. A priority review means that the goal for the FDA is to review an 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.

In addition, products studied for their safety and effectiveness in treating serious or life-threatening illnesses or conditions and that fill an unmet medical need may be eligible for accelerated approval and may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require a sponsor of a drug receiving accelerated approval to perform post-marketing studies to verify and describe the predicted effect on irreversible morbidity or mortality or other clinical endpoints, and the drug may be subject to accelerated withdrawal procedures.

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 1 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, manufacturing, 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 or other labeling claims are subject to 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.

The FDA may impose a number of post-approval requirements as a condition of approval of an NDA. For example, the FDA may require post-marketing testing, including Phase 4 clinical trials and surveillance to further assess and monitor the product's safety and effectiveness after commercialization.

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 and list drugs manufactured at their facilities with the FDA. These facilities are further subject to periodic announced and unannounced inspections by the FDA and these state agencies for compliance with GMP and other regulatory requirements. Changes to the manufacturing process are strictly regulated and may require prior approval by the FDA or notification to the FDA before or after being implemented. FDA regulations also require investigation and correction of any deviations from GMP 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 GMP 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 becomes available in 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 Untitled Letters, holds or termination of post-approval clinical trials or FDA debarment;
- delay or refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- regulatory authority, including the FDA, issued safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings about such products;
- mandated modifications to promotional material or issuance of corrective information;

- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties, including imprisonment, disgorgement and restitution, as well as consent decrees, corporate integrity agreements, deferred prosecution agreements and exclusion from federal healthcare programs.

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, pharmaceutical companies are prohibited from marketing or promoting their drug products for uses outside of the approved indications in the approved prescribing information. The FDA and other agencies actively enforce the laws and regulations prohibiting the 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 criminal and civil penalties under the FDCA and False Claims Act, exclusion from participation in federal healthcare programs debarment from government contracts and refusal of future orders under existing contracts, and mandatory compliance programs under corporate integrity agreements or deferred prosecution agreements.

In addition, the distribution of prescription pharmaceutical products, including samples, is subject to the Prescription Drug Marketing Act, or PDMA, which, among other things, regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Moreover, the recently enacted Drug Quality and Security Act, imposes new obligations on manufacturers of pharmaceutical products related to product tracking and tracing. Among the requirements of this new legislation, manufacturers will be required to provide certain information regarding drug products to individuals and entities to which product ownership is transferred, label drug products with a product identifier, and keep certain records regarding drug products. The transfer of information to subsequent product owners by manufacturers will eventually be required to be done electronically. Manufacturers will also be required to verify that purchasers of the manufacturers' products are appropriately licensed. Further, under this new legislation, manufactures will have drug product investigation, quarantine, disposition, and FDA and trading partner notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products such that they would result in serious adverse health consequences or death, 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.

DEA Regulation

While we currently do not know whether any of our product candidates will be considered to be controlled substances, we will be required to evaluate the abuse potential of our product candidates. If any of our product candidates are considered controlled substances, we will need to comply with additional regulatory requirements.

Certain drug products may be regulated as "controlled substances" as defined in the Controlled Substances Act of 1970, or CSA, and the United States Drug Enforcement Administration's, or DEA's, implementing regulations. The DEA regulates controlled substances as Schedule I, II, III, IV or V substances. Schedule I substances by definition have no established medicinal use, and may not be marketed or sold in the United States. A pharmaceutical product may be listed as Schedule II, III, IV or V, with Schedule II substances considered to present the highest risk of abuse and Schedule V substances the lowest relative risk of abuse among such substances. FDA provides a recommendation to DEA as to whether a drug should be classified as a controlled substance and the appropriate level of control. If DEA scheduling is required, a drug product may not be marketed until the scheduling process is completed, which could delay the launch of the product.

Depending on the Schedule, drug products may be subject to registration, security, recordkeeping, reporting, storage, distribution, importation, exportation, inventory, quota and other requirements administered by the DEA, which are directly applicable to product applicants, contract manufacturers and to distributors, prescribers and dispensers of controlled substances. The DEA regulates the handling of controlled substances through a closed chain of distribution. This control extends to the equipment and raw materials used in their manufacture and packaging in order to prevent loss and diversion into illicit channels of commerce.

Annual registration is required for any facility that manufactures, distributes, dispenses, imports or exports any controlled substance. The registration is specific to the particular location, activity and controlled substance schedule. For example, separate registrations are needed for import and manufacturing, and each registration will specify which schedules of controlled substances are authorized. Similarly, separate registrations are also required for separate facilities.

The DEA typically inspects a facility to review its security measures prior to issuing a registration and on a periodic basis. Security requirements vary by controlled substance schedule, with the most stringent requirements applying to Schedule I and Schedule II substances. Records must be maintained for the handling of all controlled substances, and periodic reports may be required to made to the DEA for the distribution of certain controlled substances. Reports must also be made for thefts or significant losses of any controlled substance. To enforce these requirements, the DEA conducts periodic inspections of registered establishments that handle controlled substances. Failure to maintain compliance with applicable requirements, particularly as manifested in loss or diversion, can result in administrative, civil or criminal enforcement. The DEA may seek civil penalties, refuse to renew necessary registrations, or initiate administrative proceedings to revoke those registrations. In some circumstances, violations could result in criminal proceedings or consent decrees. Individual states also independently regulate controlled substances.

Federal and State Healthcare related, Fraud and Abuse and Data Privacy and Security Laws and Regulations

In addition to FDA restrictions on marketing of pharmaceutical products, federal and state fraud and abuse, and other laws regulations, and requirements restrict business practices in the biopharmaceutical industry. These laws include anti-kickback and false claims laws and regulations, state and federal transparency laws regarding payments or other items of value provided to health care professionals, as well as data privacy and security laws and regulations and other requirements applicable to the healthcare industry, including pharmaceutical manufacturers. There are also laws, regulations, and requirements applicable to the award and performance of federal contracts and grants.

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any 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 narrowly drawn. 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 meet the requirements of a statutory or regulatory exception or safe harbor. 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 statute has been violated.

The reach of the Anti Kickback Statute was also broadened by the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively Affordable Care Act, which, among other things, amended the intent requirement of the federal Anti Kickback Statute and certain provisions of the criminal health care fraud statute (discussed below) 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, Affordable Care Act provides that the government may assert that a claim for payment for items or services resulting from a violation of the federal Anti Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act. Penalties for violation of the Anti Kickback Statute include criminal fines, imprisonment, civil penalties and damages, exclusion from participation in federal healthcare programs and corporate integrity agreements or deferred prosecution agreements. Conviction or civil judgments are also grounds for debarment from government contracts.

The federal civil False Claims Act prohibits any person from knowingly presenting, or causing to be presented, a false claim for payment 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, including payments under a federal grant. A claim includes "any request or demand" for money or property presented to the United States government. The 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 sued under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Companies have also been sued for causing false claims to be submitted because of the companies' marketing of products for unapproved, or off-label, uses. In addition, federal health care 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 sued 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. Violations of the civil False Claims Act may result in civil penalties and damages as well as exclusion from federal healthcare programs and corporate integrity agreements or deferred prosecution agreements. 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. Violations of the criminal False Claims Act can result in criminal fines and/or imprisonment, as well as exclusion from participation in federal healthcare programs. Conviction or civil judgments and other conduct are also grounds for debarment from government contracts and grants.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, also created 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 payers, 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 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. As discussed above, Affordable Care Act amended the intent standard for certain of HIPAA's healthcare fraud provisions 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. Violations of HIPAA's fraud and abuse provisions may result in fines or imprisonment, as well as exclusion from participation in federal healthcare programs, depending on the conduct in question. 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 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 requires manufacturers of covered drugs to offer them for sale on the Federal Supply Schedule, which requires compliance with applicable federal procurement laws and regulations and subjects us to contractual remedies as well as administrative, civil and criminal sanctions.

In addition, there has been a recent trend of increased federal and state regulation of payments made to physicians and other health care providers. Affordable Care Act created new federal requirements for reporting, by applicable manufacturers of covered drugs, payments and other transfers of value to physicians and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers 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.

We may also 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 its implementing regulations, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information. Penalties for violating HIPAA include civil penalties, criminal penalties and imprisonment. Among other things, HITECH, through its implementing regulations, makes 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 on behalf of a covered entity for a function or activity regulated by HIPAA. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, 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, other federal and state laws govern the privacy and security of health and other information in certain circumstances, many of which differ from each other in significant ways and may not have the same requirements, thus complicating compliance efforts.

To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, 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 payers provide coverage for and establish adequate reimbursement levels for our therapeutic product candidates. In the United States, the European Union and other potentially significant markets for our product candidates, government authorities and third-party payers are increasingly imposing additional requirements and restrictions on coverage, attempting to limit reimbursement levels or regulate the price of drugs and other medical products and

services, particularly for new and innovative products and therapies, which often has resulted in average selling prices lower than they would otherwise be. For example, in the United States, federal and state governments reimburse covered prescription drugs at varying rates generally below average wholesale price. Federal programs also impose price controls through mandatory ceiling prices on purchases by federal agencies and federally funded hospitals and clinics and mandatory rebates on retail pharmacy prescriptions paid by Medicaid and Tricare. These restrictions and limitations influence the purchase of healthcare services and products. 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. Moreover, the Medicare and Medicaid programs increasingly are used as models for how private payers and other governmental payers develop their coverage and reimbursement policies.

In addition, 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 groups, competition within therapeutic classes, availability of generic equivalents, judicial decisions and governmental laws and regulations related to Medicare, Medicaid and healthcare reform, coverage and reimbursement policies and pricing in general. The cost containment measures that healthcare payers and providers are instituting and 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 third-party coverage or adequate reimbursement for our product candidates in whole or in part.

Impact of Healthcare Reform on Coverage, Reimbursement, and Pricing

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, imposed new requirements for the distribution and pricing of prescription drugs for Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription, pharmacy drugs pursuant to federal regulations. Part D plans include both standalone 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 any 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 payers 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 payers.

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 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

payers, 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. If third-party payers do not consider our product candidates to be cost-effective compared to other available therapies, they may not cover our product candidates, once approved, 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 to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payers 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 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, Affordable Care Act, which became law in March 2010 and substantially changes the way healthcare is financed by both governmental and private insurers. Among other cost containment measures, the Affordable Care Act establishes an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents; a new Medicare Part D coverage gap discount program; expansion of Medicaid benefits and a new formula that increases the rebates a manufacturer must pay under the Medicaid Drug Rebate Program; and expansion of the 340B drug discount program that mandates discounts to certain hospitals, community centers and other qualifying providers. 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.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act or 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 preclinical 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 does not indicate 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, a decision in the infringement case that is favorable to the ANDA applicant or other period determined by a court.

Hatch-Waxman Non-Patent Exclusivity

Market and data exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications for competing products. The FDCA provides a five-year period of non-patent data exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the therapeutic activity of the drug substance. During the exclusivity period, the FDA may not accept for review an ANDA or a 505(b)(2) NDA submitted by another company that contains the previously approved active moiety. However, an ANDA or 505(b)(2) NDA may be submitted after four years if it contains a certification of patent invalidity or non-infringement.

The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA, or supplement to an existing NDA or 505(b)(2) NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant, are deemed by the FDA to be essential to the approval of the application or supplement. Three-year exclusivity may be awarded for changes to a previously approved drug product, such as new indications, dosages, strengths or dosage forms of an existing drug. This three-year exclusivity covers only the conditions of 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 preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

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 exclusivity period 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.

Orphan Drug Designation and 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 affecting 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. Additionally, sponsors must present a plausible hypothesis for clinical superiority to obtain orphan designation if there is a drug already approved by the FDA that is intended for the same indication and that is considered by the FDA to be the same drug as the already approved drug. This hypothesis must be demonstrated to obtain orphan drug exclusivity. Orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical study costs, tax advantages, and user-fee waivers. In addition, if a product receives FDA approval for the indication for which it has orphan designation, the product is generally entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity. While we have not sought to obtain orphan drug designation for any of our products, we may in the future seek such designation if we determine that the relevant criteria are met.

Foreign Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products. For example, in the European Union, we must obtain authorization of a clinical trial application, or CTA, in each member state in which we intend to conduct a clinical trial. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country 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. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others.

European Union Drug Approval Process

To obtain a marketing authorization of a drug in the European Union, we may submit marketing authorization applications, or MAAs, either under the so-called centralized or national authorization procedures.

Centralized procedure

The centralized procedure provides for the grant of a single marketing authorization following a favorable opinion by the European Medicines Agency or EMA that is valid in all European Union member states, as well as Iceland, Liechtenstein and Norway. The centralized procedure is compulsory for medicines produced by specified biotechnological processes, products designated as orphan medicinal products, and products with a new active substance indicated for the treatment of specified diseases, such as HIV/AIDS, cancer, diabetes, neurodegenerative disorders or autoimmune diseases and other immune dysfunctions. The centralized procedure is optional for products that represent a significant therapeutic, scientific or technical innovation, or whose authorization would be in the interest of public health. Under the centralized procedure the maximum timeframe for the evaluation of an MAA by the EMA is 210 days, excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the Committee of Medicinal Products for Human Use, or the CHMP. Accelerated assessment might be granted by the CHMP in exceptional cases, when a medicinal product is expected to be of a major public health interest, particularly from the point of view of therapeutic innovation. The timeframe for the evaluation of an MAA under the accelerated assessment procedure is of 150 days, excluding stop-clocks.

National authorization procedures

There are also two other possible routes to authorize medicinal products in several European Union countries, which are available for investigational medicinal products that fall outside the scope of the centralized procedure:

- **Decentralized procedure.** Using the decentralized procedure, an applicant may apply for simultaneous authorization in more than one European Union country of medicinal products that have not yet been authorized in any European Union country and that do not fall within the mandatory scope of the centralized procedure.

- **Mutual recognition procedure.** In the mutual recognition procedure, a medicine is first authorized in one European Union Member State, in accordance with the national procedures of that country. Following this, further marketing authorizations can be sought from other European Union countries in a procedure whereby the countries concerned agree to recognize the validity of the original, national marketing authorization.

In the European Union, new products authorized for marketing (i.e., reference products) qualify for eight years of data exclusivity and an additional two years of market exclusivity upon marketing authorization. The data exclusivity period prevents generic applicants from relying on the preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic marketing authorization in the EU during a period of eight years from the data on which the reference product was first authorized in the EU. The market exclusivity period prevents a successful generic applicant from commercializing its product in the EU until ten years have elapsed from the initial authorization of the reference product in the EU. The ten-year market exclusivity period can be extended to a maximum of eleven years if, during the first eight years of those ten years, the marketing authorization holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies.

Legal Proceedings

We are not currently a party to any material legal proceedings.

Facilities

Our headquarters are located in Baltimore, Maryland, where we occupy approximately 6,000 square feet of administrative office space. The term of the lease expires January 31, 2019. We have the ability and may expand this office space based on company's growth and employee head-count.

Employees

As of March 31, 2015, we had 12 full-time employees, six of whom were primarily engaged in research and development activities and three of whom had an M.D. and/or Ph.D. degree. None of our employees is represented by a labor union or covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

MANAGEMENT

The following table sets forth the name, age and position of each of our officers and directors.

Name	Age	Position
Blake M. Paterson, M.D.	58	Chief Executive Officer, President and Director
Bernadine Heather Fraser	46	Vice President, Clinical Operations and Project Management
John J. Kaiser	59	Chief Commercial Officer
M. James Barrett, Ph.D.(2)	71	Director
Eugene A. Bauer, M.D.(2)	72	Director
Isaac Blech(2)	65	Vice Chairman of the Board of Directors
Phil Gutry(2)	41	Director
Magnus Persson, M.D., Ph.D.(1)	54	Director
Behshad Sheldon	51	Director
Mayukh Sukhatme, M.D.(1)(2)	39	Director
Frank Torti, M.D.(1)	36	Director

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

(3) Appointed as a member of the Nominating and Corporate Governance Committee, effective upon the closing of this offering.

Blake M. Paterson, M.D. Dr. Paterson is one of our founders and has served as our Chief Executive Officer, President and a member of our board of directors since May 2011. Prior to joining our company, Dr. Paterson founded Fells Laboratories LLC, a biotechnology company, where he served as Managing Director from January 2011 through May 2011. Since March 2011, Dr. Paterson has served as a part-time faculty member at the Johns Hopkins School of Medicine in the Division of Neuroanesthesia and Neurological Critical Care in the Department of Anesthesia and Critical Care Medicine. From April 2008 through April 2011, Dr. Paterson owned and operated NRZ Consulting LLC, a translational medicine consulting firm. From February 2004 until March 2008, Dr. Paterson served as the Chief Executive Officer and President for Alba Therapeutics Corporation, or Alba Therapeutics, a clinical-stage biopharmaceutical company. He also served on Alba Therapeutics' board of directors during that time. Prior to founding Alba, Dr. Paterson served in various executive positions at Eli Lilly & Company, or Eli Lilly. Prior to joining Eli Lilly, Dr. Paterson was employed by Parke-Davis Pharmaceutical Research. Dr. Paterson received his B.S. in Engineering from Tufts University and his M.D. from the University of Vermont. Our board of directors believes that Dr. Paterson's intimate knowledge of our company, by virtue of his service as our founder and Chief Executive Officer, and his extensive biopharmaceutical industry experience, provides him with the operational expertise, breadth of knowledge and valuable understanding of our industry qualifies him to serve on our board of directors.

Bernadine Heather Fraser, Ph.D. Dr. Fraser has served as our Vice President, Clinical Operations and Project Management since October 2012 and Senior Director of Project Management from March 2012 through October 2012. Prior to joining our company, Dr. Fraser served as the Senior Director of Preclinical and Clinical Sciences at Anthera Pharmaceuticals Inc., a biopharmaceutical company, from October 2006 through March 2012. She served in a variety of roles at CV Therapeutics, Inc., a biopharmaceutical company, which was acquired by Gilead Sciences, Inc. in 2009, from June 2000 through October 2006. Dr. Fraser received her B.S. in Zoology from the University of British Columbia, her M.S. in Pharmaceutical Sciences from the University of Montana and her Ph.D. in Pharmacology from the University of Alberta. She has also completed a post-doctoral fellowship at the Johns Hopkins University School of Medicine.

John J. Kaiser. Mr. Kaiser has served as our Chief Commercial Officer since February 2014 and as our Vice President, Commercialization and Business Development from October 2012 to February 2014. Prior to joining our company, Mr. Kaiser served as Senior Director of Business Development & New Ventures of MedAvante, Inc., a global provider of centralized expert psychiatric and neurocognition rating and monitoring services to the pharmaceutical, biotechnology and medical device industries, from July 2011 to September 2012. Mr. Kaiser also founded Denysias Bioscience, LLC, a biopharmaceutical company focused on developing new therapies for neuropsychiatric disorders, where he served as Chief Executive Officer from February 2010 through June 2012. Mr. Kaiser has served as President of Kaiser & Associates Consulting, a boutique consulting firm providing expertise to the biopharmaceutical industry, since November 2009. From February 2008 through November 2009, Mr. Kaiser served as Vice President of Commercial and Business Development at ACADIA Pharmaceuticals Inc., or ACADIA, a specialty pharmaceutical company. Prior to ACADIA, from February 1980 to January 2008, Mr. Kaiser held positions of increasing responsibility at Eli Lilly. Mr. Kaiser received his B.S. in Pharmaceutical Sciences from the James L. Winkle College of Pharmacy at the University of Cincinnati.

M. James Barrett, Ph.D. Dr. Barrett has served on our board of directors since July 2014. Dr. Barrett currently serves as a General Partner of New Enterprise Associates, Inc., or NEA, a venture capital firm, since 2001 where he specializes in biotechnology companies. In 1997, Dr. Barrett founded Sensors for Medicine and Science, Inc., now called Senseonics, Incorporated, or Senseonics, a medical device company, and served as its Chairman and Chief Executive Officer until he joined NEA in 2001. Prior to 1997, Dr. Barrett served as the Chief Executive Officer of three different NEA-funded companies, including Genetic Therapy, Inc., Life Technologies, Inc. and Bethesda Research Labs. Dr. Barrett currently serves on the board of directors of Clovis Oncology, Inc., GlycoMimetics, Inc., Loxo Oncology, Inc., Roka Bioscience, Inc., Supernus Pharmaceuticals, Inc. and Zosano Pharma, Inc. and numerous privately held companies. Dr. Barrett formerly served on the board of directors of CoGenesys Inc., which was acquired by Teva Pharmaceutical Industries in 2008, Iomai Corporation, which was acquired by Intercell AG in 2008, MedImmune, Inc., which was acquired by AstraZeneca plc in 2007, Pharmion Corp., which was acquired by Celgene in 2007, Inhibitex, Inc., which was acquired by Bristol-Myers Squibb Company, or Bristol-Myers, in 2012, Targacept, Inc. and Peptimmune, Inc. Dr. Barrett received his B.S. in Chemistry from Boston College, his Ph.D in Biochemistry from the University of Tennessee and his M.B.A. from the University of Santa Clara. Our board of directors believes that Dr. Barrett's experience overseeing NEA's investments in biotechnology companies, serving as a member of the board of directors of other public companies, prior senior management experience at biopharmaceutical companies and strong capital markets experience give him the qualifications, skills and financial expertise to serve as a valuable member of our board of directors.

Eugene A. Bauer, M.D. Dr. Bauer has served on our board of directors since May 2011. Dr. Bauer also co-founded and has served as the Chief Medical Officer and a member of the board of directors of Skintelligence, Inc, now called Dermira, Inc., a dermatology company in the San Francisco Bay Area, since June 2010. Dr. Bauer has also served on the board of directors of Medgenics since March 2001. Dr. Bauer served as the President and Chief Medical Officer of Peplin, Inc., or Peplin, a development-stage dermatology company, from June 2008 through June 2010. Peplin, was acquired by LEO-Pharma in November 2009. Dr. Bauer continued as a consultant with Peplin through June 2010. Dr. Bauer served as the Chief Executive Officer of Neosil, Inc., a development-stage dermatology pharmaceutical company, from 2004 through 2008. Since 2002, Dr. Bauer has served as a Professor (Emeritus) in the School of Medicine at Stanford University. He received his B.S. in Medicine and his M.D. from Northwestern University. Our board of directors believes that Dr. Bauer's strong background of service on the boards of directors of numerous public pharmaceutical companies and his vast industry experience make him a valuable member of our board of directors.

Isaac Blech. Mr. Blech has served on our board of directors since March 2011 and as Vice Chairman of our board of directors since March 2012. Until March 2011, Mr. Blech was retired. Mr. Blech currently serves on a variety of boards of directors. Mr. Blech has served on the board of ContraFect Corporation, a biotechnology company, since August 2011 and Medgenics since May 2011. Mr. Blech has served as Vice Chairman of Edge Therapeutics, Inc. since January 2013, Centrexion Corp, a biotechnology company, since February 2013 and RestorGenex since November 2013. He has also served on the board of The SpendSmart Payments Company, or SpendSmart, an online and retail payment company, since March 2011 and as Vice Chairman since November 2011. Mr. Blech has served on the board of Premier Alliance Group, Inc., or Premier Alliance, an advisory, consulting and resource service company, since June 2011 and as Vice Chairman since May 2012. Prior to joining our board of directors, Mr. Blech played a role in establishing some of the leading biotechnology companies including Celgene, ICOS Corporation, Pathogenesis Corporation, Nova Pharmaceutical Corporation and Genetic Systems Corporation. Mr. Blech received his B.A. in Medicine from Baruch College. Our board of directors believes that Mr. Blech's experience as a director of several biotechnology and pharmaceutical companies and his experience as a director of a public biopharmaceutical company gives him the qualifications, skills and financial expertise to serve on our board of directors.

Phil Gutry. Mr. Gutry has served on our board of directors since April 2015. Since May, 2011, Mr. Gutry has served as a Principal of MPM Capital, Inc., or MPM, a venture capital firm with a focus on the life sciences industry. Prior to joining MPM, Mr. Gutry worked in the Corporate Development Group at Gilead Sciences, Inc., a research-based biopharmaceutical company, for approximately five years. Mr. Gutry previously worked at Riverside Partners, LLC, a healthcare focused private equity investment firm, and at The Wilkerson Group. Mr. Gutry currently serves on the board of directors of Potenza Therapeutics, Inc. and Amphivena Therapeutics, Inc. Mr. Gutry received his A.B. in Earth Sciences from Dartmouth College and an M.B.A. in Healthcare Management from The Wharton School. Our board of directors believes that Mr. Gutry's experience in the biopharmaceutical industry and in venture capital makes him a valuable member of our board of directors.

Magnus Persson, M.D., Ph.D. Dr. Persson has served on our board of directors since August 2012. Since September 2013, Dr. Persson has served as a Director at Scandinavian Node InnoLIFE at the Karolinksa Institutet in Stockholm, Sweden, where he has also served as an Associate Professor in Physiology since September 1994. Dr. Persson has served as a practicing pediatrician at CityAkuten in Stockholm, Sweden since December 2012. He is also currently the Chief Executive Officer of C10Pharma AS in Oslo, Norway, a preclinical-stage pharmaceutical company, a position he has held since December 2012. Prior to joining our board of directors, Dr. Persson served as a Partner at HealthCap, a Swedish-based venture capital firm, from January 2008 through December 2009, and as a Managing Partner at The Column Group, a San Francisco-based venture capital firm, from January 2010 through November 2011. From November 2011 until September 2013, Dr. Persson was a Physician at Stockholms Läns Landsting in Stockholm, Sweden. Dr. Persson founded Aerocrine AB, a medical technology company in 1994. Dr. Persson has also served on the boards of Contera AS, a biotechnology company, since December 2011, Karolinska Institutet Innovations AB, a technology transfer company, since December 2011, Galecto AB, a biotechnology company, since January 2013, AscendxSpine Inc., a medical device company, since December 2012, BioWorks AB, a laboratory equipment company, since July 2013 and SLS Ventures AB, a life science venture capital firm since March 2012. Dr. Persson received his M.D. and Ph.D. in physiology from Karolinska Institutet. Our board of directors believes that Dr. Persson's extensive experience in medicine, life sciences and biotechnology financing and his experience founding and leading private as well as public biotechnology and medical technology companies make him a valuable member of our board of directors who will assist in the development of our growth strategy and business plans.

Behshad Sheldon. Ms. Sheldon has served on our board of directors since July 2014. Ms. Sheldon currently serves as the President and Chief Executive Officer of Braeburn Pharmaceuticals, Inc., or Braeburn, a biopharmaceutical company focusing on developing and commercializing products for neurological and psychiatric disorders. Prior to joining Braeburn in September of 2012, Ms. Sheldon served in a variety of roles over a 10 year period at Otsuka Pharmaceutical Co., Ltd., or Otsuka, with her most recent position being Senior Vice President, Patient & Branding Strategy and a member of the board of directors of Otsuka's research and development organization. Prior to Otsuka, Ms. Sheldon held positions with increasing responsibility at SmithKline Beecham Corporation and Bristol-Myers for over 16 years. Ms. Sheldon received her B.S. degree in Neuroscience from the University of Rochester. With more than 27 years of pharmaceutical industry experience, our board of directors believes Ms. Sheldon's extensive expertise in pharmaceutical product development, commercialization and marketing and track record of producing blockbusters such as Abilify, Plavix and Glucophage, gives her the qualifications and skills to serve on our board of directors.

Mayukh Sukhatme, M.D. Dr. Sukhatme has served on our board of directors since July 2014. Dr. Sukhatme currently serves as a Partner of Apple Tree Partners IV, L.P., a position he has held since December 2013. Prior to joining Apple Tree Partners, Dr. Sukhatme served as Managing Director for Global Healthcare at Hutchin Hill Capital, a multistrategy fund based in New York from September 2010 to December 2013. Dr. Sukhatme served as Portfolio Manager for Sio Capital from July 2009 to September 2010. Dr. Sukhatme received his M.D. from Harvard Medical School and his B.S. in Biology and Literature from Massachusetts Institute of Technology. Our board of directors believes that Dr. Sukhatme's various positions in organizations that provide capital to biotechnological and biopharmaceutical companies make him a valuable member of our board of directors who will assist in the development of our growth strategy and business plans.

Frank Torti, M.D. Dr. Torti has served on our board of directors since July 2014. Mr. Torti currently serves as a Partner of NEA. Prior to joining NEA in 2007, Dr. Torti worked for the Duke University Center for Clinical & Genetic Economics, where he was involved in clinical trials research and economic evaluations of multinational clinical trials. Dr. Torti's experience also includes public market investing at Wasatch Advisors and business development work with the consumer-directed healthcare startup Revolution Health Group LLC. Mr. Torti is currently a member of the board of directors of Galera Therapeutics Inc. and Neotract Inc. Mr. Torti received his M.D. from the University of North Carolina School of Medicine, his M.B.A. from Harvard Business School, and his B.A. from the University of North Carolina. Our board of directors believes that Dr. Torti's extensive experience in medicine and life sciences financing, as well as his clinical trial background, provides him with the qualifications, skills and expertise to serve on our board of directors.

Board Composition and Election of Directors

Board Composition

Our business and affairs are organized under the direction of our board of directors, which currently consists of seven directors. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal. The primary responsibilities of our board of directors are to provide oversight, strategic guidance, counseling and direction to our management. Our board of directors meets on a regular basis and additionally as required. Immediately prior to the closing of this offering, we will amend and restate our bylaws, which will provide that our board of directors should consist of not more than 15 members and that the size of our board of directors will be determined from time to time by resolution of our board of directors. All of our directors are elected annually for a one-year term until the next annual meeting of stockholders.

We have no formal policy regarding board diversity. Our priority in selection of board members is identification of members who will further the interests of our stockholders through his or her

established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business and understanding of the competitive landscape.

Director Independence

Rule 5605 of the NASDAQ Marketplace Rules, or the NASDAQ Listing Rules, requires that a company listing in connection with its initial public offering must meet the following requirements (1) for its audit, compensation and nominating committees, (a) one member satisfying the independence requirements applicable to such committees described below at the time of listing, (b) a majority of members satisfying such requirements within 90 days of listing, and (c) all members satisfying such requirements within one year of listing; and (2) independent directors compose a majority of the listed company's board of directors within one year of listing. In addition, the NASDAQ Listing Rules require that, subject to specified exceptions, each member of a listed company's audit committee, compensation committee, and nominating committee (to the extent that the listed company select or recommend director nominees through a nominating committee instead of independent directors constituting a majority of the board of directors' independent directors), be independent and that audit committee members and compensation committee members also satisfy additional independence criteria. Under NASDAQ Listing Rule 5605(a)(2), a director will only qualify as an "independent director" if the person meets the independence criteria listed therein and, in the opinion of our board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Under NASDAQ Listing Rule 5605(c)(2), audit committee members must also meet the independence criteria set forth in Rule 10A 3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, under which a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors or any other board committee: (1) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries; or (2) be an affiliated person of the listed company or any of its subsidiaries. Under NASDAQ Listing Rule 5605(d)(2), members of the compensation committee must also satisfy additional independence requirements: under which the board of directors of the listed company must consider, in affirmatively determining the independence of a director who will serve on the compensation committee, all factors specifically relevant to determining whether a director has a relationship to the listed company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to, the source of compensation of such director, including any consulting, advisory or other compensatory fee from the listed company, and whether the compensation committee member is affiliated with the listed company, any of its subsidiaries or an affiliate of a subsidiary of the listed company.

In , our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family and other relationships, including those relationships described under "Transactions with Related Persons," our board of directors determined that each of our directors, with the exception of Dr. Paterson, is an "independent director" as that term is defined under Rule 5605(a)(2) of the NASDAQ Listing Rules. Dr. Paterson is not considered independent because he currently serves as our President and Chief Executive Officer. Our board of directors also determined that each member of the audit, compensation and nominating and corporate governance committees satisfies the independence standards for such committees established by the SEC and the NASDAQ Listing Rules. In making these determinations regarding the independence of our directors, our board of directors considered the relationships that each such non-employee director has with our company and all other

facts and circumstances our board of directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director.

Board Leadership Structure and the Role of the Board in Risk Oversight

Board Leadership Structure

The positions of our chairman of the board of directors and chief executive officer are separated. Separating these positions allows our chief executive officer to focus on our day-to-day business, while allowing the chairman of the board of directors to lead our board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort and energy that the chief executive officer must devote to his position in the current business environment, as well as the commitment required to serve as our chairman of the board of directors, particularly as our board of directors' oversight responsibilities continue to grow. Our board of directors also believes that this structure ensures a greater role for the independent directors in the oversight of the company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of our board of directors.

Although our amended and restated bylaws that will be in effect immediately prior to the closing of this offering will not require that we separate the chairman of the board of directors and chief executive officer positions, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time. Our board recognizes that depending on the circumstances, other leadership models, such as combining the role of chairman of the board of directors with the role of chief executive officer, might be appropriate. Accordingly, our board may periodically review its leadership structure. Our board of directors believes its administration of its risk oversight function has not affected its leadership structure.

Our independent directors will meet alone in an executive session at no less than four regular meetings of our board of directors each year. The chairman of our board may call additional executive sessions of the independent directors at any time, and the chairman of our board shall call an executive session at the request of a majority of the independent directors. The purpose of these executive sessions is to promote open and candid discussion among non-employee directors.

Role of the Board in Risk Oversight

We face a number of risks, including those described under the caption "Risk Factors" contained elsewhere in this prospectus. Our board of directors believes that risk management is an important part of establishing, updating and executing the company's business strategy. Our board of directors, as a whole and at the committee level, has oversight responsibility relating to risks that could affect the corporate strategy, business objectives, compliance, operations, and the financial condition and performance of the company. Our board of directors focuses its oversight on the most significant risks facing the company and on its processes to identify, prioritize, assess, manage and mitigate those risks. Our board of directors and its committees receive regular reports from members of the company's senior management on areas of material risk to the company, including strategic, operational, financial, legal and regulatory risks. While our board of directors has an oversight role, management is principally tasked with direct responsibility for management and assessment of risks and the implementation of processes and controls to mitigate their effects on the company.

The audit committee, as part of its responsibilities, oversees the management of financial risks, including accounting matters, liquidity and credit risks, corporate tax positions, insurance coverage, and cash investment strategy and results. The audit committee is also responsible for overseeing the management of risks relating to the performance of the company's internal audit function, if required, and its independent registered public accounting firm, as well as our systems of internal controls and disclosure controls and procedures. The compensation committee is responsible for overseeing the

management of risks relating to our executive compensation and overall compensation and benefit strategies, plans, arrangements, practices and policies. The nominating and corporate governance committee oversees the management of risks associated with our overall compliance and corporate governance practices, and the independence and composition of our board of directors. These committees provide regular reports, on at least a quarterly basis, to the full board of directors.

Committees of the Board

Our board of directors has established a standing audit committee and compensation committee, and upon the closing of this offering, we will establish a nominating and corporate governance committee. The composition and responsibilities of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our board.

Audit Committee

The audit committee is responsible for assisting our board of directors in its oversight of the integrity of our financial statements, the qualifications and independence of our independent auditors, and our internal financial and accounting controls. The audit committee has direct responsibility for the appointment, compensation, retention (including termination) and oversight of our independent auditors, and our independent auditors report directly to the audit committee. The audit committee also prepares the audit committee report that the SEC requires to be included in our annual proxy statement.

The members of the audit committee are Dr. Persson, Dr. Sukhatme and Dr. Torti. Dr. Torti serves as chair of the audit committee. Each member of the audit committee qualifies as an independent director under the corporate governance standards of the NASDAQ Listing Rules and the independence requirements of Rule 10A-3 of the Exchange Act. Our board of directors has determined that qualifies as an "audit committee financial expert" as such term is currently defined in Item 407(d)(5) of Regulation S-K and meets the financial sophistication requirements of the NASDAQ Listing Rules. The audit committee will adopt a written charter that satisfies the applicable standards of the SEC and the NASDAQ Listing Rules, which we will post on our website upon the closing of this offering.

Compensation Committee

The compensation committee approves the compensation objectives for the company, approves the compensation of the chief executive officer and approves or recommends to our board of directors for approval the compensation of other executives. The compensation committee reviews all compensation components, including base salary, bonus, benefits and other perquisites.

The members of the compensation committee are Dr. Barrett, Dr. Bauer, Mr. Blech, Mr. Gutry and Dr. Sukhatme. Dr. Bauer serves as chair of the compensation committee. Each member of the compensation committee is a non-employee director within the meaning of Rule 16b-3 of the rules promulgated under the Exchange Act, each is an outside director as defined by Section 162(m) of the United States Internal Revenue Code of 1986, as amended, or the Code, and each is an independent director as defined by the NASDAQ Listing Rules, including NASDAQ Listing Rule 5605(d)(2). The compensation committee will adopted a written charter that satisfies the applicable standards of the SEC and the NASDAQ Listing Rules, which we will post on our website upon the closing of this offering.

Nominating and Corporate Governance Committee

Upon the closing of this offering, the nominating and corporate governance committee will be responsible for making recommendations to our board of directors regarding candidates for

directorships and the structure and composition of our board and the board committees. In addition, the nominating and corporate governance committee will be responsible for developing and recommending to our board corporate governance guidelines applicable to the company and advising our board on corporate governance matters.

We expect that the members of the nominating and corporate governance committee will be and will serve as chair of the nominating and corporate governance committee. Each member of the nominating and corporate governance committee will be an independent director as defined by the NASDAQ Listing Rules. The nominating and corporate governance committee will adopt a written charter that satisfies the applicable standards of the NASDAQ Listing Rules effective upon the closing of this offering and which we will post on our website upon the closing of this offering.

Code of Business Conduct and Ethics

We will adopt a code of business conduct and ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. Upon the closing of this offering, we will post the code of business conduct and ethics on our website. We intend to disclose future amendments to the code or any waivers of its requirements on our website to the extent permitted by the applicable rules and Exchange Act requirements.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee has ever been an officer or employee of the company. None of our executive officers serves, or has served since inception, as a member of the board of directors, compensation committee or other board committee performing equivalent functions of any entity that has one or more executive officers serving as one of our directors or on our compensation committee.

EXECUTIVE COMPENSATION

This section discusses the material components of the executive compensation program for our executive officers who are named in the "Summary Compensation Table" below. In 2014, our chief executive officer and our two other highest-paid executive officers, or our named executive officers, were as follows:

- Blake M. Paterson, M.D., President and Chief Executive Officer
- James Vornov, M.D., Ph.D., Chief Medical Officer (Dr. Vornov's employment with the company ended on January 9, 2015)
- John Kaiser, Chief Commercial Officer

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the closing of this offering may differ materially from the currently planned programs summarized in this discussion.

Summary Compensation Table

The following table sets forth information for the years ended December 31, 2013 and 2014, regarding compensation awarded to or earned by our named executive officers.

Name and Principal Position	Year	Salary ($)	Bonus ($)(1)	Option Awards ($)(2)	All Other Compensation ($)(3)	Total ($)
Blake M. Paterson, M.D.	2014	390,000	199,063	96,793	218	686,074
President and Chief Executive Officer	2013	325,000	—	—	218	325,218
James Vornov, M.D., Ph.D.	2014	315,000	131,250	38,115	218	484,583
Chief Medical Officer(4)	2013	300,000	—	—	218	300,218
John Kaiser	2014	290,700	116,494	45,738	218	453,150
Chief Commercial Officer	2013	285,000	—	40,360	129,381	454,741

(1) Each of our named executive officers received a one-time bonus in connection with the issuance of the Series B convertible preferred stock pursuant to the terms of a letter agreement entered between the company and each named executive officer.

(2) The amounts reflect the grant date fair value for option awards granted during 2013 and 2014 in accordance with FASB Topic ASC 718. Compensation will only be realized to the extent the market price of our common stock is greater than the exercise price of such option award. For a detailed description of the assumptions used for purposes of determining the grant date fair value, see Note 11 to the financial statements included elsewhere in this prospectus.

(3) Amount represents the premium amount paid by us for life insurance for each of our named executive officers. For Mr. Kaiser, for the 2013 fiscal year, the amount also consists of a reimbursement of Mr. Kaiser's temporary living expenses for up to six months totaling an aggregate amount of $29,163 and a one time relocation bonus of $100,000.

(4) Dr. Vornov's employment with the company ended on January 9, 2015.

Narrative to Summary Compensation Table

We review compensation annually for all employees, including our executives. In setting executive base salaries and bonuses and granting equity incentive awards, we consider compensation for comparable positions in the market, individual performance as compared to our expectations and

objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our stockholders, and a long-term commitment to our company.

Our board of directors has historically determined our executives' compensation. Our compensation committee typically reviews and discusses management's proposed compensation with the chief executive officer for all executives other than the chief executive officer. Based on those discussions and its discretion, the compensation committee then recommends the compensation for each executive officer. Our board of directors, without members of management present, discusses the compensation committee's recommendations and ultimately approves the compensation of our executive officers. To date, our compensation committee has used Radford data, with or without a compensation consultant from Radford, for privately held, similarly sized, biotech companies for purposes of determining executive compensation. The compensation committee has used the 50th percentile for bonus and the 75th percentile for equity for the 2013 fiscal year and there were no changes made for the 2014 fiscal year. Prior to the closing of this offering, we expect to engage a compensation consultant to assist us in determining appropriate compensation as a public company.

Annual Base Salary

The following table presents the base salaries for each of our named executive officers for the 2014 and 2015 fiscal years.

Name	2014 Base Salary ($)	2015 Base Salary ($)(1)
Blake M. Paterson, M.D.	390,000	390,000
James Vornov, M.D., Ph.D.(1)	315,000	315,000
John Kaiser	290,700	290,700

(1) Dr. Vornov's employment with the company ended on January 9, 2015.

Annual Bonus

Our discretionary bonus plan motivates and rewards our executives for achievements relative to our goals and expectations for each fiscal year. None of our named executive officers received a bonus relative to achievement of goals for the 2014 fiscal year, although our executives did receive a bonus during the 2014 fiscal year following the issuance of our Series B convertible preferred stock for foregoing salary prior to the consummation of the issuance.

Long-Term Incentives

Our 2011 Stock Incentive Plan authorizes us to make grants to eligible recipients of non-qualified stock options, incentive stock options, restricted stock awards, restricted stock units and other forms of awards, such as stock appreciation rights. While we have made restricted stock awards to our executive officers in the past, our equity grants during 2014 to our executive officers were only in the form of stock options.

Other Compensation

All amounts shown in the "All Other Compensation" column in the Summary Compensation Table relate to premiums paid by us for life insurance policies for Mr. Paterson, Mr. Vornov and Mr. Kaiser.

Employment Arrangements

Please see "—Offer Letters" for information regarding the employment and severance agreements for each of our named executive officers.

Outstanding Equity Awards at 2014 Fiscal Year End Table

The following table presents information regarding all outstanding stock options held by each of our named executive officers on December 31, 2014.

Name	Grant Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price	Option Expiration Date
Blake Paterson	5/8/2012	2,000,000	1,000,000(1)	$ 0.31	2/28/2022
	7/10/2014	1,521,897	—(2)	$ 0.60	2/28/2024
James Vornov	11/9/2012	266,667	133,333(3)	$ 0.31	10/31/2022
	7/10/2014	450,000	—(2)	$ 0.36	2/28/2024
John J. Kaiser	11/9/2012	266,667	133,333(3)	$ 0.31	10/31/2022
	8/29/2013	66,667	133,333(4)	$ 0.32	5/31/2023
	7/10/2014	540,000	—(2)	$ 0.36	2/28/2024

(1) Such stock option vests in four equal annual installments on each February 24 occurring in 2012, 2013, 2014 and 2015.

(2) Such stock options were fully vested on the date of grant.

(3) Such stock option vests in four equal annual installments on each October 15 occurring in 2012, 2013, 2014 and 2015. The shares of our common stock underlying such stock option were forfeited in connection with Dr. Vornov's resignation.

(4) Such stock option vests in four equal annual installments on each May 6 occurring in 2013, 2014, 2015 and 2016.

Offer Letters

Blake M. Paterson, M.D.

Dr. Paterson entered into an offer letter with the company effective May 1, 2011. The offer letter provides for an annual base salary of $250,000, with an automatic increase to $275,000, effective May 1, 2012, and another automatic increase to $300,000, effective May 1, 2013. Dr. Paterson's annual base salary may be further increased from time to time. Dr. Paterson's base salary as of December 31, 2014 was $ 390,000. Upon execution of the offer letter, Dr. Paterson was entitled to receive a $100,000 signing bonus. In addition, Dr. Paterson is eligible to receive a discretionary annual bonus as determined by our board of directors or the compensation committee of the board, referred to the compensation committee, in its sole discretion, provided that Dr. Paterson is employed by the company on the applicable bonus payment date. Such annual discretionary bonus may be paid in the form of cash or equity awards, consistent with bonuses paid to chief executive officers of similarly situated companies in the biotechnology industry, subject to corporate and individual performance. The offer letter provides that Dr. Paterson agreed to purchase 3,000,000 shares of restricted common stock, which restricted stock was subject to vesting as to one third of the shares on May 1 of each of 2012, 2013 and 2014, subject to Dr. Paterson's continued employment on the applicable vesting dates and the terms of the 2011 Stock Incentive Plan. However, in September 2011, the restrictions were modified so that all of the shares vested at that time.

Pursuant to the terms of Dr. Paterson's offer letter, if Dr. Paterson's employment is terminated for any reason, then the company will pay Dr. Paterson his base salary, bonus and expenses accrued, but unpaid as of the date of his termination, and any benefits accrued and due under any applicable benefit plans and programs of the company.

If Dr. Paterson's employment is terminated on account of his death or disability, and provided that Dr. Paterson complies with the restrictive covenants set forth in the offer letter and executes and does not revoke a release of claims in favor of the company in the case of termination on account of disability, he will be entitled to a pro rata average bonus, which for purposes of the offer letter means the average of the annual full-year cash bonuses he received from the company for the three completed calendar years prior to termination (or fewer full year periods if the employment term is less than three years, with 2011 being deemed a full year of service and any prorated bonus paid for 2011 being adjusted upward for the full year for purposes of such calculation), prorated for the portion of the year in which such termination occurred, paid over 12 equal monthly installments.

If Dr. Paterson's employment is terminated by the company without cause or by Dr. Paterson for good reason, provided he complies with the restrictive covenants set forth in the offer letter and executes and does not revoke a release of claims in favor of the company, Dr. Paterson is entitled to an amount equal to the sum of (i) 12 months of his then-current base salary and (ii) a pro rata average bonus, payable in 12 equal monthly installments. In addition, Dr. Paterson is entitled to company-paid COBRA premiums for 12 months or until he is eligible for substantially equal coverage, and full vesting of the restricted stock award purchased in connection with his commencement of employment and any future stock option or stock award.

The offer letter provides that at all times during Dr. Paterson's employment and thereafter, Dr. Paterson will maintain the confidentiality of all confidential information obtained by him as a result of his employment with the company, assign all inventions and not disparage the company or any of its officers, directors, employees, shareholders or products. In addition, during the term of Dr. Paterson's employment with the company, and for the 12 month period after Dr. Paterson's termination of employment, Dr. Paterson cannot (i) compete against the company, (ii) interfere with the relationships between the company and any of its subsidiaries, affiliates or any of their respective vendors or licensors, or (iii) recruit in any way the employees of the company.

James Vornov, M.D., Ph.D.

Dr. Vornov entered into an offer letter with the company effective October 15, 2012. The offer letter provides for an annual base salary of $300,000, which, beginning February 2014, will be reviewed annually and may be increased by our board of directors. Dr. Vornov is eligible to receive a discretionary annual bonus as determined by our board of directors or the compensation committee, in its sole discretion, provided that Dr. Vornov is employed by the company on the applicable bonus payment date. Such annual discretionary bonus may be paid in the form of cash or equity awards, consistent with bonuses paid the executives of similar grade of similarly situated companies on the biotechnology industry, subject to corporate and individual performance. In addition, the offer letter provides that, subject to approval by our board of directors, Dr. Vornov will receive a stock option to purchase 400,000 shares of common stock, which is subject to vesting as to one third of the shares on October 15 of each of 2013, 2014 and 2015, subject to Dr. Vornov's continued employment on the applicable vesting dates and the terms of the 2011 Stock Incentive Plan.

Pursuant to the terms of Dr. Vornov's offer letter, if Dr. Vornov's employment is terminated for any reason, then the company will pay Dr. Vornov his base salary, bonus and expenses accrued, but unpaid as of the date of his termination, and any benefits accrued and due under any applicable benefit plans and programs of the company. Dr. Vornov's resigned from his employment with the company on January 9, 2015 and was paid salary and accrued vacation through such date.

The offer letter provides that at all times during Dr. Vornov's employment and thereafter, Dr. Vornov will maintain the confidentiality of all confidential information obtained by him as a result of his employment with the company, assign all inventions and not disparage the company or any of its officers, directors, employees, shareholders or products. In addition, during the term of Dr. Vornov's employment with the company, and for the 12 month period after Dr. Vornov's termination of employment, Dr. Vornov cannot (i) compete against the company, (ii) interfere with the relationships between the company and any of its subsidiaries, affiliates or any of their respective vendors or licensors, or (iii) recruit in any way the employees of the company.

John Kaiser

Mr. Kaiser entered into an offer letter with the company effective October 15, 2012. The offer letter provides for an annual base salary of $285,000. Mr. Kaiser's annual base salary may be further increased from time to time. In connection with Mr. Kaiser's commencement of employment, he was entitled to reimbursement of temporary living expenses up to six months, and a relocation bonus of $100,000. A pro-rata portion of the relocation bonus must be repaid to the company if his employment is terminated for cause or he resigns voluntarily within 18 months after commencement of employment. Mr. Kaiser is eligible to receive a discretionary annual bonus as determined by our board of directors or the compensation committee, in its sole discretion, provided that Mr. Kaiser is employed by the company on the applicable bonus payment date. Such annual discretionary bonus may be paid in the form of cash or equity awards, consistent with bonuses paid the executives of similar grade of similarly situated companies on the biotechnology industry, subject to corporate and individual performance. In addition, the offer letter provides that, subject to approval by our board of directors, Mr. Kaiser will receive a stock option to purchase 400,000 shares of common stock, which is subject to vesting as to one third of the shares on October 15 of each of 2013, 2014 and 2015, subject to Mr. Kaiser's continued employment on the applicable vesting dates and the terms of the 2011 Stock Incentive Plan.

Pursuant to the terms of Mr. Kaiser's offer letter, if Mr. Kaiser's employment is terminated for any reason, then the company will pay Mr. Kaiser his base salary, bonus and expenses accrued, but unpaid as of the date of his termination, and any benefits accrued and due under any applicable benefit plans and programs of the company.

If Mr. Kaiser's employment is terminated by the company without cause or by Mr. Kaiser for good reason, provided he complies with the restrictive covenants set forth in the offer letter and executes and does not revoke a release of claims in favor of the company, Mr. Kaiser is entitled to an amount equal to 12 months of his then-current base salary, payable in 12 equal monthly installments. In addition, Mr. Kaiser is entitled to company-paid COBRA premiums for 12 months or until he is eligible for substantially equal coverage, and full vesting of the stock option award.

The offer letter provides that at all times during Mr. Kaiser's employment and thereafter, Mr. Kaiser will maintain the confidentiality of all confidential information obtained by him as a result of his employment with the company, assign all inventions and not disparage the company or any of its officers, directors, employees, shareholders or products. In addition, during the term of Mr. Kaiser's employment with the company, and for the 12 month period after Mr. Kaiser's termination of employment, Mr. Kaiser cannot (i) compete against the company, (ii) interfere with the relationships between the company and any of its subsidiaries, affiliates or any of their respective vendors or licensors, or (iii) recruit in any way the employees of the company.

For purposes of the offer letters, termination for "good reason" generally means a termination initiated by the employee in response to one or more of the following events: (i) a material diminution in the employee's duties, authorities or responsibilities, (ii) a requirement by the company that the employee's principal place of work be permanently moved to a location more than 50 miles away from Baltimore, Maryland, or (iii) the company material breach of the offer letter, including a diminution of

base salary. In order for a termination to be on account of good reason, the employee must notify the company of his intention to terminate for good reason, the company has an opportunity to cure the action or omission that constitutes the ground for good reason and the named executive officer must terminate employment for good reason shortly after the end of the company's cure period. In addition, Mr. Kaiser may invoke good reason in the event that the company fails to nominate him as a member of our board of directors. The employee is required to provide the company with a written notice detailing the specific circumstances alleged to constitute good reason within 30 days after the first occurrence of such circumstances, and the company shall have 30 days following the receipt of such notice to cure the alleged good reason event.

Termination for "cause" generally includes the following: (i) the employee's willful misconduct or gross negligence in the performance of his duties to the company not cured within 30 days after notice, (ii) the employee's failure to perform his duties to the company or to follow the lawful directives of our board of directors that is not cured within 30 days after notice, (iii) the employee's commission of, indictment for, conviction of, or pleading of guilty or nolo contendere to, a felony or any crime involving moral turpitude, or (iv) any act of theft, fraud, malfeasance or dishonesty in connection with the performance of the employee's duties to the company, or (v) a material breach of the offer letter or any other agreement with the company, or a material violation of the company's code of conduct or other written policy that is not cured within 30 days after notice.

Stock Incentive Plans

2011 Stock Incentive Plan

Our board of directors and stockholders adopted the 2011 Stock Incentive Plan on April 28, 2011. The 2011 Stock Incentive Plan was amended on January 10, 2012 and on May 6, 2013 to increase the number of shares authorized for issuance thereunder. We expect to adopt a new equity compensation plan, the 2015 Equity Incentive Plan, prior to the closing of this offering. We expect our stockholders will approve the 2015 Equity Incentive Plan and it will become effective upon the execution and delivery of the underwriting agreement for this offering.

Types of Stock Awards

The 2011 Stock Incentive Plan provides for the grant of stock options (incentive stock options, or ISOs, and non-qualified stock options, or NSOs), restricted stock awards and other stock-based awards, which are collectively referred to as stock awards. Other stock-based awards are awards of common stock and other awards (including cash) that are valued in whole or in part by reference to, or are payable in or otherwise based on, our common stock and may include, without limitation, restricted stock units, performance share awards or an award valued by reference to an affiliate of the company. Stock awards may be granted to employees, including officers, non-employee directors and consultants of the company or our affiliates, except that ISOs may be granted only to employees.

Share Reserve

The aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2011 Stock Incentive Plan is 19,724,005 shares. If a stock award granted under the 2011 Stock Incentive Plan expires, terminates, is canceled or is forfeited for any reason, the number of shares subject to the stock award will again be available for purposes of stock awards under the 2011 Stock Incentive Plan. In addition, if stock awards are settled in cash, the share reserve will be reduced by the number of shares of common stock with a value equal to the amount of the cash distributions as of the time that such amount was determined and if stock options are exercised using net exercise, the share reserve will be reduced by the gross number of shares of common stock subject to the exercised portion of the option. As of December 31, 2014, 11,007,272 shares have been granted under the 2011 Stock Incentive Plan and 4,700,000 shares have been granted outside of the 2011 Stock Incentive Plan.

Administration

Our board of directors or a duly authorized committee thereof, has the authority to administer the 2011 Stock Incentive Plan. Subject to the terms of the 2011 Stock Incentive Plan, our board of directors or the authorized committee, referred to herein as the committee, determines recipients, dates of grant, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the committee will also determine the exercise price, strike price or purchase price of awards granted and the types of consideration to be paid for the award. The committee has the authority to modify outstanding awards under the 2011 Stock Incentive Plan. The committee has the authority to adopt, alter and repeal administrative rules, guidelines and practices governing the 2011 Stock Incentive Plan and to perform all other acts, including delegating administrative responsibilities, as it deems advisable to construe and interpret the terms and provisions of the 2011 Stock Incentive Plan and any stock award granted under the 2011 Stock Incentive Plan. Decisions and interpretations or other actions by the committee are in the discretion of the committee and are final binding and conclusive on the company and all participants in the 2011 Stock Incentive Plan.

Stock Options

ISOs and NSOs are granted pursuant to stock option agreements adopted by the committee. The committee determines the exercise price for a stock option, within the terms and conditions of the 2011 Stock Incentive Plan, provided that the exercise price of a stock option cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2011 Stock Incentive Plan will become exercisable at the rate specified by the committee and may be exercisable for restricted stock, if determined by the committee.

The committee determines the term of stock options granted under the 2011 Stock Incentive Plan, up to a maximum of ten years. Unless the terms of an option holder's stock option agreement provide otherwise, if an option holder's service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, or voluntary resignation, the option holder may generally exercise any vested options for a period of 90 days following the cessation of service. If the options holder's service relationship terminates due to voluntary resignation, the option holder may generally exercise any vested options for a period of 30 days following cessation of service. The option term may be extended in the event that exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an option holder's service relationship with us or any of our affiliates ceases due to disability or death, or an option holder dies within a certain period following cessation of service, the option holder or a beneficiary may generally exercise any vested options for a period of one year following the option holder's disability or death. Unless otherwise provided by the committee at the time a stock option is granted, in the event of a termination for cause, or the participant violates certain restrictive covenants, including but not limited to, nondisclosure of confidential information, non-solicitation, non-competition and non-disparagement provisions set forth in the 2011 Stock Incentive Plan, referred to as detrimental activity, in any case, before the stock option is exercised, then the stock option will terminate. If an option holder engages in detrimental activity within one year following the later of the date the stock option is exercised or becomes vested, then option holder must pay back to the company any gain realized as a result of exercise. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the committee and may include (i) cash, check, bank draft or money order, (ii) if the company's common stock is publicly traded, a broker-assisted cashless exercise, or (iii) such other methods as may be approved by the committee, including without limitation, the tender of shares of our common stock previously owned by the option holder or a net exercise of the option.

Unless the committee provides otherwise, options generally are not transferable except by will, the laws of descent and distribution. The committee may provide that an NSO may be transferred to a family member, as such term is defined under the applicable securities laws.

The committee may at any time offer to buy out a stock option previously granted, based on the terms established by the committee and communicated to the option holder at the time the offer is made.

Tax Limitations on Incentive Stock Options

The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an option holder during any calendar year may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (i) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (ii) the term of the ISO does not exceed five years from the date of grant.

Restricted Stock Awards

Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the committee. Restricted stock awards may be granted for a purchase price, or no purchase price, and either alone or in addition to other stock awards granted under the 2011 Stock Incentive Plan. The committee determines the purchase price, if any, the vesting schedule, if any, and he rights to acceleration of any vesting schedule, and all other terms and conditions of each restricted stock award. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the committee. Rights to acquire shares under a restricted stock award may not be transferred. Except as otherwise provided in the applicable award agreement, restricted stock unit awards that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Unless otherwise provided by the committee at the time a restricted stock award is granted, in the event a participant engages in detrimental activity prior to or during the one year period after the vesting of restricted stock, the committee may direct that all unvested restricted stock will be immediately forfeited and that the participant must pay to the company an amount equal to the fair market value at the time of vesting of any restricted stock that vested prior to the participant's engagement in the detrimental activity. If an option holder engages in detrimental activity within one year following the later of the date the stock option is exercised or becomes vested, then option holder must pay back to the company any gain realized as a result of exercise. In no event may an option be exercised beyond the expiration of its term.

Other Stock Awards

The committee may grant other awards based in whole or in part by reference to our common stock. The committee will set the number of shares under the stock award and all other terms and conditions of such awards.

Changes to Capital Structure

In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (i) the aggregate number and kind of shares that may be issued under the 2011 Stock Incentive Plan, (ii) the number and/or kind of shares

or other property (including cash) that can be issued upon exercise of an outstanding stock award or under other stock awards granted under the plan, and (iii) the purchase price thereof.

Acquisition Event

In the event of an acquisition event, the committee may terminate all outstanding and unexercised stock options or any other stock-based award that provides for a participant to exercise the stock award, effective as of the date of the acquisition event, by delivering notice of termination to each participant at least 20 days prior to the date of consummation of the event. The participant may exercise the stock awards during the notice period, contingent upon the occurrence of the acquisition event, to the extent vested (or without regard to limitation of exercisability, as determined by the committee). All such stock awards not exercised will be forfeited in connection with the acquisition event. The committee retains the right to terminate any such exercisable stock award for which the exercise price is equal to or exceeds the fair market value without payment of consideration therefor.

For purposes of the 2011 Stock Incentive Plan, an acquisition event is a merger or consolidation in which the company is not the surviving entity, any transaction that results in the acquisition of all or substantially all of the company's outstanding common stock by a single person or entity or by a group of persons and/or entities acting in concert, or the sale or transfer of all or substantially all of the company's assets.

Change of Control

In the event of a change of control, the committee has the discretion to take any of the following actions with respect to stock awards:

- arrange for the substitution of a stock award by a surviving or acquiring entity or parent company;
- accelerate the vesting of the stock award; or
- cancel stock awards for fair value, which, in the case of options, may equal the excess, if any, of (a) the value of the property to be received in the change of control to holders of the same number of shares of common stock subject to the stock option, over (b) the exercise price otherwise payable in connection with the stock award.

The committee is not obligated to treat all stock awards, even those that are of the same type, in the same manner.

Under the 2011 Stock Incentive Plan, a change of control is generally (i) the acquisition by a person or entity, other than a corporation owned directly or indirectly by the stockholders of the company in substantially the same proportions as their ownership of stock of the company, of more than 50% of our combined voting power; (ii) a consummated merger, or consolidation, other than a merger or consolidation which would result in the voting securities of the company outstanding immediately prior thereto continuing to represent the total voting power represented by the voting securities of the company or such surviving entity outstanding immediately after such merger or consolidation; (iii) a consummated sale or other disposition of all or substantially of our assets; or (iv) the dissolutions, liquidation or winding up of the company.

Company Call Rights; Right of First Refusal; Approved Sale

Upon termination of employment or service, the company has certain call rights with respect to our common stock obtained through exercise of stock options, through restricted stock or other stock-based awards. The company's purchase price is based on the reason for the participant's termination. In addition, the company has rights of first refusal in the event a participant desires to transfer shares

obtained pursuant to an awards under the 2011 Stock Incentive Plan. If the board of directors and stockholders having the requisite voting power at law and under the company's governing documents approve a sale of all or substantially all of the assets of the company or a sale of all or substantially all of the shares of common stock to an independent third party or group of independent third parties, then each holder of shares of common stock issued pursuant to an award under the 2011 Stock Incentive Plan is required to vote for, consent to and raise no objections to such sale, and generally shall be subject to the same terms and restrictions as the other stockholders participating in the sale, referred to as drag-along rights. The company's call rights, right of first refusal and drag-along rights terminate upon the first to occur of the date that the company sells its common stock in a bona fide underwriting pursuant to a registration statement under the Securities Act of 1933, as amended, or the Securities Act, or the date that any class of common equity securities of the company is required to be registered under Section 12 of the Exchange Act.

Amendment and Termination

Our board of directors or the committee has the authority to amend, suspend, or terminate the 2011 Stock Incentive Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Unless approved by stockholders, if required, no amendment may increase shares of our common stock available for issuance under the 2011 Stock Incentive Plan, change the classification of individuals eligible to receive stock awards under the 2011 Stock Incentive Plan, decrease the minimum exercise price of stock options, extend the maximum stock option term or require stockholder approval in order to continue to comply with the rules under the Code for ISOs.

401(k) Plan

Our named executive officers participate in our broad-based 401(k) savings plan offered to all full time employees of the company. There is no mandatory matching or other employer contribution provided by the company during the year. Annually, the benefits committee determines if a discretionary match or other discretionary employer contribution is to be made. If made, any discretionary match or other employer contribution will vest over a six-year graded vesting schedule so that 20% vests each year of service. Vesting is accelerated upon death, disability and termination of the plan. Employees can designate the investment of their 401(k) accounts from among a broad range of mutual funds. We do not allow investment in our common stock through the 401(k) plan.

Limitation of Liability and Indemnification

Our amended and restated certificate of incorporation, which will become effective upon the closing of this offering, limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware General Corporation Law and provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions do not eliminate or limit the liability of any of our directors:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- for voting or assenting to unlawful payments of dividends, stock repurchases or other distributions; or
- for any transaction from which the director derived an improper personal benefit.

Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to such amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, our certificate of incorporation, which will become effective upon the closing of this offering, provides that we must indemnify our directors and officers and we must advance expenses, including attorneys' fees, to our directors and officers in connection with legal proceedings, subject to very limited exceptions.

We maintain a general liability insurance policy that covers specified liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers. In addition, we have entered into indemnification agreements with all of our directors, and we intend to enter into indemnification agreements with all of our executive officers prior to the closing of this offering. These indemnification agreements may require us, among other things, to indemnify each such director and executive officer for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him in any action or proceeding arising out of his or her service as one of our directors or executive officers.

Some of our non-employee directors may, through their relationships with their employers, be insured or indemnified against specified liabilities incurred in their capacities as members of our board of directors.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, executive officers or persons controlling us, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Non-Employee Director Compensation

During the 2014 fiscal year, we paid our non-employee directors a fee for their service as a director. We also reimburse our non-employee directors for reasonable travel and other expenses incurred in connection with attending board of director and committee meetings or otherwise in direct service to our company.

The table below shows all compensation paid to our non-employee directors during 2014.

Name	Fees Earned or Paid in Cash	Total ($)
Sol Barer, Ph.D.(1)	$ 49,250	$ 49,250
James Barrett, Ph.D.(2)	—	—
Eugene A. Bauer, M.D.	40,500	40,500
Isaac Blech	44,500	44,500
Luke Evnin, Ph.D.(2)(3)	—	—
John Catsimatidis(4)	—	—
Magnus Persson, M.D., Ph.D.	38,000	38,000
Behshad Sheldon(2)	—	—
Cary W. Sucoff(4)	35,500	35,500
Mayukh Sukhatme M.D.(2)	—	—
Frank Torti, M.D.(2)	—	—

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

(2) Dr. Barrett, Dr. Evnin, Ms. Sheldon, Dr. Sukhatme and Dr. Torti were each appointed to our board of directors on July 11, 2014.

(3) Dr. Evnin resigned from our board of directors on April 22, 2015.

(4) Mr. Catsimatidis and Mr. Sucoff resigned from our board of directors on July 11, 2014.

Non-Employee Director Equity Outstanding at 2014 Fiscal Year End

The following table provides information about outstanding stock options and stock awards held by each of our non-employee directors as of December 31, 2014. All of these options and awards were granted under our 2011 Stock Incentive Plan.

	Option Awards
	Number of Securities Underlying Unexercised Options (#) Exercisable
Sol Barer, Ph.D.(1)	2,750,000
James Barrett, Ph.D.	—
Eugene A. Bauer, M.D.	200,000
Isaac Blech	1,300,000
Luke Evnin, Ph.D(2)	—
Magnus Persson, M.D., Ph.D.	533,333
Behshad Sheldon	—
Mayukh Sukhatme M.D.	—
Frank Torti, M.D.	—

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

(2) Dr. Evnin resigned from our board of directors on April 22, 2015.

We expect that prior to the closing of this offering, our board of directors will adopt a non-employee director compensation policy that will be effective upon the closing of this offering which will include an annual base retainer and fees for service on committees.

TRANSACTIONS WITH RELATED PERSONS

The following is a description of transactions since January 1, 2012 to which we have been a party, and in which any of our directors, executive officers or beneficial owners of more than 5% of our voting securities, or affiliates or immediate family members of any of our directors, executive officers or beneficial owners of more than 5% of our voting securities, had or will have a direct or indirect material interest. We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, from unrelated third parties.

Convertible Preferred Stock Financings

From July 2014 through September 2014, we entered into a Series B Preferred Stock Purchase Agreement pursuant to which we issued and sold to investors at a purchase price of $0.2999 per share an aggregate of 58,948,735 shares of Series B convertible preferred stock. The aggregate consideration for the Series B convertible preferred stock offering was $15.0 million in cash and $2.3 million in aggregate principal and interest due under convertible promissory notes and demand promissory notes. The following table sets forth the shares of Series B convertible preferred stock issued to our directors, executive officers and holders of more than five percent of our capital stock and their affiliates, and the breakdown of the purchase price paid by such persons:

		Purchase Price for Series B Preferred Stock	
Name	Shares of Series B Convertible Preferred Stock Purchased	Paid in Cash	Financed by Amounts Due under Existing Convertible Notes
Directors:			
Sol Barer, Ph.D.(1)	893,517		$ 200,970
5% Stockholders:			
New Enterprise Associates 14, L.P. and affiliates	16,672,224	$ 4,666,667	$ 333,333
Apple Tree Partners IV, LP	16,672,224	$ 4,666,667	$ 333,333
MPM BioVentures V, LP and affiliates	16,672,224	$ 4,667,000	$ 333,000

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

In August 2013, we entered into a Series A-1 Preferred Stock and Warrant Purchase Agreement pursuant to which we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 9,074,511 shares of Series A-1 convertible preferred stock and warrants to purchase 2,268,573 shares of our common stock at $1.00 per share which is subject to adjustment as set forth in such warrant. The aggregate consideration for the Series A-1 convertible preferred stock offering was $6.8 million in cash. The following table sets forth the shares of Series A-1 convertible preferred stock and warrants issued

to our directors, executive officers and holders of more than five percent of our capital stock and their affiliates, and the breakdown of the purchase price paid:

Name	Shares of Series A-1 Convertible Preferred Stock Purchased	Shares of Common Stock Issuable Upon Exercise of Warrants	Aggregate Purchase Price
Directors:			
Sol Barer, Ph.D.(1)	53,334	13,333	$ 40,000

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

From February 2012 through May 2012, we entered into Series A Preferred Stock and Warrant Purchase Agreements pursuant to which we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 31,116,391 shares of Series A convertible preferred stock and warrants to purchase 7,779,090 shares of our common stock at $1.00 per share. The aggregate consideration for the Series A convertible preferred stock offering was $20.3 million in cash and $3.1 million in aggregate principal and interest due under a convertible demand promissory note held by an affiliate of Mr. Blech, a member of our board of directors, which pursuant to the terms of such note, was converted into shares of Series A convertible preferred stock. In addition, for any investor of Series A convertible preferred stock who also participated in the Series A-1 convertible preferred stock offering, we amended the terms of the original warrants issued in connection with such Series A convertible preferred stock by reducing the exercise price of the warrants issued from $1.00 per share of common stock to $0.50 per share of common stock provided that such investor purchased a minimum of 40% of their original Series A convertible preferred stock investment. The following table sets forth the shares of Series A convertible preferred stock and warrants issued to our directors, executive officers and holders of more than five percent of our capital stock and their affiliates, and the breakdown of the purchase price paid:

Name	Shares of Series A Convertible Preferred Stock Purchased	Shares of Common Stock Issuable Upon Exercise of Warrants	Aggregate Purchase Price
Directors:			
Sol Barer, Ph.D.(1)	133,333	33,333	$ 100,000
Isaac Blech(2)	4,210,808	1,052,701	$ 3,158,106
John Catsimatidis(3)	400,000	100,000	$ 300,000

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

(2) These numbers include the (i) 4,077,475 shares of Series A convertible preferred stock held by Daniel Blech Trust DTD 8/3/2005, or the Blech Trust, and (ii) 1,019,369 common shares issuable upon the exercise of warrants held by the Blech Trust. Mr. Blech has voting control over the shares held by the Blech Trust.

(3) Represents Series A convertible preferred stock and warrants held by United Acquisition Corp., which is indirectly 100% owned and controlled by Mr. Catsimatidis. Mr. Catsimatidis resigned from our board of directors on July 11, 2014.

Loan Transaction

In July 2014, we sold approximately $1.0 million in gross principal amount of convertible demand promissory notes to the Series B convertible preferred stock venture capital investors. The note carried

interest at a rate of 0.31% per annum, compounded annually. In July 2014, pursuant to the terms of the notes, all principal and interest due under the notes was converted into shares of Series B preferred stock. The following table sets forth the amount of notes purchased by our directors, executive officers and holders of more than five percent of our capital stock and their affiliates:

Name	Initial Principal Amount of Note
5% Stockholders:	
New Enterprise Associates 14, L.P. and affiliates	$ 333,333
Apple Tree Partners IV, LP	$ 333,333
MPM BioVentures V, LP and affiliates	$ 333,000

On each of April 29, 2014 and June 9, 2014, we executed a convertible demand promissory note for an aggregate principal amount of $200,000 with Dr. Barer, a former member of our board of directors. The note carried interest at a rate of 6% per annum, compounded annually. On July 11, 2014, the principal outstanding under each convertible demand promissory note, plus all accrued and unpaid interest of $970 in the aggregate, was converted into 893,517 shares of Series B convertible. In connection with issuing the convertible demand promissory notes, Dr. Barer received a warrant to purchase 666,888 shares of our common stock at an exercise price of $0.2999 per share.

Offer Letters

We currently have written offer letters with our President and Chief Executive Officer, Dr. Blake Paterson, and our Chief Commercial Officer, John Kaiser. For more information, refer to the section entitled "Executive Compensation—Offer Letters."

Stock Options Granted to Executive Officers and Directors

We have granted stock options under our 2011 Stock Incentive Plan and outside of such plan to our executive officers and directors. The table below summarizes the stock option grants made to such persons since January 1, 2012.

Optionee Name	Grant Date	Price Per Share	Shares Issued
Blake M. Paterson, M.D.	5/8/2012	$ 0.31	3,000,000
Blake M. Paterson, M.D.	7/10/2014	$ 0.60	1,521,897
Sharon Rowland, Ph.D.	5/8/2012	$ 0.31	100,000
Sharon Rowland, Ph.D.	2/5/2013	$ 0.31	100,000
Sharon Rowland, Ph.D.	7/10/2014	$ 0.36	165,000
Reza Mazhari, Ph.D.	5/8/2012	$ 0.31	200,000
Reza Mazhari, Ph.D.	2/5/2013	$ 0.31	135,000
Reza Mazhari, Ph.D.	7/10/2014	$ 0.36	230,000
Sol J. Barer, Ph.D.(1)	1/10/2012	$ 0.20	2,400,000
Sol J. Barer, Ph.D.(1)	5/13/2014	$ 0.36	350,000
James Vornov, M.D., Ph. D.	11/9/2012	$ 0.31	400,000
James Vornov, M.D., Ph. D.	7/10/2014	$ 0.36	450,000
John J. Kaiser	11/9/2012	$ 0.31	400,000
John J. Kaiser	8/29/2013	$ 0.32	200,000
John J. Kaiser	7/10/2014	$ 0.36	540,000
Federica F. O'Brien(2)	8/29/2013	$ 0.32	750,000
Federica F. O'Brien(2)	7/10/2014	$ 0.36	200,000
Bernadine H. Fraser	5/8/2012	$ 0.31	50,000
Bernadine H. Fraser	11/9/2012	$ 0.31	25,000
Bernadine H. Fraser	7/10/2014	$ 0.36	75,000
Isaac Blech	5/8/2012	$ 0.31	1,500,000
Isaac Blech	5/13/2014	$ 0.36	300,000
Cary W. Sucoff(3)	5/8/2012	$ 0.31	200,000
Cary W. Sucoff(3)	5/13/2014	$ 0.36	200,000
Dr. Eugene Bauer, M.D.	5/13/2014	$ 0.36	200,000
Magnus Persson, M.D., Ph. D.	5/13/2014	$ 0.36	200,000
Magnus Persson, M.D., Ph. D.	7/10/2014	$ 0.36	500,000
			14,391,897

(1) Dr. Barer resigned from our board of directors on April 23, 2015.

(2) Ms. O'Brien resigned as our Chief Financial Officer on April 23, 2015.

(3) Mr. Sucoff resigned from our board of directors on July 11, 2014.

For further information regarding stock option grants to our executive officers and directors, see the section entitled "Executive Compensation."

In addition, in September 2014, we issued a warrant to purchase 66,667 shares of our common stock to Mr. Sucoff, a former member of our board of directors, at an exercise price of $0.31 per share, in consideration for his past services to the Company.

Registration Rights

We are a party to a Second Amended and Restated Investors' Rights Agreement with the holders of our convertible preferred stock, including some of our 5% stockholders and their affiliates and

entities affiliated with our directors. This agreement provides these holders the right, subject to the terms of lock-ups entered into in connection with this offering, following the closing of this offering, to demand that we file a registration statement or to request that their shares be covered by a registration statement that we are otherwise filing. See "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights.

Policies and Procedures for Related Person Transactions

In connection with this offering, our board of directors plans to adopt a written related person transaction policy to set forth policies and procedures for the review and approval or ratification of related person transactions. Effective upon the closing of this offering, this policy is expected to cover any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we were or are to be a participant, the amount involved exceeds $120,000, and one of our executive officers, directors, director nominees or 5% stockholders, or their immediate family members, each of whom we refer to as a "related person," had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a "related person transaction," the related person must report the proposed related person transaction to our audit committee. The policy calls for the proposed related person transaction to be reviewed and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, the committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chairman of the audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by the committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by the committee after full disclosure of the related person's interest in the transaction. As appropriate for the circumstances, the audit committee will review and consider:

- the related person's interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

Our audit committee may approve or ratify the transaction only if it determines that, under all of the circumstances, the transaction is in our best interests. Our audit committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to the transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board of directors has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity whether or not the person is also a director of the entity, that is a participant in the transaction, where the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction and the amount involved in the transaction is less than the greater of $200,000 or 5% of the annual gross revenues of the company receiving payment under the transaction; and

- a transaction that is specifically contemplated by provisions of our certificate of incorporation or bylaws.

The policy provides that transactions involving compensation of executive officers shall be reviewed and approved by our compensation committee in the manner specified in the compensation committee's charter.

We did not have a written policy regarding the review and approval of related person transactions prior to this offering. Nevertheless, with respect to such transactions, it has been the practice of our board of directors to consider the nature of and business reason for such transactions, how the terms of such transactions compared to those which might be obtained from unaffiliated third parties and whether such transactions were otherwise fair to and in the best interests of the company, or not contrary to, our best interests. In addition, all related person transactions required prior approval, or later ratification, by our board of directors.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock as of April 24, 2015 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock.

The column entitled "Percentage of Shares Beneficially Owned—Before Offering" is based on a total of 129,649,885 shares of our common stock, which includes 18,193,930 shares of our common stock outstanding as of April 24, 2015 and 111,455,955 shares of our common stock issuable upon the automatic conversion of all outstanding shares of our convertible preferred stock. The column entitled "Percentage of Shares Beneficially Owned—After Offering" also gives effect to the issuance by us of shares of our common stock in this offering. The percentage ownership information assumes no exercise of the underwriters' over-allotment option to purchase additional shares.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days after April 24, 2015 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to

applicable community property laws, where applicable. Except as otherwise set forth below, the address of each beneficial owner is c/o Cerecor Inc., 400 E Pratt Street, Suite 606, Baltimore, Maryland 21202.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% Stockholders:			
New Enterprise Associates 14, L.P. and affiliates(1) c/o new Enterprise Associates 1954 Greenspring Drive, Suite 600 Timonium, MD 21093	16,672,224	12.9%	
Apple Tree Partners IV, L.P.(2) 47 Hulfish Street, Suite 441 Princeton, NJ 08542	16,672,224	12.9%	
MPM BioVentures V, L.P. and affiliates(3) 200 Clarendon Street, 54th Floor Boston, MA 02116	16,672,224	12.9%	
Directors and Named Executive Officers:			
Blake M. Paterson, M.D.(4)	7,521,897	5.6%	
James Vornov, M.D., Ph.D.	—	—	
John Kaiser(5)	873,334	*	
M. James Barrett, Ph.D.(6)	16,672,224	12.9%	
Eugene A. Bauer, M.D.(7)	950,000	*	
Isaac Blech(8)	13,646,211	10.3%	
Phil Gutry(9)	16,672,224	12.9%	
Magnus Persson, M.D., Ph.D.(10)	533,333	*	
Behshad Sheldon	—	—	
Mayukh Sukhatme, M.D.	—	—	
Frank Torti, M.D.(11)	16,672,224	12.9%	
All current executive officers and directors as a group (11 persons)(12)	57,010,890	41.1%	

* Less than one percent.

(1) Consists of (a) 16,638,880 shares of common stock issuable upon the automatic conversion of 16,638,880 shares of Series B convertible preferred stock held by New Enterprise Associates 14, L.P., or NEA 14, and (b) 33,344 shares of common stock issuable upon the automatic conversion of 33,344 shares of Series B convertible preferred stock held by NEA Ventures 2014, L.P., or NEA Ventures. The shares directly held by NEA 14 are indirectly held by NEA Partners 14, Limited Partnership, or NEA Partners 14, the sole general partner of NEA 14, NEA 14 GP, LTD., or, NEA 14 GP, the sole general partner of NEA Partners 14, and each of the individual directors of NEA 14 GP. The individual directors of NEA 14 GP are M. James Barrett, Peter J. Barris, Forest Baskett, Ryan D. Drant, Anthony A. Florence, Jr., Patrick J. Kerins, Krishna "Kittu" Kolluri, David M. Mott, Scott D. Sandell, Peter Sonsini, Ravi Viswanathan and Harry R. Weller. NEA 14, NEA Partners 14, NEA 14 GP and the directors of NEA GP share voting and dispositive power with respect to the shares held by NEA 14. The shares directly held by NEA Ventures are indirectly held by Karen P. Welsh, the general partner

of NEA Ventures, who holds voting and dispositive power with respect to the shares held by NEA Ventures. All indirect holders of the above referenced shares disclaim beneficial ownership of all applicable shares except to the extent of their actual pecuniary interest therein, if any.

(2) Consists of 16,672,224 shares of common stock issuable upon the automatic conversion of 16,672,224 shares of Series B convertible preferred stock held by Apple Tree Partners IV, L.P., or ATP IV. As the sole general partner of ATP IV, ATP III GP, Ltd., or the GP, may be deemed to own beneficially our shares held by ATP IV. As the sole director of the GP, Dr. Seth L. Harrison may be deemed to own beneficially our shares held by ATP IV. Dr. Harrison disclaims beneficial ownership except to the extent of his pecuniary interest in our shares held by ATP IV.

(3) Consists of (a) 16,048,760 shares of common stock issuable upon the automatic conversion of 16,048,760 shares of Series B convertible preferred stock held by MPM BioVentures V, L.P., or MPM BioVentures V, and (b) 623,464 shares of common stock issuable upon the automatic conversion of 623,464 shares of Series B convertible preferred stock held by MPM Asset Management Investors BV5 LLC, or MPM Asset Management. MPM BioVentures V GP LLC is the general partner of MPM BioVentures V. MPM BioVentures V LLC is the managing member of MPM BioVentures V GP LLC and the manager of Asset Management LLC. The members of MPM BioVentures V LLC are Luke Evnin, Todd Foley, Ansbert Gadicke, Vaughn Kailian and James Scopa. Each member shares voting and dispositive power with respect to the shares held by each of MPM BioVentures V and MPM Asset Management. All indirect holders of the above referenced shares disclaim beneficial ownership of all applicable shares except to the extent of their actual pecuniary interest therein, if any.

(4) Includes 4,521,897 shares of common stock issuable upon the exercise of options within 60 days of April 24, 2015.

(5) Includes 873,334 shares of common stock issuable upon the exercise of options within 60 days of April 24, 2015.

(6) Consists of 16,672,224 shares of common stock issuable as described in note (1) above. Dr. Barrett, a member of our board, is a director of NEA 14 GP and, as such, may be deemed to have voting and investment power with respect to these shares. Dr. Barrett disclaims beneficial ownership of the shares of capital stock held by NEA 14, except to the extent of his pecuniary interest therein, if any.

(7) Includes 200,000 shares of common stock issuable upon the exercise of options within 60 days of April 24, 2015.

(8) Includes (i) 166,666 shares of common stock issuable upon the automatic conversion of 133,333 shares of Series A convertible preferred stock and 5,096,843 shares of common stock held by Daniel Blech Trust DTD 8/3/2005, or the Blech Trust, issuable upon the automatic conversion of 4,077,475 shares of Series A convertible preferred stock, (ii) 1,800,000 shares of common stock issuable upon the exercise of stock options within 60 days of April 24, 2015 and (iii) 33,333 shares of common stock issuable upon the exercise of warrants within 60 days April 24, 2015, and 1,019,369 shares of common stock issuable upon the exercise of warrants within 60 days of April 24, 2015 held by the Blech Trust. Mr. Blech has voting control over all of the shares held by the Blech Trust and Mr. Blech disclaims beneficial ownership of such shares.

(9) Consists of 16,672,224 shares of common stock issuable as described in note (3) above. Mr. Gutry is a principal of MPM Capital, Inc., an affiliate of MPM BioVentures V and

MPM Asset Management. Mr. Gutry disclaims beneficial ownership of the shares of capital stock held by such entities, except to the extent of his pecuniary interest therein, if any.

(10) Includes 533,333 shares of common stock issuable upon the exercise of options within 60 days of April 24, 2015.

(11) Consists of 16,672,224 shares of common stock issuable as described in note (1) above. Dr. Torti is a partner at New Enterprise Associates, an affiliate of NEA 14. Dr. Torti disclaims beneficial ownership of the shares of capital stock held by NEA 14, except to the extent of his pecuniary interest therein, if any.

(12) Includes (i) the number of shares beneficially owned by the directors and named executive officers listed in the above table, other than Dr. Vornov, whose employment with the company ended on January 9, 2015, and (ii) 141,667 shares of common stock issuable upon the exercise of stock options within 60 days of April 24, 2015 held by Ms. Fraser.

DESCRIPTION OF CAPITAL STOCK

Upon the closing of this offering and the filing of our amended and restated certificate of incorporation, our authorized capital stock will consist of shares of common stock, par value $0.001 per share, and shares of convertible preferred stock, par value $0.001 per share. The following is a summary of the rights of our common and convertible preferred stock and some of the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective upon the closing of this offering, and of the Delaware General Corporation Law. This summary is not complete. For more detailed information, please see our amended and restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the Delaware General Corporation Law.

Common Stock

On December 31, 2014, there were (i) 18,193,930 shares of our common stock outstanding, held of record by 24 stockholders, (ii) 15,477,272 shares of our common stock subject to outstanding options, (iii) 14,425,474 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014, which warrants are expected to remain outstanding upon the closing of this offering, (iv) 4,668,221 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014, which warrants will expire upon the closing of this offering in accordance with their terms, unless exercised prior thereto and (v) 625,208 shares of our common stock issuable upon the exercise of the warrant outstanding as of December 31, 2014, which warrant is exercisable to purchase shares of Series B convertible preferred stock prior to the completion of this offering and which warrant is expected to remain outstanding upon the closing of this offering.

Based on (i) 18,193,930 shares of our common stock outstanding as of December 31, 2014, (ii) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of 111,455,955 shares of our common stock upon the closing of this offering, and (iii) the issuance of shares of common stock in this offering, there will be shares of our common stock outstanding upon the closing of this offering.

Voting

Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights. Accordingly, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election.

Dividends

Subject to preferences that may be applicable to any then outstanding convertible preferred stock, the holders of 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, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of convertible preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription 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 convertible preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

On December 31, 2014, there were 31,116,391 shares of Series A convertible preferred stock outstanding, held of record by 154 stockholders, 9,074,511 shares of Series A-1 convertible preferred stock outstanding, held of record by 146 stockholders, 58,948,735 of Series B convertible preferred stock, held of record by 15 stockholders. Pursuant to the terms of the convertible preferred stock, each share of Series A convertible preferred stock will automatically convert into 1.25 shares of our common stock immediately prior to the closing of this offering, each share of Series A-1 convertible preferred stock will automatically convert into 1.50 shares of our common stock immediately prior to the closing of this offering, and each share of Series B convertible preferred stock will automatically convert into 1 share of our common stock immediately prior to the closing of this offering. Accordingly, immediately upon the closing of this offering, the outstanding shares of convertible preferred stock will automatically convert into an aggregate amount of 111,455,955 shares of our common stock. No fractional shares of our common stock will be issued upon the conversion of our preferred stock. In lieu of any fractional shares, we will pay a cash amount to the holder of such fractional share equal to the fair market value of such fractional share as determined by our board of directors.

Following this offering, under our amended and restated certificate of incorporation, our board of directors will have the authority, without further action by the stockholders, to issue up to shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power, impair the liquidation rights of our common stock or otherwise adversely affect the rights of holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of our common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of preferred stock.

Options

As of December 31, 2014, options to purchase an aggregate of 15,477,272 shares of our common stock at a weighted average exercise price of $0.33 per share were outstanding.

Warrants

The following table summarizes the warrants to purchase an aggregate of 19,093,695 shares of our common stock outstanding as of December 31, 2014:

Number of Warrants	Number of Holders	Per Share Exercise Price	Expiration Date
3,079,916	43	$ 1.00	February 2017
819,776	36	$ 0.50	February 2017
2,535,409	45	$ 1.00	March 2017
827,990	33	$ 0.50	March 2017
3,646,559	2	$ 1.00	April 2017
400,000	3	$ 1.00	July 2017
2,268,573	149	$ 1.00	August 2018
680,585	1	$ 0.75	August 2018
100,000	1	$ 1.00	December 2018
1,667,222	3	$ 0.30	April 2019
666,888	3	$ 0.30	May 2019
1,833,944	3	$ 0.30	June 2019
500,166	1	$ 0.30	July 2019
66,667	1	$ 0.31	May 2022

In addition, as of December 31, 2014, there is one warrant to purchase 625,208 shares of our Series B convertible preferred stock at an exercise price equal to $0.2999 per share that is exercisable for five years following the closing of this offering. This warrant shall become, in accordance with its terms, a warrant to purchase 625,208 shares of common stock at an exercise price of $0.2999 per share upon the closing of this offering.

14,425,474 shares of our common stock issuable upon the exercise of certain of these warrants has a net exercise provision under which its holder may, in lieu of payment of the exercise price in cash, surrender the warrant and receive a net amount of shares based on the fair market value of our common stock at the time of exercise of the warrant after deduction of the aggregate exercise price. Certain of these warrants also contains provisions for the adjustment of the exercise price and the aggregate number of shares issuable upon the exercise of the warrant in the event of stock dividends, stock splits and reclassifications, consolidations or combinations. 4,668,221 shares of our common stock issuable upon the exercise of warrants outstanding as of December 31, 2014 will expire upon the closing of this offering in accordance with their terms, unless exercised prior thereto.

The holders of certain of these warrants are entitled to registration rights under our Second Amended and Restated Investors' Rights Agreement, as described in more detail under "—Registration Rights."

Registration Rights

Under our Second Amended and Restated Investors' Rights Agreement, upon the closing of this, holders of a total of shares of our common stock that will be outstanding after this offering, which includes shares of common stock issuable upon exercise of outstanding warrants, will have certain registration rights. The registration rights are described below.

Demand Registration Rights

At any time after 180 days after the closing of this offering, the holders of a majority of the shares then outstanding having demand registration rights may request that we register all or a portion of their shares of common stock for sale under the Securities Act. We will effect the registration as

requested so long as the aggregate price to the public, net of expenses, in connection with any such offering is at least $10.0 million unless, in the good faith judgment of our board of directors, such registration would be materially detrimental to the company and its stockholders and should be delayed. We are not obligated to file a registration statement pursuant to this provision on more than two occasions.

In addition, when we are eligible for the use of Form S-3, or any successor form, holders having demand registration rights may make requests 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, so long as the aggregate price to the public, net of expenses, in connection with any such offering is at least $1.0 million unless, in the good faith judgment of our board of directors, such registration would be materially detrimental to the company and its stockholders and should be delayed. We are not obligated to file a Form S-3 pursuant to this provision on more than two occasions in any 12-month period.

Incidental Registration Rights

In addition, if at any time after this offering we register any shares of our common stock for public sale, the holders of all shares having piggyback registration rights are entitled to notice of the registration and to include all or a portion of their shares of common stock in the registration.

Other Provisions

In the event that any registration in which the holders of registrable shares participate pursuant to the Second Amended and Restated Investors' 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.

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, piggyback and Form S-3 registration. The Second Amended and Restated Investors' Rights Agreement contains customary cross-indemnification provisions, pursuant to which we must indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they must indemnify us for material misstatements or omissions in the registration statement attributable to them. The demand, piggyback and Form S-3 registration rights described above will expire upon the earlier of (i) the later of five years from the closing of this offering and August 23, 2020, (ii) a holder holds less than one percent of all securities subject to registration rights and the holder may sell all registrable securities pursuant to Rule 144 without restrictions during any three-months period or (iii) the closing of a Deemed Liquidation Event, as such term is defined in our amended and restated certificate of incorporation as in effect prior to the closing of this offering.

Anti-Takeover Effects of Delaware Law and Our Charter and Bylaws

Provisions of Delaware law and our certificate of incorporation and by-laws could make it more difficult to acquire us by means of a tender offer, a proxy contest, open market purchases, removal of incumbent directors and otherwise. These provisions, summarized below, are expected to discourage types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware Anti-Takeover Law

We are subject to Section 203 of the Delaware General Corporation Law, or Section 203. Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which 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 commenced, excluding for purposes of determining the number of shares outstanding (i) shares owned by persons who are directors and also officers and (ii) shares owned by 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 subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least $66^{2}/_{3}\%$ of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

The existence of this provision generally will have an anti-takeover effect for transactions not approved in advance by the board of directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective upon the closing of this offering, may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these

provisions could adversely affect the price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue up to shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control);
- provide that the authorized number of directors may be changed only by resolution of our board of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and also specify requirements as to the form and content of a stockholder's notice;
- do not provide for cumulative voting rights (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose); and
- provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer or by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the holders of at least $66^{2}/_{3}\%$ of our then outstanding common stock.

NASDAQ Capital Market Listing

We plan to apply to have our common stock listed on the NASDAQ Capital Market under the symbol "CERC."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is . The transfer agent and registrar's address is .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, no public market for our common stock existed, and a liquid trading market for our common stock may not develop or be sustained after this offering. Future sales of substantial amounts of our common stock in the public market, including shares issued upon exercise of outstanding options and warrants, or the anticipation of such sales, could adversely affect prevailing market prices of our common stock from time to time and could impair our ability to raise equity capital in the future. Furthermore, because only a limited number of shares of our common stock will be available for sale shortly after this offering due to certain contractual and legal restrictions on resale described below, sales of substantial amounts of our common stock in the public market after such restrictions lapse, or the anticipation of such sales, could adversely affect the prevailing market price of our common stock and our ability to raise equity capital in the future. We plan to apply to have our common stock listed on the NASDAQ Capital Market under the symbol "CERC."

Upon the closing of this offering, we will have outstanding shares of our common stock, after giving effect to the issuance of shares of our common stock in this offering and the automatic conversion of all outstanding shares of our convertible preferred stock. The number of shares outstanding upon the closing of this offering assumes no exercise of outstanding options or warrants.

All of the shares sold in this offering will be freely tradable unless purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act of 1933, as amended, or the Securities Act. The remaining shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements as described below. Following the expiration of the lock-up period, all shares will be eligible for resale, subject to compliance with Rule 144 or Rule 701 of the Securities Act, to the extent these shares have been released from any repurchase option that we may hold.

Subject to the lock-up agreements, described in the section entitled "Underwriting—Lock-Up Agreements," we may issue shares of common stock from time to time as consideration for future acquisitions, investments or other corporate purposes. In the event that any such acquisition, investment or other transaction is significant, the number of shares of common stock that we may issue may in turn be significant. We may also grant registration rights covering those shares of common stock issued in connection with any such acquisition and investment.

In addition, shares of common stock that are either subject to outstanding options or warrants or reserved for future issuance under our equity incentive plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements and Rule 144 and Rule 701 of the Securities Act.

Rule 144

In general, under Rule 144 of the Securities Act, as in effect on the date of this prospectus, beginning 90 days after the date of this prospectus, any person who is not our affiliate at any time during the preceding three months, and who has beneficially owned their shares for at least six months, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares of our common stock provided current public information about us is available, and, after owning such shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares of our common stock without restriction.

Beginning 90 days after the date of this prospectus, a person who is our affiliate or who was our affiliate at any time during the preceding three months, and who has beneficially owned restricted securities for at least six months, including the holding period of any prior owner other than one of our

affiliates, is entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares, or shares if the underwriters exercise their over-allotment option in full, immediately following this offering, based on the number of shares of our common stock outstanding upon the closing of this offering; or

- the average weekly trading volume of our common stock on NASDAQ during the four calendar weeks preceding the filing of a Notice of Proposed Sale of Securities pursuant to Rule 144 with respect to the sale.

Sales under Rule 144 by our affiliates are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

Upon expiration of the 180-day lock-up period described below, shares of our common stock will be eligible for sale under Rule 144. We cannot estimate the number of shares of our common stock that our existing stockholders will elect to sell under Rule 144.

Rule 701

In general, under Rule 701 of the Securities Act, any of an issuer's employees, directors, officers, consultants or advisors who purchases shares from the issuer in connection with a compensatory stock or option plan or other written agreement before the effective date of a registration statement under the Securities Act, is entitled to sell such shares 90 days after such effective date in reliance on Rule 144. An affiliate of the issuer can resell shares in reliance on Rule 144 without having to comply with the holding period requirement, and non-affiliates of the issuer can resell shares in reliance on Rule 144 without having to comply with the current public information and holding period requirements.

Lock-up Agreements

As described under the section entitled "Underwriting—Lock-Up Agreements" below, We, each of our directors and officers and substantially all of the holders of at least one-half percent or more of our common stock on a fully diluted basis immediately prior to the consummation of this offering, have agreed, subject to specified exceptions, not to, directly or indirectly, (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of any shares of our common stock or other capital stock or any securities convertible into or exercisable or exchangeable for our common stock or other capital stock or (ii) enter into any swap or other agreement, arrangement, hedge or transaction that transfers to another, in whole or in part, directly or indirectly, any of the economic consequences of ownership of our common stock or other capital stock or any securities convertible into or exercisable or exchangeable for our common stock or other capital stock, without the prior written consent of Maxim Group LLC, for a period of 180 days following the date of this prospectus for the offering.

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of our common stock subject to outstanding stock options and common stock issuable under our equity incentive plans. We expect to file the registration statement covering such shares shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to the expiration of any applicable lock-up period and compliance with the resale

provisions of Rule 144. For more information on our equity incentive plans, see "Executive Compensation—Stock Incentive Plans."

Registration Rights

Upon the closing of this offering, holders of a total of shares of our common stock that will be outstanding after this offering, which includes shares of common stock issuable upon exercise of outstanding warrants, are entitled to demand that we file a registration statement or request that we cover their shares by a registration statement that we otherwise file. For more information, see "Description of Capital Stock—Registration Rights." Except for shares purchased by affiliates, registration of their shares under the Securities Act would result in these shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of the registration statement, subject to the expiration of the lock-up period and to the extent these shares have been released from any repurchase option that we may hold.

MATERIAL UNITED STATED FEDERAL INCOME TAX CONSIDERATIONS FOR NON-UNITED STATES HOLDERS OF COMMON STOCK

The following is a general discussion of material United States federal income tax considerations relating to ownership and disposition of our common stock by a non-United States holder. For purposes of this discussion, the term "non-United States holder" means a beneficial owner of our common stock that is not, for United States federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity treated as a corporation for United States federal income tax purposes, created or organized in or under the laws of the United States or of any political subdivision of the United States;
- an estate the income of which is subject to United States federal income taxation regardless of its source; or
- a trust, if a United States court is able to exercise primary supervision over the administration of the trust and one or more United States persons have authority to control all substantial decisions of the trust or if the trust has a valid election to be treated as a United States person under applicable United States Treasury regulations.

This discussion is based on current provisions of the United States Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed United States Treasury regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change could alter the tax consequences to non-United States holders described in this prospectus. In addition, the Internal Revenue Service, or the IRS, could challenge one or more of the tax consequences described in this prospectus.

We assume in this discussion that each non-United States holder holds shares of our common stock as a capital asset (generally, property held for investment). This discussion does not address all aspects of United States federal income taxation that may be relevant to a particular non-United States holder in light of that non-United States holder's individual circumstances nor does it address any aspects of United States federal estate or gift taxes, and state, local or non-United States taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-United States holder and does not address the special tax rules applicable to particular non-United States holders, such as:

- insurance companies;
- tax-exempt organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- controlled foreign corporations;
- passive foreign investment companies;
- owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment; and
- certain United States expatriates.

In addition, this discussion does not address the tax treatment of partnerships or persons who hold their common stock through partnerships or other entities which are pass-through entities for United States federal income tax purposes. A partner in a partnership or other pass-through entity that will hold our common stock should consult his, her or its own tax advisor regarding the tax consequences of the ownership and disposition of our common stock through a partnership or other pass-through entity, as applicable.

Prospective investors should consult their tax advisors regarding the United States federal, state, local and non-United States income and other tax considerations of acquiring, holding and disposing of our common stock.

Dividends

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we make distributions of cash or property on our common stock, those distributions generally will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under United States federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-United States holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading "Gain on Disposition of Common Stock."

Dividends paid to a non-United States holder generally will be subject to withholding of United States federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-United States holder within the United States, and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-United States holder within the United States, are generally exempt from the 30% withholding tax if the non-United States holder satisfies applicable certification and disclosure requirements by providing a properly executed IRS Form W-8ECI (or successor form). However, such United States effectively connected income, net of specified deductions and credits, is taxed at the regular graduated United States federal income tax rates applicable to United States persons (as defined in the Code). Any United States effectively connected income received by a non-United States holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-United States holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN (or successor form) and satisfy applicable certification and other requirements. Non-United States holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

A non-United States holder that is eligible for a reduced rate of United States withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Disposition of Common Stock

A non-United States holder generally will not be subject to United States federal income tax on gain realized on a disposition of our common stock unless:

- the gain is effectively connected with the non-United States holder's conduct of a trade or business in the United States, and, if an applicable income tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by the non-United States holder in the United States; in these cases, the non-United States holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to United States persons, and, if the non-United States holder is a foreign corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;

- the non-United States holder is a non-resident alien present in the United States for 183 days or more in the taxable year of the disposition and certain other requirements are met, in which case the non-United States holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the net gain derived from the disposition, which may be offset by United States-source capital losses of the non-United States holder, if any; or

- we are or have been, at any time during the five-year period preceding such disposition (or the non-United States holder's holding period, if shorter) a "United States real property holding corporation." Generally, a corporation is a "United States real property holding corporation" if the fair market value of its "United States real property interests" equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we believe that we are not currently, and we do not anticipate becoming, a "United States real property holding corporation" for United States federal income tax purposes. Even if we are or were to become a United States real property holding corporation, gains realized by a non-United States holder on a disposition of our common stock will not be subject to United States federal income tax if our common stock is regularly traded on an established securities market and the non-United States holder holds no more than 5% of our outstanding common stock, directly or indirectly, during the shorter of the five-year period ending on the date of the disposition or the non-United States holder's holding period. No assurance can be provided that our common stock will continue to be regularly traded on an established securities market for purposes of the rule described above.

Information Reporting and Backup Withholding

We must report annually to the IRS and to each non-United States holder payments of dividends on our common stock to such holder and the tax withheld, if any, with respect to such dividends. Non-United States holders may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate, currently 28%, with respect to dividends on our common stock. Generally, a holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN (or other applicable Form W-8) or otherwise meets documentary evidence requirements for establishing that it is a non-United States holder, or otherwise establishes an exemption. Dividends paid to non-United States holders subject to withholding of United States federal income tax, as described above under "—Dividends," generally will be exempt from United States backup withholding.

Information reporting and backup withholding generally will apply to the proceeds of a disposition of our common stock by a non-United States holder effected by or through the United States office of any broker, United States or foreign, unless the holder certifies its status as a non-United States holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information

reporting and backup withholding will not apply to a payment of disposition proceeds to a non-United States holder where the transaction is effected outside the United States through a non-United States office of a broker. However, for information reporting purposes, dispositions effected through a non-United States office of a broker with substantial United States ownership or operations generally will be treated in a manner similar to dispositions effected through a United States office of a broker. Non-United States holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-United States holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-United States holder can be refunded or credited against the non-United States holder's United States federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

Recently-Enacted Legislation Relating to Foreign Accounts

Legislation enacted in March 2010, commonly referred to as FATCA, generally will impose a 30% withholding tax on dividends of, and gross proceeds from the sale or disposition, of our common stock if paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (i) the foreign financial institution undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) the non-financial foreign entity identifies its "substantial United States owner" (as defined in the Code) or certifies that it does not have any substantial United States owner, or (iii) the foreign financial institution or non-financial foreign entity is otherwise exempt under FATCA.

Pursuant to final regulations issued by the United States Department of Treasury and recently issued guidance, withholding under FATCA will only apply (i) to payments of dividends on our common stock made after June 30, 2014 and (ii) to payments of gross proceeds from a sale or other disposition of our common stock made after December 31, 2016. Under certain circumstances, a non-United States holder may be eligible for refunds or credits of the tax. Non-United States holders should consult their tax advisors regarding the possible implications of FATCA on their investment in our common stock.

The preceding discussion of material United States federal tax considerations is for general information only. It is not tax advice. Prospective investors should consult their tax advisors regarding the particular United States federal, state, local and non-United States tax consequences of purchasing, holding and disposing of our common stock, including the consequences of any proposed changes in applicable laws.

UNDERWRITING

As of the date of this prospectus, we have entered into an underwriting agreement with Maxim Group LLC, or Maxim, acting as sole book running manager and representative for the underwriters named below. Subject to the terms and conditions of the underwriting agreement, the underwriters named below have agreed to purchase, and we have agreed to sell to them, the number of shares of our common stock at the initial public offering price, less the underwriting discounts and commissions, as set forth on the cover page of this prospectus:

Underwriter	Number of Shares
Maxim Group LLC	
Total	

All of the shares to be purchased by the underwriters will be purchased from us.

The underwriting agreement provides that the obligations of the underwriters to pay for and accept delivery of the shares of common stock offered by us in this prospectus are subject to various conditions, including the approval of certain legal matters by their counsel. The shares of common stock are offered by the underwriters, subject to prior sale, when, as and if issued to and accepted by them. The underwriters reserve the right to withdraw, cancel or modify the offer and to reject orders in whole or in part.

The underwriting agreement provides that the underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken, other than those shares covered by the over-allotment option 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.

Over-Allotment Option

We have granted an option to the underwriters to purchase up to 15% of the total number of shares of common stock at the initial public offering price per share, less the underwriting discount, set forth on the cover page of this prospectus. This option is exercisable during the 45-day period after the date of this prospectus. The underwriters may exercise this option only to cover over-allotments made in connection with this offering. If the underwriters exercise this option in whole or in part, then the underwriters will be severally committed, subject to the conditions described in the underwriting agreement, to purchase the additional shares of our common stock in proportion to their respective commitments set forth in the prior table.

Discounts and Commissions

The representative has advised us that the underwriters propose to offer the shares of common stock to the public at the initial public offering price per share set forth on the cover page of this prospectus. The underwriters may offer shares to securities dealers at that price less a concession of not more than $ per share, of which up to $ per share may be reallowed to other dealers. After the initial offering to the public, the public offering price and other selling terms may be changed by the representative.

The following table summarizes the underwriting discounts and commissions and proceeds and corporate finance fee, before expenses, to us assuming both no exercise and full exercise by the underwriters of their over-allotment option:

		Total	
	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discounts and commissions(1)	$	$	$
Corporate finance fee	$	$	$
Proceeds, before expenses, to us	$	$	$

(1) The underwriting discounts and commissions do not include the Underwriter Warrants or expense reimbursement as described below.

We estimate the expenses of this offering payable by us, not including underwriting discounts and commissions, will be approximately $ million. We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $100,000. Such amount shall include reimbursement of Maxim's legal fees up to a maximum amount of $100,000, unless Maxim provides the Company with advanced written notice that such legal fees and costs may be in excess of $100,000 and the Company agrees in writing to be responsible for such excess fees and costs.

Underwriter Warrants

Upon the closing of this offering, we have agreed to sell to Maxim a warrant to purchase a number of shares of our common stock equal to 10% of the total shares of our common stock sold in this initial public offering, excluding any shares that may be sold pursuant to the underwriter's exercise of the over-allotment option, or Underwriter Warrant. The Underwriter Warrant will be exercisable at a per share exercise price equal to 115% of the initial public offering price, and may be exercised on a cashless basis. The Underwriter Warrant is exercisable commencing on the effective date of the registration statement related to this offering, and will be exercisable for five years. The Underwriter Warrant is not redeemable by us. The Underwriter Warrant also provides for one demand registration of the shares of common stock underlying the Underwriter Warrant at our expense, and unlimited "piggyback" registration rights with respect to the registration of the shares of common stock underlying the Underwriter Warrant at the warrant holders' expense, during the five year period commencing upon the effective date of the registration statement related to this offering.

The Underwriter Warrant and the shares of common stock underlying the Underwriter Warrant have been deemed compensation by the Financial Industry Regulatory Authority, or FINRA, and are therefore subject to a 180-day lock-up pursuant to Rule 5110(g)(1) of FINRA. Maxim, or permitted assignees under such rule, may not sell, transfer, assign, pledge, or hypothecate the Underwriter Warrant or the securities underlying the Underwriter Warrant, nor will Maxim engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the Underwriter Warrant or the underlying shares of common stock for a period of 180 days from the effective date of the registration statement. Additionally, the Underwriter Warrant may not be sold transferred, assigned, pledged or hypothecated for a 180-day period following the effective date of the registration statement except to any underwriter and selected dealer participating in the offering and their bona fide officers or partners. The Underwriter Warrant will provide for adjustment in the number and price of the Underwriter Warrant and the shares of common stock underlying such Underwriter Warrant in the event of recapitalization, merger, stock split or other structural transaction, or a future financing undertaken by us.

Lock Up Agreements

We, each of our directors and officers and substantially all of the holders of at least one-half percent or more of our common stock on a fully diluted basis immediately prior to the consummation of this offering have agreed for a period of 180 days after the date of this prospectus, without the prior written consent of Maxim, not to directly or indirectly:

- issue (in the case of us), offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of any shares of our common stock or other capital stock or any securities convertible into or exercisable or exchangeable for our common stock or other capital stock;

- in the case of us, file or cause the filing of any registration statement under the Securities Act with respect to any shares of our common stock or other capital stock or any securities convertible into or exercisable or exchangeable for our common stock or other capital stock, other than registration statements on Form S-8 filed with the SEC after the closing date of this offering; or

- enter into any swap or other agreement, arrangement, hedge or transaction that transfers to another, in whole or in part, directly or indirectly, any of the economic consequences of ownership of our common stock or other capital stock or any securities convertible into or exercisable or exchangeable for our common stock or other capital stock,

whether any transaction described in any of the foregoing bullet points is to be settled by delivery of our common stock or other capital stock, other securities, in cash or otherwise, or publicly announce an intention to do any of the foregoing.

There are no existing agreements between the underwriters and any person who will execute a lock-up agreement in connection with this offering providing consent to the sale of shares prior to the expiration of the lock-up period. The lock up does not apply to the issuance of shares upon the exercise of rights to acquire shares of common stock pursuant to any existing stock option or the conversion of any of our preferred convertible stock.

Indemnification of Underwriters

The underwriting agreement provides that we will indemnify the underwriters against certain liabilities that may be incurred in connection with this offering, including liabilities under the Securities Act of 1933, or to contribute payments that the underwriters may be required to make in respect thereof.

Stabilization

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock. Specifically, the underwriters may over-allot in connection with this offering by selling more shares than they are obligated to purchase under the underwriting agreement, creating a short position in our common stock. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriter is not greater than the number of shares that it may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. To close out a short position or to stabilize the price of our common stock, the underwriters may bid for, and purchase, common stock in the open market. The underwriters may also elect to reduce any short position by exercising all or part of the over-allotment option. In determining the source of common stock to close out the 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 it may purchase shares through the over-allotment option. If the underwriters sell more shares than could be covered by the over-allotment option, a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter or dealer repays selling concessions allowed to it for distributing our common stock in this offering because the underwriter repurchases that stock in stabilizing or short covering transactions.

Finally, the underwriters may bid for, and purchase, shares of our common stock in market making transactions, including "passive" market making transactions as described below.

The foregoing transaction may stabilize or maintain the market price of our common stock at a price that is higher than the price that might otherwise exist in the absence of these activities. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time without notice. These transactions may be effected on the NASDAQ Capital Market or otherwise.

In connection with this offering, the underwriters and selling group members, if any, or their affiliates may engage in passive market making transactions in our common stock on the NASDAQ Capital Market immediately prior to the commencement of sales in this offering, in accordance with Rule 103 of Regulation M under the Exchange Act of 1934. Rule 103 generally provides that:

- a passive market maker may not effect transactions or display bids for our common stock in excess of the highest independent bid price by persons who are not passive market makers;
- net purchases by a passive market maker on each day are generally limited to 30% of the passive market maker's average daily trading volume in our common stock during a specified two-month prior period or 200 shares, whichever is greater, and must be discontinued when that limit is reached; and
- passive market making bids must be identified as such.

Passive market making may stabilize or maintain the market price of our common stock at a level above that which might otherwise prevail and, if commenced, may be discontinued at any time.

Right of First Refusal

Commencing upon the effective date of the registration statement related to this offering and for a period of 15 months thereafter, we have granted Maxim a right of first refusal on any transaction where we have elected to employ an investment banker to act as lead managing underwriter and sole book runner, with at least 75% of the economics for any and all future public and private equity and debt offerings (excluding commercial bank debt), during such 15-month period, in which we, any successor to us or any of our subsidiaries engage. The 15-month right of first refusal period shall not be extended without our prior written consent.

Discretionary Accounts

The underwriters have informed us that they do not intend to confirm sales to accounts over which they exercise discretionary authority in excess of five percent of the total number of shares of common stock offered by them.

Pricing of this Offering

Prior to this offering, there has been no public market for our common stock. Consequently, the initial public offering price for our common stock was determined between us and the representatives of the underwriters. The factors considered in determining the initial public offering price included:

- prevailing market conditions;
- our results of operations and financial condition;
- financial and operating information and market valuations with respect to other companies that we and the representatives of the underwriters believe to be comparable or similar to us;
- the present state of our development; and
- our future prospects.

An active trading market for our common stock may not develop. It is possible that the market price of our common stock after this offering will be less than the initial public offering price.

NASDAQ Capital Market Listing

We plan to apply to have our common stock listed on the NASDAQ Capital Market under the symbol "CERC."

LEGAL MATTERS

The validity of the shares of common stock offered hereby is being passed upon for us by Morgan, Lewis & Bockius LLP, Philadelphia, Pennsylvania. The underwriters are being represented by Loeb & Loeb LLP, New York, New York.

EXPERTS

The financial statements of Cerecor Inc. at December 31, 2013 and 2014, and for each of the two years in the period ended December 31, 2014, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements) appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the shares of common stock being offered by this prospectus. This prospectus does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street NE, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the Public Reference Section of the SEC at 100 F Street NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facilities. You may also request a copy of these filings, at no cost, by writing us at 400 E Pratt Street, Suite 606, Baltimore, Maryland 21202 or telephoning us at (410) 522-8707.

Upon the closing of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for inspection and copying at the public reference room and web site of the SEC referred to above. We also maintain a website at www.cerecor.com, at which, following the closing of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website incorporated by reference in, and is not part of, this prospectus.

CERECOR, INC.

Index to Financial Statements

Audited Financial Statements

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Cerecor Inc.

We have audited the accompanying balance sheets of Cerecor Inc. as of December 31, 2013 and 2014, and the related statements of operations, convertible preferred stock and stockholders' deficit and cash flows for each of the two years in the period ended December 31, 2014. 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. We were not engaged to perform an audit of the Company's 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, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Cerecor Inc. at December 31, 2013 and 2014, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has recurring losses from operations, negative cash flows from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Ernst & Young LLP

Baltimore, Maryland

April 29, 2015

CERECOR INC.

Balance Sheets

	December 31, 2013	December 31, 2014	Pro Forma December 31, 2014 (unaudited)
Assets			
Current assets:			
Cash and cash equivalents	$ 3,421,480	$ 11,742,349	
Prepaid expenses and other current assets	714,280	360,307	
Restricted cash—current portion	—	58,333	
Total current assets	4,135,760	12,160,989	
Restricted cash, net of current portion	175,000	117,165	
Deferred financing costs	698,853	—	
Property and equipment, net	65,987	38,740	
Total assets	$ 5,075,600	$ 12,316,894	
Liabilities, convertible preferred stock and stockholders' deficit			
Current liabilities:			
Current portion of long term debt, net of discount	$ —	$ 1,905,879	
Accounts payable	1,639,505	931,139	
Accrued expenses and other current liabilities	994,555	975,114	
Warrant liability	431,582	69,684	
Investor rights obligation	—	1,112,000	
Total current liabilities	3,065,642	4,993,816	
Long term debt, net of current portion and discount	—	5,308,211	
Total liabilities	3,065,642	10,302,027	
Convertible preferred stock:			
Series A—$0.001 par value; 31,500,000 and 31,116,391 shares authorized at December 31, 2013 and 2014, respectively; 31,116,391 shares issued and outstanding at December 31, 2013 and 2014 and no shares issued and outstanding at December 31, 2014 (pro forma) (aggregate liquidation preference of $23,337,293 at December 31, 2014)	19,856,632	10,462,885	
Series A-1—$0.001 par value; 20,000,000 and 9,074,511 shares authorized at December 31, 2013 and 2014, respectively, 9,074,511 shares issued and outstanding at December 31, 2013 and 2014, respectively and no shares issued and outstanding at December 31, 2014 (pro forma) (aggregate liquidation preference of $6,805,883 at December 31, 2014)	1	3,389,331	

See accompanying notes to financial statements.

CERECOR INC.

Balance Sheets (Continued)

	December 31,		Pro Forma December 31,
	2013	2014	2014
			(unaudited)
Series B—$0.001 par value; 0 and 115,000,000 shares authorized at December 31, 2013 and 2014, respectively, 0 and 58,948,735 shares issued and outstanding at December 31, 2013 and 2014, respectively and no shares issued and outstanding at December 31, 2014 (pro forma) (aggregate liquidation preference of $17,678,726 at December 31, 2014)	—	14,493,315	
Total convertible preferred stock	19,856,633	28,345,531	
Stockholders' deficit:			
Common Stock—$0.001 par value, 167,000,000 and 230,000,000 shares authorized at December 31, 2013 and 2014, respectively, 18,000,000 and 18,193,930 shares issued and outstanding at December 31, 2013 and 2014, respectively and shares authorized and shares issued and outstanding at December 31, 2014 (pro forma)	18,000	18,194	
Additional paid-in capital	9,153,111	16,724,519	
Accumulated deficit	(27,017,786)	(43,073,377)	
Total stockholders' deficit	(17,846,675)	(26,330,664)	
Total liabilities, convertible preferred stock and stockholders' deficit	$ 5,075,600	$ 12,316,894	

See accompanying notes to financial statements.

CERECOR INC.

Statements of Operations

	Years Ended December 31,	
	2013	2014
Operating expenses:		
Research and development	$ 8,914,084	$ 12,240,535
General and administrative	4,020,364	4,875,030
Total operating expenses	12,934,448	17,115,565
Loss from operations	(12,934,448)	(17,115,565)
Other income (expense):		
Change in fair value of warrant liabilities and Investor Rights Obligation	(121,115)	2,266,161
Interest income (expense), net	10,555	(1,206,187)
Total other income (expense)	(110,560)	1,059,974
Net loss	(13,045,008)	(16,055,591)
Net loss attributable to common stockholders	$ (13,126,972)	$ (3,521,153)
Net loss per share of Common Stock, basic and diluted	$ (0.74)	$ (0.20)
Weighted-average shares of Common Stock outstanding, basic and diluted	17,742,808	17,977,534
Pro forma net loss per share of Common Stock—basic and diluted (unaudited)		$
Pro forma weighted-average shares of Common Stock outstanding, basic and diluted (unaudited)		

See accompanying notes to financial statements.

CERECOR INC.

Statements of Convertible Preferred Stock and Stockholders' Deficit

For the Period from January 1, 2013 to December 31, 2014

	Series A, A-1 and B Convertible Preferred Stock		Stockholders' Deficit				
			Common stock		Additional paid-in capital	Accumulated deficit	Total stockholders' deficit
	Shares	Amount	Shares	Amount			
Balance, January 1, 2013	**31,116,391**	**$ 19,856,632**	**18,000,000**	**$ 18,000**	**$ 2,574,040**	**$ (13,972,778)**	**$ (11,380,738)**
Issuance of Series A-1 Convertible Preferred Stock	9,074,511	6,567,064	—	—	—	—	—
Discount for beneficial conversion feature on A-1 Convertible Preferred Stock	—	(6,567,064)	—	—	6,567,064	—	6,567,064
Offering costs paid for A-1 Convertible Preferred Stock issuance	—	—	—	—	(736,640)	—	(736,640)
Accretion of A-1 Convertible Preferred Stock beneficial conversion feature discount	—	1	—	—	(1)	—	(1)
Stock-based compensation	—	—	—	—	748,648	—	748,648
Net Loss	—	—	—	—	—	(13,045,008)	(13,045,008)
Balance, December 31, 2013	40,190,902	19,856,633	18,000,000	18,000	9,153,111	(27,017,786)	(17,846,675)
Extinguishment upon Modification of Series A and A-1 Convertible Preferred Stock and issuance of common stock dividends	—	(6,004,417)	193,930	194	6,004,417	—	6,004,611
Reclassification of common stock warrants from liabilities to equity	—	—	—	—	426,303	—	426,303
Conversion of Convertible Promissory Notes in Exchange for Series B Convertible Preferred Stock	5,597,618	1,405,003	—	—	—	—	—
Conversion of Demand Notes in Exchange for Series B Convertible Preferred Stock, net of Investors Rights Obligation	3,333,331	837,313	—	—	—	—	—
Issuance of Series B Convertible Preferred Stock net of issuance costs and Investors Rights Obligation	50,017,786	12,250,999			54,107	—	54,107
Stock-based compensation	—	—	—	—	1,086,581	—	1,086,581
Net Loss	—	—	—	—	—	(16,055,591)	(16,055,591)
Balance, December 31, 2014	99,139,637	$ 28,345,531	18,193,930	$ 18,194	$ 16,724,519	$ (43,073,377)	$ (26,330,664)

See accompanying notes to financial statements.

CERECOR INC.

Statements of Cash Flows

	Year Ended December 31,	
	2013	2014
Operating activities		
Net loss	$(13,045,008)	$(16,055,591)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	20,032	28,943
Loss on disposition of assets	—	17,806
Stock-based compensation expense	748,648	1,086,581
Write off of deferred public offering costs	—	1,064,106
Non-cash interest expense	—	989,258
Non-cash expense related to issuance of warrants	25,811	—
Change in fair value of warrant liabilities and Investor Rights Obligation	121,115	(2,266,161)
Changes in assets and liabilities:		
Prepaid expenses and other assets	(271,004)	353,973
Restricted cash	(175,000)	(498)
Accounts payable	818,391	(708,366)
Accrued expenses and other current liabilities	271,875	(28,400)
Net cash used in operating activities	(11,485,140)	(15,518,349)
Investing activities		
Purchase of property and equipment	(29,268)	(19,502)
Net cash used in investing activities	(29,268)	(19,502)
Financing activities		
Proceeds from issuance of convertible promissory notes and demand notes	—	2,249,666
Proceeds from issuance of term loan, net of costs	—	7,390,000
Proceeds from issuance of Series A-1 Convertible Preferred Stock, and Common Stock warrants, net of offering costs	6,115,080	—
Deferred financing costs	(698,853)	(365,253)
Proceeds from issuance of Series B Convertible Preferred Stock and Common Stock warrants, net of offering costs	—	14,584,307
Net cash provided by financing activities	5,416,227	23,858,720
Increase (decrease) in cash and cash equivalents	(6,098,181)	8,320,869
Cash and cash equivalents at beginning of period	9,519,661	3,421,480
Cash and cash equivalents at end of period	$ 3,421,480	$ 11,742,349
Supplemental disclosures of cash flow information		
Cash paid for interest	$ —	$ 173,514
Supplemental disclosures of noncash financing activities:		
Conversion of promissory and demand notes into Series B Convertible Preferred Stock	$ —	$ 2,249,666
Reclassification of Common Stock warrants from liabilities to equity	$ —	$ 426,303
Allocation of debt and equity proceeds to Investor Rights Obligation	$ —	$ 2,598,510
Extinguishment upon modification of Series A and A-1 Convertible Preferred Stock	$ —	$ 12,534,438

See accompanying notes to financial statements.

CERECOR INC.

Notes to Financial Statements

As of and for the Years Ended December 31, 2014 and 2013

1. BUSINESS

Description of Business and Organization

Cerecor Inc. (the "Company" or "Cerecor") was incorporated on January 31, 2011 in Delaware as Ceregen Corporation and subsequently changed the name to Cerecor Inc. in March 2011. The Company is a clinical-stage biopharmaceutical company with the goal of becoming a leader in the development of innovative drugs that make a difference in the lives of patients with neurological and psychiatric disorders. The Company's operations since inception have been limited to organizing and staffing the Company, acquiring rights to and developing certain product candidates and its product platform, business planning and raising capital.

Liquidity

The Company's financial statements have been prepared on a going-concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. Accordingly, the financial statements do not include any adjustments that might be necessary should the Company be unable to continue to fund its operations. The Company has not generated any product revenues and has not yet achieved profitable operations. There is no assurance that profitable operations will ever be achieved, and if achieved, could be sustained on a continuing basis.

The Company has incurred recurring operating losses since inception. For the year ended December 31, 2014, the Company incurred a net loss of $16,055,591 and generated negative cash flows from operations of $15,518,349. As of December 31, 2014, the Company had an accumulated deficit of $43,073,377. The Company has not generated any product revenue to date. The Company anticipates operating losses to continue for the foreseeable future due to, among other things, costs related to the clinical development of its product candidates, its product platform, its preclinical programs, business development and the development of its administrative organization. The Company will require substantial additional financing to fund its operations and to continue to execute its strategy. To fully execute its business plan, the Company will need to complete certain research and development activities, have positive clinical trial results and obtain marketing approval for its product candidates, which may span many years, and may ultimately be unsuccessful. Any delays in completing these activities or negative clinical trial results could adversely impact the Company. The Company plans to meet its capital requirements primarily through a combination of equity and debt financings, collaborations, strategic alliances and marketing distribution or licensing arrangements and in the longer term, revenue from product sales to the extent its product candidates receive marketing approval and are commercialized. There can be no assurance, however, that the Company will be successful in obtaining financing at the level needed to sustain operations and develop its product candidates or on terms acceptable to the Company, or that the Company will obtain approvals necessary to market its products or achieve profitability or sustainable, positive cash flow. The Company currently anticipates that its cash and cash equivalents will be sufficient to meet its anticipated cash requirements through at least the end of the third quarter of 2015. These factors raise significant doubt about the Company's ability to continue as a going concern.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying financial statements have been prepared in conformity with U. S. generally accepted accounting principles ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB").

Unaudited Pro Forma Presentation

On December 17, 2013, the Company's board of directors authorized management of the Company to confidentially submit a registration statement to the Securities and Exchange Commission (the "SEC") for the Company to sell shares of its Common Stock (the "Common Stock") to the public. The unaudited pro forma balance sheet information as of December 31, 2014 assumes the conversion of all outstanding shares of the Company's Series A Convertible Preferred Stock, Series A-1 Convertible Preferred Stock and Series B Convertible Preferred Stock (collectively, "Preferred Stock") as of that date into shares of the Company's Common Stock in connection with a qualified initial public offering ("IPO") (see Note 10). The unaudited pro forma net loss per share is computed using the weighted-average number of shares of Common Stock outstanding and gives effect to the automatic conversion of all outstanding shares of the Company's Preferred Stock into an aggregate of 111,455,955 shares of the Company's Common Stock as of January 1, 2014 or the date of original issuance, if later.

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, liabilities, revenues, expenses, other comprehensive income and related disclosures. On an ongoing basis, management evaluates its estimates, including estimates related to clinical trial accruals, Investor Rights Obligation, and warrant liability. The Company bases its estimates on historical experience and other market-specific or other relevant assumptions that it believes to be reasonable under the circumstances. Actual results may differ from those estimates or assumptions.

In addition, the Company utilizes estimates and assumptions in determining the fair value of its Common Stock. The Company granted stock options at exercise prices not less than the fair value of its Common Stock as determined by the board of directors, with input from management. Management uses the assistance of a third-party valuation firm in estimating the fair value of the Common Stock. The board of directors has determined the estimated fair value of the Common Stock based on a number of objective and subjective factors, including external market conditions affecting the biotechnology industry sector and the historic prices at which the Company sold shares of its Preferred Stock.

Net Loss Per Share, Basic and Diluted

Basic net loss per share of Common Stock is computed by dividing net loss attributable to common stockholders by the weighted-average number of shares of Common Stock outstanding during the period, excluding the dilutive effects of Preferred Stock, Investor Rights Obligation (see Note 10), warrants on Preferred Stock and Common Stock, stock options, Common Stock dividends on

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Series A-1 Convertible Preferred Stock and unvested restricted stock. Diluted net loss per share of Common Stock is computed by dividing the net loss attributable to common stockholders by the sum of the weighted-average number of shares of Common Stock outstanding during the period plus the potential dilutive effects of Preferred Stock, Investor Rights Obligation, warrants on Preferred Stock and Common Stock, stock options, Common Stock dividends on Series A-1 Convertible Preferred Stock and unvested restricted stock outstanding during the period calculated in accordance with the treasury stock method, although these shares and options are excluded if their effect is anti-dilutive. In addition, the Company analyzes the potential dilutive effect of the outstanding Preferred Stock, Investor Rights Obligation, and warrants on Preferred Stock and Common Stock under the "if-converted" method when calculating diluted earnings per share, in which it is assumed that the outstanding security converts into Common Stock at the beginning of the period. Because the impact of these items is anti-dilutive during periods of net loss, there was no difference between basic and diluted net loss per share of Common Stock for the years ended December 31, 2013 and 2014.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. The carrying amounts reported in the balance sheets for cash and cash equivalents are valued at cost, which approximates their fair value.

Restricted Cash

During the third quarter of 2013, the Company entered into a lease for new office space for its principal offices in Baltimore, Maryland. The Company has provided the landlord with a Letter of Credit in the amount of $175,000 as security by the Company of the Company's obligations under the Lease. The Letter of Credit is supported by funds that are invested in a certificate of deposit. Provided there has been no event of default by the Company, the Company may request that the amount of the Letter of Credit be reduced by one-third (approximately $58,000) at the end of each of the first three years of the lease term. At the expiration of the third year of the lease term, the Company shall deposit with Landlord the sum of $13,000 as a security deposit.

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 a portion of its cash and cash equivalent balances in the form of a money market account with a financial institution that management believes to be creditworthy. The Company has no financial instruments with off-balance sheet risk of loss.

Deferred Offering Costs

The Company capitalizes certain legal, accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs (non-current) until such financings are consummated. After consummation of the equity financing, these costs are recorded in stockholders' equity (deficit) as a reduction of additional paid-in capital generated as a result of the offering. Should the equity financing for which those costs relate no longer be considered probable of being consummated, all deferred offering costs will be charged to operating expenses in the statement

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

of operations at such time. The Company incurred and deferred offering costs of $698,853 during the year ended December 31, 2013. These costs were expensed in their entirety during 2014 upon the Company's determination that the equity financing was no longer probable of being consummated. Prior to this determination, the Company incurred and expensed an additional $365,253 in offering costs during the year ended December 31, 2014.

Debt Issuance Costs

The Company may record debt and equity discounts in connection with raising funds through the issuance of convertible notes or equity instruments. These discounts may arise from (i) the receipt of proceeds less than the face value of the convertible notes or equity instruments, (ii) allocation of proceeds to beneficial conversion features and/or (iii) recording derivative liabilities related to embedded features. These costs are amortized over the life of the debt to interest expense utilizing the effective interest method. If a repayment, extinguishment or conversion of the underlying debt occurs, a proportionate share of the unamortized discount is immediately expensed.

Property and Equipment

Property and equipment consists of computers, office and laboratory equipment, and furniture and is recorded at cost. Maintenance and repairs that do not improve or extend the lives of the respective assets are expensed to operations as incurred. Property and equipment are depreciated on a straight-line basis over their estimated useful lives. The Company uses a life of four years for computers and software, and five years for equipment and furniture. Upon retirement or sale, the cost of the disposed asset and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized.

Impairment of Long-Lived Assets

Long-lived assets consist of property and equipment. Long-lived assets to be held and used are tested for recoverability whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset or asset group for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset or asset group to its carrying value. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use and eventual disposition of an asset or asset group are less than its carrying amount. The impairment loss would be based on the excess of the carrying value of the impaired asset or asset group over its fair value, determined based on discounted cash flows. To date, the Company has not recorded any impairment losses on long-lived assets.

Research and Development

Research and development costs are expensed as incurred. These costs include, but are not limited to, employee-related expenses, including salaries, benefits and stock-based compensation of our

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

research and development personnel; expenses incurred under agreements with contract research organizations and investigative sites that conduct clinical trials and preclinical studies; the cost of acquiring, developing and manufacturing clinical trial materials; other supplies; facilities, depreciation and other expenses, which include direct and allocated expenses for rent, utilities and insurance; and costs associated with preclinical activities and regulatory operations.

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 to the Company by its vendors, such as clinical research organizations, with respect to 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 research and development expense, as the case may be.

Comprehensive Loss

Comprehensive loss is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Comprehensive loss was equal to net loss for all periods presented.

Income Taxes

The Company accounts for income taxes under the asset and liability method in accordance with ASC 740, *Income Taxes* ("ASC 740"). 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 using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. The deferred tax asset primarily includes net operating loss and tax credit carryforwards, accrued expenses not currently deductible and the cumulative temporary differences related to certain research and patent costs, which have been charged to expense in the accompanying statements of operations but have been recorded as assets for income tax purposes. The portion of any deferred tax asset for which it is more likely than not that a tax benefit will not be realized must then be offset by recording a valuation allowance. A full valuation allowance has been established against all of the deferred tax assets (see Note 12) as it is more likely than not that these assets will not be realized given the Company's history of operating losses. The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not to be sustained upon examination based on the technical merits of the position. The amount for which an exposure exists is measured as the largest amount of benefit determined on a cumulative probability basis that the Company believes is more likely than not to be realized upon ultimate settlement of the position.

The Company's policy is to record interest and penalties on uncertain tax positions as income tax expense. As of December 31, 2014, the Company does not believe any material uncertain tax positions are present.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Stock-Based Compensation

At December 31, 2014, the Company had one stock-based compensation plan (see Note 11). The Company applies the provisions of ASC 718, *Compensation—Stock Compensation* ("ASC 718"), which requires the measurement and recognition of compensation expense for all stock-based awards made to employees and non-employees, including employee stock options in the statement of operations.

For stock options issued to employees and members of the board of directors for their services on the board of directors, the Company estimates the grant date fair value of each option using the Black-Scholes option pricing model. The use of the Black-Scholes option pricing model requires management to make assumptions with respect to the expected term of the option, the expected volatility of the Common Stock consistent with the expected life of the option, risk-free interest rates, the value of the Common Stock and expected dividend yields of the Common Stock. For awards subject to service-based vesting conditions, including those with a graded vesting schedule, the Company recognizes stock-based compensation expense, net of estimated forfeitures, equal to the grant date fair value of stock options on a straight-line basis over the requisite service period, which is generally the vesting term. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Stock-based payments issued to non-employees are initially measured at their grant date fair values, are revalued as the underlying equity instruments vest and are recognized as expense over the earlier of the period ending with the performance commitment date or the date the services are completed in accordance with the provisions of ASC 718 and ASC 505-50, *Equity-Based Payments to Non-Employees* ("ASC 505-50"). See Note 11 for a discussion of the assumptions used by the Company in determining the grant date fair value of options granted under the Black-Scholes option pricing model, as well as a summary of the stock option activity under the Company's stock-based compensation plan.

Clinical Trial Expense Accruals

As part of the process of preparing its financial statements, the Company is required to estimate its expenses resulting from its obligations under contracts with vendors, clinical research organizations and consultants and under 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 under such contracts. The Company's objective is to reflect the appropriate trial expenses in its financial statements by matching those expenses with the period in which services are performed and efforts are expended. The Company accounts for these expenses according to the progress of the trial as measured by subject progression and the timing of various aspects of the trial. The Company determines accrual estimates through financial models taking into account discussion with applicable personnel and outside service providers as to the progress or state of consummation of trials, or the services completed. During the course of a clinical trial, the Company adjusts its clinical expense recognition if actual results differ from its estimates. The Company makes estimates of its accrued expenses as of each balance sheet date based on the facts and circumstances known to it at that time. The Company's clinical trial accruals are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors. Although the Company does not expect its

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

estimates to be materially different from amounts actually incurred, its understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in it reporting amounts that are too high or too low for any particular period. For the years ended December 31, 2013 and December 31, 2014, there were no material adjustments to the Company's prior period estimates of accrued expenses for clinical trials.

Segment Information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, or decision-making group, in making decisions on how to allocate resources and assess performance. The Company's chief operating decision maker is the chief executive officer. The Company and the chief executive officer view the Company's operations and manage its business as one operating segment. All long-lived assets of the Company reside in the United States.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue From Contracts With Customers*, ("ASU 2014-09"). Pursuant to ASU 2014-09, an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. For a public entity, ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early application is not permitted. The Company has not yet determined the impact of adoption on the financial statements.

On June 10, 2014, the FASB issued ASU No. 2014-10, *Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation ("Topic 915").* The guidance is intended to reduce the overall cost and complexity associated with financial reporting for development stage entities without reducing the availability of relevant information. The FASB also believes the changes will simplify the consolidation accounting guidance by removing the differential accounting requirements for development stage entities. As a result of these changes, there no longer will be any accounting or reporting differences in GAAP between development stage entities and other operating entities. For organizations defined as public business entities. the presentation and disclosure requirements in Topic 915 will no longer be required starting with the first annual period beginning after December 15, 2014, including interim periods therein. Early application is permitted for any annual reporting period or interim period for which the entity's financial statements have not yet been issued (public business entities) or made available for issuance (other entities). The Company early adopted this guidance during the year ended December 31, 2014 and, as a result, the Company no longer presents inception-to-date information in the statements of operations, cash flows, and stockholders' deficit.

In August 2014, FASB issued ASU No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern.* The amendments in this update will explicitly require a company's management to assess an entity's ability to continue as a going concern, and to provide related footnote disclosures in certain circumstances. The new standard will be effective in the first annual period

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

ending after December 15, 2016. Early application is permitted. The Company is currently evaluating the potential impact of the adoption of this standard, but believes its adoption will have no impact on its financial position, results of operations or cash flows.

In November 2014, the FASB issued ASU No. 2014-16, *Determining Whether the Host Contract in a Hybrid Financial Instrument Issued in the Form of a Share is more akin to Debt or to Equity*. The amendments in this update clarify how current GAAP should be interpreted in evaluating the economic characteristics and risks of a host contract in a hybrid financial instrument that is issued in the form of a share. Specifically, the amendments clarify that an entity should consider all relevant terms and features—including the embedded derivative feature being evaluated for bifurcation—in evaluating the nature of the host contract. The amendments in this update are effective for public companies for fiscal years and interim periods within those fiscal years, beginning after December 15, 2015 with early adoption permitted. The Company has adopted this guidance for the year ended December 31, 2014 and has properly applied it to its hybrid financial instruments.

In April 2015, the FASB issued ASU No. 2015-03, *Simplifying the Presentation of Debt Issuance Costs.* The guidance requires debt issuance costs to be presented in the balance sheet as a direct deduction from the carrying value of the associated debt liability, consistent with the presentation of a debt discount. The standard also aligns the GAAP presentation with International Financial Reporting Standards and will remedy the long-standing conflict with the guidance in FASB Concepts Statement No. 6, *Elements of Financial Statements,* which indicates that debt issuance costs do not meet the definition of an asset, because they provide no future economic benefit. For public companies, the standard is effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. For all other entities, the standard is effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within fiscal years beginning after December 15, 2016. Early adoption is permitted for financial statements that have not been previously issued. The new guidance will be applied on a retrospective basis. The Company is currently evaluating the potential impact of the adoption of this standard, but believes its adoption will have no impact on its financial position, results of operations or cash flows.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

3. NET LOSS PER SHARE OF COMMON STOCK, BASIC AND DILUTED

The following table sets forth the computation of basic and diluted net loss per share of Common Stock for the periods indicated:

Net loss per share, basic and diluted calculation:	Year ended December 31, 2013	Year ended December 31, 2014
Net loss	$ (13,045,008)	$ (16,055,591)
Extinguishment upon modification of Series A and A-1 Convertible Preferred Stock	—	$ 12,534,438
Deemed dividend	(81,964)	—
Net loss attributable to Common Stockholders	$ (13,126,972)	$ (3,521,153)
Weighted-average common shares outstanding	17,742,808	17,977,534
Net loss per share, basic and diluted	$ (0.74)	$ (0.20)

The following outstanding securities at December, 31, 2013 and 2014 have been excluded from the computation of diluted weighted shares outstanding, as they would have been anti-dilutive:

	December 31, 2013	December 31, 2014
Series A Convertible Preferred Stock	31,116,391	31,116,391
Series A-1 Convertible Preferred Stock	9,074,511	9,074,511
Series B Convertible Preferred Stock	—	58,948,735
Common Stock dividends on Series A-1 Convertible Preferred Stock	79,706	—
Unvested restricted stock	200,000	—
Stock options	10,687,375	15,477,272
Warrants on Common Stock	14,358,808	19,093,695
Warrants on Preferred Stock	—	625,208
Investor Rights Obligation	—	53,351,117

4. FAIR VALUE MEASUREMENTS

ASC 820, *Fair Value Measurements and Disclosures* ("ASC 820"), defines fair value as the price that would be received to sell an asset, or paid to transfer a liability, in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. The fair value standard also establishes a three-level hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The valuation hierarchy is based upon the transparency of inputs to the valuation of an asset or liability on the measurement date. The three levels are defined as follows:

- Level 1—inputs to the valuation methodology are quoted prices (unadjusted) for an identical asset or liability in an active market.

- Level 2—inputs to the valuation methodology include quoted prices for a similar asset or liability in an active market or model-derived valuations in which all significant inputs are observable for substantially the full term of the asset or liability.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

4. FAIR VALUE MEASUREMENTS (Continued)

- Level 3—inputs to the valuation methodology are unobservable and significant to the fair value measurement of the asset or liability.

At December 31, 2013 and 2014, the Company's financial instruments included cash and cash equivalents, restricted cash, accounts payable, accrued expenses and other current liabilities, long term debt, the Series A-1 Convertible Preferred Stock warrant liability, the Investor Rights Obligation and the term loan warrant liability. The carrying amounts reported in the accompanying financial statements for cash and cash equivalents, restricted cash, accounts payable, and accrued expenses and other current liabilities approximate their respective fair values because of the short-term nature of these accounts. The estimated fair value of the Company's debt of $7.1 million as of December 31, 2014 was based on current interest rates for similar types of borrowings and is in Level Two of the fair value hierarchy.

The following table presents, for each of the fair value hierarchy levels required under ASC 820, the Company's assets and liabilities that are measured at fair value on a recurring basis:

	December 31, 2013 Fair Value Measurements Using		
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets			
Investments in money market funds*	$ 3,272,811	$ —	$ —
Liabilities			
Series A-1 Convertible Preferred Stock Warrant Liability	$ —	$ —	$ 431,582

	December 31, 2014 Fair Value Measurements Using		
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets			
Investments in money market funds*	$ 11,251,724	$ —	$ —
Liabilities			
Investor Rights Obligation	$ —	$ —	$ 1,112,000
Term Loan Warrant Liability	$ —	$ —	$ 69,684

* Investments in money market funds are reflected in cash and cash equivalents on the accompanying Balance Sheets.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

4. FAIR VALUE MEASUREMENTS (Continued)

Level 3 Valuation

The Series A-1 Convertible Preferred Stock warrant liability is recorded as warrant liability on the accompanying Balance Sheet at December 31, 2013. The Series A-1 Convertible Preferred Stock warrant liability was marked-to-market each reporting period with the change in fair value recorded to other income (expense) in the accompanying Statements of Operations until the warrants were exercised, expired or other facts and circumstances led the Series A-1 Convertible Preferred Stock warrant liability to be reclassified to stockholders' equity (which occurred in July 2014). The fair value of the Series A-1 Convertible Preferred Stock warrant liability was estimated using a Black-Scholes Option Pricing Model within a Monte Carlo simulation model framework. The significant assumptions used in preparing the option pricing model for valuing the Company's warrants to purchase shares of Common Stock as of December 31, 2013, included (i) volatility ranging from 45.0% to 75.0%, (ii) risk free interest rate ranging from 0.07% to 1.38%, (iii) strike price ($1.00), (iv) fair value of Common Stock ($0.36), and (v) expected life ranging from 0.50 to 2.25 years. The warrants for Common Stock issued to holders of Series A-1 Convertible Preferred Stock contained provisions whereby the exercise price could be adjusted. Certain events were not deemed to be traditional dilution events under GAAP. Therefore the warrants were classified as a liability and subject to derivative accounting. The provision was amended in conjunction with the issuance of the Series B Convertible Preferred Stock in July 2014 and the warrants are no longer subject to such adjustments. The warrants were marked to market immediately before the amendment and then classified into permanent equity immediately thereafter.

The Common Stock warrants issued in connection with the convertible promissory notes (see Note 9) were classified as liabilities at the time of issuance due to the variable exercise price prior to completing a qualified financing event. The Common Stock warrant liability was marked-to-market each reporting period with the change in fair value recorded to other income (expense) in the accompanying Statements of Operations until the warrants were exercised, expired or other facts and circumstances led the Common Stock warrant liability to be reclassified to stockholders' equity (which occurred in July 2014 in connection with the issuance of the Series B Convertible Preferred Stock). The fair value of the Common Stock warrant liability was estimated using a Black-Scholes Option Pricing Model. The significant assumptions used in preparing the option pricing model for valuing the Company's warrants to purchase shares of Common Stock as of July 2014 included (i) volatility of 70.0%, (ii) risk free interest rate ranging from 1.62% to 1.74%, (iii) strike price $0.19 - $0.36 per share, (iv) fair value of Common Stock ranging from $0.19 - $0.36 per share, and (v) expected life ranging from 4.8 to 5.0 years. Upon completing the issuance of the Series B Convertible Preferred Stock in July 2014, the exercise price of the Common Stock warrants was fixed at $0.2999 per share. The warrants were marked to market immediately before the exercise price was fixed and then classified into permanent equity immediately thereafter.

The term loan warrant liability is recorded as warrant liability on the accompanying Balance Sheet at December 31, 2014. The term loan warrant liability is marked-to-market each reporting period with the change in fair value recorded to other expense in the accompanying Statements of Operations until the warrants are exercised, expire or other facts and circumstances lead the term loan warrant liability to be reclassified to stockholders' equity. The fair value of the term loan warrant liability is estimated using a Black-Scholes Option Pricing Model within a Monte Carlo simulation model framework. The significant assumptions used in preparing the option pricing model for valuing the Company's warrants

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

4. FAIR VALUE MEASUREMENTS (Continued)

to purchase shares of Series B Convertible Preferred Stock as of December 31, 2014, include (i) volatility of 60.0%, (ii) risk free interest rate of 2.1%, (iii) strike price ($0.2999), (iv) fair value of Series B Convertible Preferred Stock ($0.18), and (v) expected life ranging from 8.23 years. Significant decreases in the Company's stock price volatility will significantly decrease the overall valuation of the Company's term loan warrant liability, while significant increases in the Company's stock price volatility will significantly increase the overall valuation.

The Investor Rights Obligation is recorded at fair value in its own line item on the Company's Balance Sheets and will expire at the earlier of (i) an IPO, (ii) a deemed liquidation event, or (iii) June 30, 2017. While outstanding, the Investor Rights Obligation is remeasured at each reporting period and changes in fair value are recorded as a component of other income or expense in the Company's Statement of Operations. The fair value of the Investor Rights Obligation was determined using a valuation model, which considers the probability of achieving certain milestones, the entity's cost of capital, the estimated period the rights will be outstanding, consideration received for the instrument with the rights, the number of shares to be issued to satisfy the rights, the price of such shares and any changes in the fair value of the underlying instrument. The significant assumptions used in preparing the option pricing model for valuing the Company's Investor Rights Obligation as of December 31, 2014, include (i) volatility (60.0%), (ii) risk free interest rate ranging from 0.05% to 0.63%, (iii) strike price ($0.2999), (iv) fair value of Preferred Stock ranging from $0.00 to $0.18, and (v) expected life ranging from 0.5 to 1.75 years. Significant decreases in the the price per share of the Company's Series B Convertible Preferred Stock and stock price volatility will significantly decrease the overall valuation of its Investor Rights Obligation, while significant increases will significantly increase the overall valuation.

The table presented below is a summary of changes in the fair value of the Company's Level 3 valuation for the Series A-1 Convertible Preferred Stock warrant liability for the year ended December 31, 2013:

	Level 3 Series A Convertible Preferred Stock Warrant Liability
Balance at December 31, 2012	$ —
Warrants issued in connection with Series A-1 Convertible Preferred Stock	310,467
Change in fair value of warrant liability	121,115
Balance at December 31, 2013	$ 431,582

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

4. FAIR VALUE MEASUREMENTS (Continued)

The table presented below is a summary of changes in the fair value of the Company's Level 3 valuation for the Series A-1 Convertible Preferred Stock, Convertible Promissory Notes and Term Loan warrant liabilities and the Investor Rights Obligation for the year ended December 31, 2014:

	Warrant Liability	Investor Rights Obligation	Total
Balance at December 31, 2013	$ 431,582	$ —	$ 431,582
Issuance of warrants with debt and equity financings	844,056	—	844,056
Recording of Investor Rights Obligations at fair value	—	2,598,510	2,598,510
Change in fair value	(779,651)	(1,486,510)	(2,266,161)
Reclassification of liability to stockholders' equity	(426,303)	—	(426,303)
Balance at December 31, 2014	$ 69,684	$ 1,112,000	$ 1,181,684

No other changes in valuation techniques or inputs occurred during the years ended December 31, 2013 and 2014. No transfers of assets between Level 1 and Level 2 of the fair value measurement hierarchy occurred during the years ended December 31, 2013 and 2014.

5. DEFERRED FINANCING COSTS

Deferred financing costs incurred in preparation for filing an IPO consisted of the following:

	December 31,	
	2013	2014
Legal fees	$ 348,995	$ 525,414
Accounting fees	284,858	435,410
Printing costs	65,000	103,282
Expense upon determination that consummation of offering is not probable	—	(1,064,106)
Total deferred financing costs	$ 698,853	$ —

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

6. PROPERTY AND EQUIPMENT

Property and equipment consisted of the following:

	December 31,	
	2013	2014
Furniture and equipment	$ 81,155	$ 34,918
Computers and software	21,647	41,150
Total property and equipment	102,802	76,068
Less accumulated depreciation	(36,815)	(37,328)
Property and equipment, net	$ 65,987	$ 38,740

Depreciation expense was $20,032 and $28,943 for the years ended December 31, 2013 and December 31, 2014, respectively.

7. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities consisted of the following:

	December 31,	
	2013	2014
Compensation and benefits	$ 158,276	$ 129,450
Research and development expenses	124,525	598,883
General and administrative	711,754	159,045
Accrued interest	—	87,736
Total accrued expenses and other current liabilities	$ 994,555	$ 975,114

8. ASSET ACQUISITION AND LICENSE AGREEMENTS

In May 2011, the Company entered into an asset purchase agreement (the "Fells Agreement") with Fells Laboratories LLC ("Fells") for the acquisition of certain assets owned or licensed by Fells, all related to a compound known as FP01. The Company also assumed certain contractual obligations relating to FP01. The principal assets acquired consisted of three patents owned by Fells and a license with Johns Hopkins University ("JHU"), which includes rights to two additional patents. According to the terms of the Fells Agreement, the Company paid $540,000, which consisted of a $340,000 upfront payment in May 2011, which was expensed as research and development during the period from January 31, 2011 to December 31, 2011 and a $200,000 milestone payment in July 2012, which was expensed as research and development during the year ended December 31, 2012, upon the successful completion of the prototype of the formulation of FP01. The Company could have been required to pay up to an additional $2.9 million to Fells upon the achievement of certain contingent development and regulatory milestones; however, Fells has disclaimed any right to receive any future payment under the Fells Agreement and, in addition, the Company has discontinued any further development of FP01 and has provided notice to JHU that the Company is terminating the JHU license effective June 15, 2015.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

8. ASSET ACQUISITION AND LICENSE AGREEMENTS (Continued)

The Company accounted for this transaction as an asset acquisition because it only acquired the assigned rights and technology and did not acquire any processes or activities. The majority shareholder of Fells is the Company's President and Chief Executive Officer.

Pursuant to the terms of the license agreement between JHU and Fells, which the Company assumed in the acquisition, the Company may be required to make contingent milestone payments to JHU of up to $375,000 upon the achievement of certain development and regulatory milestones. The Company expensed $27,500 and $0 for the years ended December 31, 2013 and 2014, respectively, which has been recorded as research and development expenses in the accompanying Statements of Operations. The Company is not currently developing FP01 and does not expect to expense any additional fees to JHU unless the Company out-licenses FP01 to a third party for development.

In March 2013, the Company entered into an exclusive license agreement with Merck pursuant to which Merck granted the Company rights relating to certain small molecule compounds. In consideration of the license, the Company may be required to make initial payments totaling $1,500,000. Pursuant to the license agreement the Company paid $750,000 and upon achievement of FDA acceptance of Merck pre-clinical data and FDA approval of a Phase 3 clinical trial the Company will pay an additional $750,000. The initial payment of $750,000 was recorded as research and development expense in the accompanying Statement of Operations for the year ended December 31, 2013. Additional payments may be due upon achievement of development and regulatory milestones, including first commercial sale. Upon commercialization of an NR2B product, the Company is obligated to pay Merck milestones and royalties on net sales.

In March 2013, the Company entered into a separate exclusive license agreement with Merck pursuant to which Merck granted to the Company certain rights in small molecule compounds which are known to inhibit the activity of catechol-*O*-methyltransferase, or COMT. The Company made a $200,000 upfront payment to Merck, which was recorded as research and development expense in the accompanying Statement of Operations for the year ended December 31, 2013. Under the agreement the Company is required to pay milestone payments upon achievement of various development and regulatory milestones. Upon commercialization of a COMT product, the Company is obligated to pay Merck a royalty on net sales of a COMT product.

9. DEBT

Debt consisted of the following:

	December 31, 2014
Term loan	$ 7,500,000
Less: debt discount	(285,910)
Term Loan, net of debt discount	7,214,090
Less: current portion, net of debt discount	(1,905,879)
Long term debt, net of current portion and debt discount	$ 5,308,211

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

9. DEBT (Continued)

Term Loan

In August 2014, the Company received a $7,500,000 secured term loan from a finance company. The loan is secured by a lien on all of the Company's assets, excluding intellectual property, which was subject to a negative pledge. The loan contains certain additional nonfinancial covenants. In connection with the loan agreement, the Company's cash and investment accounts are subject to account control agreements with the finance company that give the finance company the right to assume control of the accounts in the event of a loan default. Loan defaults are defined in the loan agreement and include, among others, the finance company's determination that there is a material adverse change in the Company's operations. Interest on the loan is at a rate of the greater of 7.95%, or 7.95% plus the prime rate as reported in The Wall Street Journal minus 3.25%. The current interest rate is 7.95%. The loan is interest-only for nine months, and is repayable in equal monthly payments of principal and interest of $304,278 over 27 months. Cash interest expense of $223,594 was recognized during the year ended December 31, 2014 in the accompanying Statement of Operations. Future principal payments are as follows:

Year ending December 31,	
2015	$ 2,077,081
2016	3,335,122
2017	2,087,797
	$ 7,500,000

Additionally, the lender was granted the right to participate in the first tranche of the Company's Series B Convertible Preferred Stock financing in an amount of up to $1,000,000 to be funded on the date the loan agreement was entered into, and (b) in the second tranche of the Company's Series B Convertible Preferred Stock financing in an amount of up to $1,000,000, on the same terms, conditions and pricing afforded to others participating in the applicable financing, if such second tranche occurs. The Lender exercised this right and in August 2014 invested $1,000,000 in the Series B Convertible Preferred Stock financing (see Note 1). The right to participate in the second tranche will expire upon the closing of an IPO.

The Company accounted for the issuance of the term loan and Series B Convertible Preferred Stock financing as a bundled transaction to which a portion of the fair value of the Investor Rights Obligation was allocated to the term loan and Series B Convertible Preferred Stock equity offering based on relative fair value (see Note 10). Using the probability weighted expected return method, or PWERM, the Investor Rights Obligation was initially valued at $162,407 of which the Company allocated $143,252 as a debt discount against the carrying value of the term loan at the time of issuance.

The PWERM involves a forward-looking analysis of the possible future outcomes of a company. Discrete future outcomes considered under the PWERM included non-IPO market based outcomes as well as IPO scenarios. In the non-IPO scenarios, a large portion of the Company's equity value is allocated to the Preferred Stock to incorporate higher aggregate liquidation preferences. In the IPO scenarios, the equity value is allocated pro rata among the shares of Common Stock and each series of Preferred Stock, which causes the Common Stock to have a higher relative value per share than under the non-IPO scenario. The fair value of the Investor Rights Obligation determined using the IPO and

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

9. DEBT (Continued)

non-IPO scenarios are weighted according to the board of directors' estimate of the probability of each scenario.

In connection with the loan from the finance company, the Company issued a warrant to purchase 625,208 shares of Series B Convertible Preferred Stock at an exercise price of $0.2999 per share that is exercisable for a period ending upon the earlier of ten years from the date of issuance and five years following an IPO. The Company's warrant to purchase shares of Series B Convertible Preferred Stock represented a freestanding financial instrument that was indexed to an obligation of the Company to repurchase its Series B Convertible Preferred Stock by transferring assets and therefore met the criteria to be classified as a liability under ASC 480, *Distinguishing Liabilities from Equity*. The Company records the warrant liability at its fair value using the Black-Scholes option pricing model and revalues the warrant at each reporting date. The following table summarizes the fair value and the assumptions used for the Black-Scholes option-pricing model for this warrant:

	Date of Issuance, August 19, 2014	December 31, 2014
Fair value	$ 115,056	$ 69,684
Fair value of Series B Convertible Preferred Stock	$ 0.25	$ 0.20
Expected dividend yield	0.0%	0.00%
Risk-free interest rate	2.4%	2.1%
Expected stock price volatility	70.0%	60.0%
Expected term	9.8 years	8.3 years

Upon issuance of the term loan, the Company paid lender fees of $110,000 and is required to pay a one-time fee at maturity of $187,500. A portion of the Investor Rights Obligation was allocated to the term loan and equal to $143,252 (as discussed above and see Notes 4 and 10). The lender fees, warrants, and Investor Rights Obligation were recorded as a discount to the carrying amounts of the current and long term portions of the term loan. Amortization of the debt discount and accretion of the one-time fee was $68,861 and $36,394, respectively, during the year ended December 31, 2014 and is reflected as a component of interest expense within the Company's Statements of Operations.

Convertible Promissory Notes

From April through June 2014, the Company entered into several convertible promissory notes for aggregate proceeds of $1.25 million. The loans bear interest at an annual rate of 6.0% and mature within 12 months from their issuance date. In the event that the Company completed a qualified equity offering that generated aggregate proceeds of at least $10 million, the notes would automatically convert into the shares issued in connection with the qualified equity offering and at a conversion price equal to 75% of the qualified equity offering price. The Company accounted for the notes as stock-settled debt, since the value of any future stock issued upon conversion will be equal to 125% of the principal and interest to which the Company amortized $145,987 into earnings and recorded as interest expense over the term of the notes. In the event that an equity offering did not occur by the maturity date, all interest and principal would have become due. The notes converted on July 11, 2014 when the Series B Convertible Preferred Stock equity offering was completed. The principal amount of the notes, and interest of $9,016, was converted at 75% of the Series B Convertible Preferred Stock original issuance price, or $0.22492 per share, and the Company issued 5,597,618 shares of Series B Convertible Preferred Stock.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

9. DEBT (Continued)

In connection with issuing the notes, the holders received warrants to purchase 4,168,054 shares of the Company's Common Stock. The warrants are exercisable at the option of the holder at any time during their five-year term at a price per share at which equity securities are sold in a qualified financing event or offered to the public in the event of an IPO. Upon completing the Series B Convertible Preferred Stock equity offering on July 11, 2014, a qualified financing event occurred and the holders are eligible to exercise their warrants, at any time, at an exercise price of $0.2999 per share. In the event of an IPO, change in control or capital restructuring, as set forth in the warrant, the Company will provide the holders of the warrants notification of such events to afford the holders the ability to exercise their warrants prior to the event. If the holder does not exercise the warrant, then the warrants shall expire in accordance with their terms. The exercise price of the warrants does not contain "down round" protection provisions.

Due to the variable exercise price and number of shares underlying the warrant prior to the completion of the qualified financing, the warrants were classified as liabilities and subject to derivative accounting. On July 11, 2014, the exercise price and number of shares underlying the warrant were fixed and the warrants were reclassified to permanent equity. At the time of the reclassification, the warrants had a fair value of $379,000.

The Company recorded the warrant liability at its fair value using the Black-Scholes option pricing model and revalued the warrant at each reporting date. The following table summarizes the fair value and the assumptions used for the Black-Scholes option-pricing model for this warrant:

	Dates of Issuance	July 11, 2014 Reclassification
Fair value	$729,000	$379,000
Fair value of Common Stock	$0.19 - $0.36	$0.19
Expected dividend yield	0.0%	0.0%
Risk-free interest rate	1.62% - 1.74%	1.65%
Expected stock price volatility	70.0%	70.0%
Expected term	4.8 - 5.0 years	4.8 - 4.9 years

The fair value of the warrants were $729,000 at issuance and recorded as a discount to the face value of the convertible promissory notes and was fully amortized into interest expense prior to the conversion into shares of Series B Convertible Preferred Stock.

Demand Notes

On July 3, 2014, the Company issued $999,666 in demand notes that were converted on July 11, 2014 upon completing the Series B Convertible Preferred Stock equity offering. The demand note holders were the majority participants in the Series B Convertible Preferred Stock equity offering. The purpose of the notes were to provide short term financing between the targeted closing date of Series B Convertible Preferred Stock equity offering, July 3, 2014, and the actual closing date of July 11, 2014. The demand notes converted at the original issuance price of Series B Convertible Preferred Stock of $0.2999 per share, and the holders received 3,333,331 shares of Series B Convertible Preferred Stock (see Note 10). Interest at 0.31% was not paid due to the short term that the notes were outstanding.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

At December 31, 2014, the Company was authorized to issue two classes of stock, Common Stock and Preferred Stock. The total number of shares of capital stock the Company was authorized to issue was 385,190,902 of which 230,000,000 was Common Stock and 155,190,902 was Preferred Stock. All shares of Common and Preferred Stock have a par value of $0.001 per share. 31,116,391 of the authorized shares of Preferred Stock are designated as Series A Convertible Preferred Stock and 9,074,511 of the authorized shares of Preferred Stock are designated as Series A-1 Convertible Preferred Stock and the remaining 115,000,000 shares have been designated as Series B Convertible Preferred Stock. The rights, preferences, privileges and restrictions granted to and imposed on Preferred Stock are described below.

Preferred Stock Voting Agreement and Rights

The holders of the Preferred Stock have the right to one vote for each share of Common Stock into which such share of Preferred Stock could then be converted. In addition, the holders of the shares of Series A Convertible Preferred Stock and Series A-1 Convertible Preferred Stock, exclusively and as a single class, shall be entitled to elect one director of the Company, the holders of the Shares of Series B Convertible Preferred Stock, exclusively and as a single class, shall be entitled to elect five directors of the Company and the holders of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two directors of the Company. The holders of all classes of voting stock (including Preferred Stock) voting as a single class shall elect the balance of directors of the Company. In addition, upon a deemed liquidation event or a sale of the Company, in each case approved by the holders of a majority of the then outstanding shares of Preferred Stock and the board of directors, each stockholder of the Company has agreed to approve such deemed liquidation event or a sale of the Company and sell any shares held by such shareholder in connection with any such transaction.

Preferred Stock Conversion

Each share of Series A Convertible Preferred Stock will be convertible into 1.25 shares of Common Stock, each share of Series A-1 Convertible Preferred Stock will be convertible into 1.5 shares of Common Stock and each share of Series B Convertible Preferred Stock will be convertible into one share of Common Stock, subject to certain anti-dilution protections, at the option of the holder. Each share of Preferred Stock will automatically convert upon (i) the closing of the sale of shares of Common Stock in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act, resulting in at least $45.0 million of gross proceeds to the Company (a "qualified initial public offering"), or (ii) the occurrence of an event, specified by a vote or written consent of the holders of a majority of the then outstanding shares of Preferred Stock. As of December 31, 2014, the Preferred Stock is convertible into 111,455,955 shares of Common Stock.

Preferred Stock Dividends

Prior to the issuance of Series B Convertible Preferred Stock, the Series A Convertible Preferred Stock did not bear dividends. The Series A-1 Convertible Preferred Stock accrued dividends payable solely in shares of Common Stock at a rate of 2.5% per annum and could potentially increase up to 12.5% per annum if the Company did not complete a qualified IPO by certain dates. Accruing Common Stock dividends were only payable upon the conversion of Series A-1 Convertible Preferred

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

Stock into Common Stock or certain deemed liquidation events. Dividends on the Series A-1 Convertible Preferred Stock were considered a conversion rate adjustment, and therefore no dividends had been accrued as of December 31, 2013. Coinciding with the issuance of Series B Convertible Preferred Stock, the stock dividends earned through the July 11, 2014, or 193,930 shares of Common Stock, were issued as to the holders of Series A-1 Convertible Preferred Stock and thereafter those rights were terminated.

Since the issuance of Series B Convertible Preferred Stock, all series of Preferred Stock are entitled to a non-cumulative annual dividend of 8.0%. Dividends are paid when, as, and if declared by the board of directors.

Preferred Stock Redemption Rights

The Preferred Stock is subject to redemption under certain "deemed liquidation" events, as defined, and as such, the Preferred Stock is considered contingently redeemable for accounting purposes. Accordingly, the Preferred Stock has been recorded within temporary equity in the financial statements. The Company has not adjusted the Preferred Stock to its redemption amount at each reporting period, as the redemption of such Preferred Stock is not deemed probable of occurrence during the periods presented. The redemption of the Preferred Stock is not considered probable as the redemption is contingent on the occurrence of such "deemed liquidation" events, which include (i) the acquisition of the Company by another entity by means of any transaction or a series of related transactions, unless the existing stockholders of the Company continue to hold at least 50% of the voting power of the surviving or acquiring entity after such transaction; and (ii) a sale of all or substantially all of the assets of the Company. The Company has concluded that none of these events are probable during the periods presented.

Preferred Stock Liquidation Preference

In the event of any liquidation, dissolution or winding up of the Company prior to the conversion, the holders of the Preferred Stock will be entitled to a liquidation preference in pari passu before any liquidation preference payments are made to the Common shareholders. The liquidation preference payment is equal to the greater of (i) original issuance plus any declared but unpaid dividends, or (ii) the amount that a Preferred holder would have been entitled to receive if they had converted to common immediately prior to liquidation.

Right of First Refusal and Co-sale Agreement

The Preferred Stock holders along with the holders of Common Stock have entered into a Right of First Refusal and Co-Sale Agreement with the Company in order to provide certain restrictions on the transfer of capital stock and to grant first refusal and co-sale rights to the Company and to the holders of Preferred Stock.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

Investors' Rights Agreement and Registration Rights

The holders of the Preferred Stock have certain registration rights with respect to the Common Stock into which the shares are convertible. If at any time after the earlier of three years after the date of the Investors' Rights Agreement or 180 days after the effective date of a registration statement for an IPO, the Company receives a request from the holders of a majority of the Series B Convertible Preferred Stock then outstanding that are registerable, the Company shall file a Form S-1 registration statement covering those shares with an anticipated offering price, net of expenses, of at least $10 million. If at any time after the Company is eligible to use a Form S-3 registration statement, the Company receives a request from the holders of outstanding securities that are registerable, the Company shall file a registration statement on Form S-3 covering those shares so long as certain conditions are met, including an anticipated offering price, net of expenses, of at least $1 million.

Series A Convertible Preferred Stock Transactions

On February 14, 2012, March 23, 2012 and April 4, 2012, the Company completed closings of its private placement offering of Series A Convertible Preferred Stock in the total amount of approximately $19.0 million. The offering price for each unit was $0.75, which consisted of one share of Series A Convertible Preferred Stock and a warrant. Each investor in the offering received a five-year warrant to purchase such number of the Company's shares of Common Stock equal to 25% of the number of shares of Series A Convertible Preferred Stock purchased by such investor at an exercise price equal to $1.00 per share. The placement agent received an 8% placement fee and a 2% corporate finance fee totaling approximately $1.9 million. The number of shares of Series A Convertible Preferred Stock issued in the three closings was 25,305,583 along with investor warrants to purchase 6,326,389 shares of Common Stock at an exercise price equal to $1.00 per share. The placement agent received warrants to purchase 3,530,559 shares of Common Stock on the same terms and conditions as the other warrants that the purchasers of Series A Convertible Preferred Stock received in this offering.

On May 18, 2012, the Company completed a direct private placement of its Series A Convertible Preferred Stock in the amount of $1.2 million also at a purchase price of $0.75 per unit. The number of shares of Series A Convertible Preferred Stock issued in the closing was 1,600,000 along with warrants to purchase 400,000 shares of Common Stock at $1.00 per share. On March 23, 2012, a convertible demand promissory note with an outstanding principal balance of $3.0 million, plus accrued interest of $58,000, was converted into 4,077,475 shares of Series A Convertible Preferred Stock along with warrants to purchase 1,019,368 shares of Common Stock at an exercise price equal to $1.00 per share. Further, the Company paid $375,000 to the placement agent as compensation for the direct private placement and conversion of the convertible demand promissory note and recorded the compensation as a reduction of the proceeds from the Series A Convertible Preferred Stock and warrants. In March 2012, an amount of $100,000 due to a related party was converted into 133,333 shares of Series A Convertible Preferred Stock and a warrant to purchase 33,333 shares of Common Stock (see Note 8).

The net proceeds to the Company from these Series A Convertible Preferred Stock issuances after offering costs was approximately $17.7 million.

In connection with the issuance of the Series B Convertible Preferred Stock in 2014, the holders of Series A Convertible Preferred Stock waived their contractual anti-dilution rights set forth in the

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

Company's amended and restated articles of incorporation (as amended from time to time, "Articles"). In exchange for waiving this right, Company adjusted the conversion price for Series A Convertible Preferred Stock of $0.75 per share to $0.60 per share. With the assistance of a third party valuation firm, management determined the fair value of the Series A Convertible Preferred Stock to be $0.34 per share at the time of extinguishment. The $9,393,746 gain on extinguishment was equal to the excess carrying value of the Series A Convertible Preferred Stock of $19,856,632 over the fair value of the amended Series A Convertible Preferred Stock of $10,462,886. Because the underlying transaction was between the Company and its equity investors, the Company accounted for the extinguishment as a noncash gain to additional paid in capital in accordance with ASC 470-50-40-2 and included as a component of net loss attributable to common stockholders.

Series A-1 Convertible Preferred Stock Transaction

In August 2013, the Company completed a $6.8 million private equity offering. The offering price for each unit was $0.75, which consisted of one share of Series A-1 Convertible Preferred Stock and a warrant. The number of shares of Series A-1 Convertible Preferred Stock issued was 9,074,511 shares along with investor warrants to purchase 2,268,573 shares of Common Stock with an initial exercise price equal to (i) $1.00 per share of Common Stock if such warrant is exercised prior to a qualified IPO or (ii) the public offering price for a share of Common Stock sold in a qualified IPO if such warrant is exercised after such qualified IPO, in each instance, subject to further adjustments as set forth in such warrants. The warrants expire on the fifth anniversary from their original issuance date. The net proceeds to the Company after offering costs were approximately $6.1 million.

The gross proceeds of the offering were first allocated to the warrants based on the fair value of the warrants at that time, with the residual proceeds allocated to the Series A-1 Convertible Preferred Stock ($6.6 million). All offering costs were allocated between the Series A-1 Convertible Preferred Stock ($700,000—which reduced the initial carrying value of the Series A-1 Convertible Preferred Stock) and the warrants ($27,000—which was recorded as general and administrative expenses in the 2013 statement of operations). In addition, the placement agent received, as compensation for the transaction, warrants to purchase 680,585 shares of Common Stock priced at $0.75 per share. The fair value of the placement agent warrants was $72,000 at the time of issuance, and that value was allocated to the Series A-1 Convertible Preferred Stock ($69,000—which reduced the initial carrying value of the Series A-1 Convertible Preferred Stock) and the warrants ($3,000—which was recorded as general and administrative expenses in the 2013 statement of operations). The fair value of all warrants associated with this transaction on the date of issuance was $310,467 and was recorded as a long-term liability due to the fact that these warrants met the definition of derivative instruments and were not indexed to the Company's own stock. These warrants are required to be marked to fair value at each reporting period. Upon the issuance of Series B Convertible Preferred Stock, the exercise price of the A-1 warrants is no longer subject to adjustment. The A-1 warrants were marked to fair value immediately before the amendment and then classified into permanent equity immediately thereafter.

In connection with the issuance of the Series A-1 Convertible Preferred Stock, the Company recognized the intrinsic value of a beneficial conversion of $6.6 million as additional paid-in capital. The beneficial conversion amount was computed as the difference between the conversion price and the fair value of the Common Stock into which the Series A-1 Convertible Preferred Stock is

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

convertible, multiplied by that number of shares issuable upon conversion. The beneficial conversion amount is equal to the entirety of the proceeds allocated to the Series A-1 Convertible Preferred Stock because the most beneficial conversion price is mathematically limitless by virtue of certain conversion adjustments associated with cumulative dividends. Specifically, the Series A-1 Convertible Preferred Stock conversion price is adjusted each period by annual cumulative dividends of 2.5% to be paid through the issuance of Common Stock only upon conversion. The effect of dividend adjustments to the conversion price could have ultimately resulted in a conversion price of less than $0.001, unless the Series A-1 Convertible Preferred Stock was converted or redeemed earlier. The discount for the beneficial conversion feature was being accreted over the period in which the holders would realize the beneficial conversion feature, or 31 years. Upon the issuance of Series B Convertible Preferred Stock, the 2.5% dividend provision was amended which resulted in the reversal of the unamortized beneficial conversion feature discount of $6.6 million. The Company concluded that a portion of the reacquisition price should be allocated to the repurchase of the beneficial conversion option. The amount of the reacquisition price allocated to the reacquisition of the beneficial conversion option was equal to the intrinsic value that was previously recognized for the beneficial conversion feature. The residual amount was allocated to the extinguishment of the Series A-1 Convertible Preferred Stock, and the difference between the residual amount allocated to the Series A-1 Convertible Preferred Stock and the carrying amount of the Series A-1 Convertible Preferred Stock was added to earnings available to common stockholders for purposes of computing earnings per share.

In addition, for any investor of Series A Convertible Preferred Stock who also participated in the Series A-1 Convertible Preferred Stock offering, the Company amended the terms of the original warrants issued with respect to such Series A Convertible Preferred Stock in 2012 reducing the exercise price from $1.00 per share of Common Stock to $0.50 per share of Common Stock provided that such investor purchased a minimum of 40% of their original Series A Convertible Preferred Stock investment.

In connection with the issuance of the Series B Convertible Preferred Stock in 2014, the holders of A-1 Preferred Stock waived their contractual anti-dilution rights under the Articles. In exchange for waiving this right, Company adjusted the conversion price for Series A-1 Convertible Preferred Stock of $0.75 per share to $0.50 per share and in exchange for waiving the 2.5% cumulative dividend right, the Company issued to the holders, 193,930 shares of Common Stock.

With the assistance of a third party valuation firm, management determined the fair value of the Series A-1 Convertible Preferred Stock to be $0.37 per share at the time of extinguishment. The $3,140,692 gain on extinguishment was equal to the excess carrying value of the Series A-1 Convertible Preferred Stock of $1 plus the unamortized beneficial conversion feature of $6,567,063, over the fair value of the amended Series A-1 Convertible Preferred Stock of $3,389,330 and the fair value of the 193,930 shares of Common Stock of $37,041. Because the underlying transaction was between the Company and its equity investors, the Company accounted for the extinguishment as a noncash charge to additional paid in capital in accordance with ASC 470-50-40-2.

Series B Convertible Preferred Stock Transaction

On July 11, 2014, the Company completed an initial closing of an equity offering for shares of its Series B Convertible Preferred Stock and on August 19, 2014 completed a second closing. Pursuant to

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

the terms of the agreement, the Company issued an aggregate of 50,017,786 shares of Series B Convertible Preferred Stock at an original issuance price of $0.2999 per share for gross proceeds of $15,000,000.

In addition, and pursuant to the terms of, several convertible promissory notes issued from April through June 2014, the Company issued 5,597,618 shares of Series B Convertible Preferred Stock upon the conversion of the outstanding principal and interest due under the convertible promissory notes in the aggregate amount of $1,259,016. The conversion price for the convertible promissory notes was equal to $0.22492, or 75% of the original issuance price of the Series B Convertible Preferred Stock. The demand notes issued in July 2014, with an aggregate principal balance of $996,666, was converted into 3,333,331 shares of Series B Convertible Preferred Stock at a conversion price of $0.2999 per share. See Note 9 for additional information regarding the terms and provisions of the convertible promissory notes and demand notes.

The second closing of the Series B Convertible Preferred Stock equity offering was with the term loan lender. Pursuant to the same terms and conditions of the initial offering, the Company issued 3,334,445 shares of Series B Convertible Preferred Stock to the term loan lender at an original issuance price of $0.2999 per share, for gross proceeds of $1,000,000, which is included in the $15,000,000 described above.

At any time after the initial offering of the Series B Convertible Preferred Stock and prior to the earlier of (i) an IPO, (ii) a deemed liquidation event, or (iii) June 30, 2017, certain participants in the Series B Convertible Preferred Stock equity offering may purchase up to an additional 53,351,117 shares of Series B Convertible Preferred Stock under the same terms and conditions of the initial offering. In the event of a second closing, if an eligible holder of Series B Convertible Preferred Stock does not participate at their full commitment, they are subject to a "pay to play" penalty whereby they would be required to convert each share of Series B Convertible Preferred Stock into 1/10th of a share of Common Stock.

The right of the investors (the "Investor Rights Obligation") to purchase Series B Convertible Preferred Stock represented a freestanding financial instrument and was indexed to an obligation of the Company to repurchase its Series B Convertible Preferred Stock by transferring assets. As such, the Company accounted for the Investor Rights Obligation as a liability in accordance with ASC 480. The Company adjusted the carrying value of the liability to its estimated fair value at each reporting date. Increases or decreases in the fair value of the Investor Rights Obligation were recorded as other income (expense) in the accompanying statement of operations. The fair value of the liability was determined using a valuation model, which considers the probability of achieving certain milestones, the entity's cost of capital, the estimated period the rights will be outstanding, consideration received for the instrument with the rights, the number of shares to be issued to satisfy the rights, the price of such shares and any changes in the fair value of the underlying instrument. At the date of issuance in July 2014, the Company recorded the Investor Rights Obligation at its initial estimated fair value of $2,598,510 of which $2,455,258 and $143,252 were recorded as a reduction to the carrying of the Series B Convertible Preferred Stock and term loan (see Note 9), respectively. The change in fair value of the Investor Rights Obligation was $1,486,510 for the year ended December 31, 2014, and was recorded as other expense in the accompanying Statement of Operations.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

The Company incurred $442,948 in costs associated with issuing the Series B Convertible Preferred Stock of which $26,921 was allocated to the Investor Rights Obligation and $416,027 was recorded as a reduction to the carrying value of the Series B Convertible Preferred Stock.

Common Stock Warrants

During 2012, a total of 7,779,090 warrants to purchase shares of Common Stock at an exercise price equal to $1.00 per share were issued to investors in connection with the issuance of the Company's Series A Convertible Preferred Stock, the conversion of the convertible demand promissory note and the amount due to related party. The warrants became exercisable at the grant date. In addition, a total of 3,530,559 warrants to purchase Common Stock at an exercise price equal to $1.00 per share were issued to the placement agent. The Company determined the fair value of the warrants to be approximately $0.10 per warrant. The fair value was calculated using a Black-Scholes pricing model using a fair market value of $0.31 per share for its Common Stock and similar assumptions disclosed later in Note 11.

In August 2013, a total of 2,268,573 warrants to purchase shares of Common Stock at an exercise price now fixed at $1.00 per share were issued to investors in connection with the Company's Series A-1 Convertible Preferred Stock. The warrants became exercisable at the grant date. In addition, a total of 680,585 warrants to purchase Common Stock at an exercise price equal to $0.75 per share were issued to the placement agent. The fair value was calculated using a fair market value of $0.32 per share for its Common Stock and similar assumptions disclosed in Note 4. The total fair value of the warrants issued to the placement agent on the date of grant was approximately $72,000, recorded as offering costs. In addition, in the event a holder of the Company's Series A Convertible Preferred Stock purchased a number of shares of Series A-1 Convertible Preferred Stock in an amount equal to at least 40% of the shares of Series A Convertible Preferred Stock owned by such holder, the Company amended the warrant to purchase the Company's Common Stock by such holder received in connection with his, her or its purchase of shares of Series A Convertible Preferred Stock such that the exercise price per share of such warrant was reduced from $1.00 to $0.50. A total of 1,647,766 warrants were amended. This modification was recorded as a deemed dividend to the Preferred A holders in the amount of $81,964.

In December 2013, a warrant to purchase 100,000 shares of Common Stock at an exercise price equal to $1.00 per share was issued to a consulting firm which is assisting the Company in identifying commercial and strategic opportunities. The Company determined the fair value of the warrants to be approximately $0.13 per warrant. The fair value was calculated using a Black-Scholes pricing model using a fair market value of $0.36 per share for its Common Stock and similar assumptions disclosed later in Note 11.

In connection with the convertible promissory notes issued from April through June 2014, the holders received warrants to purchase 4,168,054 shares of the Company's Common Stock in the aggregate. The warrants are exercisable at the option of the holder at any time during their five-year term at a price per share at which equity securities are sold in a qualified financing event or offered to the public in the event of an IPO. Upon completing the Series B Convertible Preferred Stock equity offering on July 11, 2014, a qualified financing event occurred and the holders are eligible to exercise their warrants, at any time, at an exercise price of $0.2999 per share. In the event of an IPO, change in

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

control or capital restructuring as set forth in the warrant, the Company will provide the warrant holders notification of such events to afford the holders the ability to exercise their warrants prior to the event. If the holders do not exercise his/her right, then the warrants shall expire in accordance with their terms. The exercise price of the warrants does not contain "down round" protection provisions.

Due to the variable exercise price at each issuance from April through June 2014, the warrants were classified as liabilities and subject to derivative accounting. On July 11, 2014, the exercise price was fixed and met the requirements for equity classification.

In July 2014, a warrant to purchase 500,167 shares of Common Stock at an exercise price equal to $0.299 per share was issued to a consulting firm for advisory services. The Company determined the fair value of the warrants to be approximately $0.09 per warrant. The fair value was calculated using a Black Scholes pricing model using a fair market value of $0.19 per share for its Common Stock and similar assumptions disclosed later in Note 11.

In September 2014, a warrant to purchase 66,667 shares of Common Stock at an exercise price equal to $0.31 per share was issued to a former member of the board of directors. The Company determined the fair value of the warrants to be approximately $0.12 per warrant. The fair value was calculated using a Black-Scholes pricing model using a fair market value of $0.19 per share for its Common Stock and similar assumptions disclosed later in Note 11.

At December 31, 2014, the following Common Stock warrants were outstanding:

Number of shares underlying warrants issued to investors of Convertible Preferred Stock	Exercise price per share	Expiration Date
3,079,916	$ 1.00	February 2017
819,776	0.50	February 2017
2,535,409	1.00	March 2017
827,990	0.50	March 2017
3,646,558	1.00	April 2017
400,000	1.00	July 2017
2,268,573	1.00	August 2018
680,585	0.75	August 2018
100,000	1.00	December 2018
1,667,222	0.30	April 2019
666,888	0.30	May 2019
1,833,944	0.30	June 2019
500,167	0.30	July 2019
66,667	0.31	May 2022
19,093,695		

Series B Convertible Preferred Stock Warrants

In August 2014, a warrant to purchase 625,208 shares of Series B Convertible Preferred Stock, at an exercise price equal to $0.2999 per share, was issued to the term loan lender in conjunction with the

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

10. CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (Continued)

loan of $7.5 million (see Note 9). The fair value was calculated at $115,056 using a Black-Scholes pricing model using a fair market value of $0.25 per share for its Series B Convertible Preferred Stock and similar assumptions disclosed later in Note 11.

11. STOCK-BASED COMPENSATION

2011 Stock Incentive Plan

On April 28, 2011, the board of directors adopted the Plan reserving and authorizing up to 5,000,000 shares of Common Stock for stock-based compensation awards to attract, retain and reward eligible employees, consultants, and non-employee directors. The options have a contractual term of ten years. Generally, the options vest annually over three or four years, as determined by the board of directors, upon each option grant, although certain option grants in 2014 were fully vested on the grant date. On January 10, 2012, the board of directors and stockholders of the Company approved an amendment to the Plan authorizing an increase in the aggregate number of shares reserved for issuance under the Plan from 5,000,000 to 8,000,000 shares of Common Stock. On May 6, 2013, the board of directors approved an amendment to the Plan authorizing an increase in the aggregate number of shares reserved for issuance under the Plan from 8,000,000 to 19,724,005 shares of Common Stock. As of December 31, 2014, there were 5,946,733 shares remaining under the Plan available for future issuance.

On May 8, 2012, the board of directors approved three grants of non-qualified stock options outside of the Plan aggregating 4,700,000 to the President and Chief Executive Officer and two non-employee directors of the Company at $0.31 per share, one-third vesting on three consecutive annual anniversaries.

The estimated grant date fair market value of the Company's stock-based awards is amortized ratably over the awards' service periods. Stock- based compensation expense recognized was as follows:

	Year Ended December 31, 2013	Year Ended December 31, 2014
Research and development	$ 165,724	$ 201,653
General and administrative	582,924	$ 884,928
Total stock-based compensation	$ 748,648	$ 1,086,581

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

11. STOCK-BASED COMPENSATION (Continued)

A summary of option activity is as follows:

	Options Outstanding			
	Number of Shares	Weighted-Average Exercise Price	Fair Value Of Options Granted	Weighted Average Remaining Contractual Term (in years)
Balance, December 31, 2013	10,687,375	$ 0.28		8.39
Granted	4,969,897	0.43	$ 389,538	
Forfeitures	(180,000)	0.31		
Balance, December 31, 2014	15,477,272	$ 0.33		8.17
Vested or expected to vest at December 31, 2014	15,477,272	$ 0.33		8.17
Exercisable at December 31, 2014	12,506,439	$ 0.33		7.72

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the fair value of the Company's Common Stock for those stock options that had exercise prices lower than the fair value of the Company's Common Stock. As of December 31, 2014, the aggregate intrinsic value of options outstanding and vested and expected to vest were $22,000.

The per-share weighted-average fair value of the options granted during 2013 and 2014 was estimated at $0.20 and $0.08, respectively, on the date of grant using the Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,	
	2013	2014
Risk-free interest rate	0.85 - 1.90%	0.85 - 1.97%
Expected term of options (in years)	6.0	5.0 - 6.25
Expected stock price volatility	70.0%	70.0%
Expected annual dividend yield	0.00%	0.00%

The valuation assumptions were determined as follows:

- Risk-free interest rate: The Company bases the risk-free interest rate on the interest rate payable on U.S. Treasury securities in effect at the time of grant for a period that is commensurate with the assumed expected option term.

- Expected term of options: The Company estimates the expected life of its employee stock options using the "simplified" method, as prescribed in Staff Accounting Bulletin No. 107, whereby, the expected life equals the arithmetic average of the vesting term and the original contractual term of the option due to its lack of sufficient historical data.

- Expected stock price volatility: The Company estimated the expected volatility based on actual historical volatility of the stock price of other publicly-traded biotechnology companies engaged in lines of business that are the same or similar to the Company's. The Company calculated the

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

11. STOCK-BASED COMPENSATION (Continued)

historical volatility of the selected companies by using daily closing prices over a period of the expected term of the associated award. The companies were selected based on their enterprise value, risk profiles, position within the industry, and with historical share price information sufficient to meet the expected term of the associated award. A decrease in the selected volatility would decrease the fair value of the underlying instrument.

- Expected annual dividend yield: The Company estimated the expected dividend yield based on consideration of its historical dividend experience and future dividend expectations. The Company has not historically declared or paid dividends to stockholders. Moreover, it does not intend to pay dividends in the future, but instead expects to retain any earnings to invest in the continued growth of the business. Accordingly, the Company assumed and expected dividend yield of 0.0%.

The Company considered numerous objective and subjective factors in the assessment of fair value of its Common Stock, including the price for the Company's Series A Convertible Preferred Stock that was sold to investors and the rights, preferences and privileges of the Series A Convertible Preferred Stock and Common Stock, the Company's financial condition and results of operations during the relevant periods, including the status of the development of the Company's product candidates, and the status of strategic initiatives. These estimates involve a significant level of judgment.

As of December 31, 2014, there was $0.2 million of total unrecognized compensation expense, related to unvested options granted under the Plan, unvested options granted outside of the Plan, and restricted stock to be recognized as follows:

Year ending December 31,	
2015	$ 175,312
2016	24,493
2017	942
2018	79
	$ 200,826

Restricted Stock

During July and August of 2011 certain issuances of Common Stock totaling 400,000 shares, originally issued in April 2011 to non-employees, were modified as restricted stock and are subject to a three year vesting period. The modification resulted in $41,000 and $24,000 of additional research and development expense recorded for the years ended December 31, 2013 and 2014, respectively. There were no issuances or forfeitures of restricted during the years ended December 31, 2013 and 2014. There were 100,000 and 200,000 restricted that vested during the comparable periods. As of December 31, 2014, all restricted shares are fully vested.

12. INCOME TAXES

The Company's reserves related to taxes are based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more likely than not to be

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

12. INCOME TAXES (Continued)

realized. The Company recognized no material adjustment for unrecognized income tax benefits. Through December 31, 2014, the Company had no unrecognized tax benefits or related interest and penalties accrued.

The significant components of the Company's deferred tax assets are comprised of the following:

	December 31,	
	2013	2014
Deferred tax assets:		
Net operating losses	$ 9,031,629	$ 16,113,309
Research and development credits	1,040,789	1,640,277
Deferred rent	9,339	17,844
Accrued compensation	58,142	31,060
Stock compensation	906,923	1,349,899
Basis difference in tangible and intangible assets	596,003	340,570
Total deferred tax assets	11,642,825	19,492,959
Less valuation allowance	(11,642,825)	(19,492,959)
Net deferred tax asset	$ —	$ —

For the year ended December 31, 2014, the Company increased the valuation allowance by $7.9 million to fully reserve for the value of deferred tax assets. Due to continued operating losses, there is no indication that it is more likely than not that the Company will be able to utilize its deferred tax assets.

As of December 31, 2014 the Company had $40,850,000 of Federal and Maryland net operating loss ("NOL") carryforwards that will begin to expire in 2031. As of December 31, 2014 the Company had $1,143,000 and $497,000 of Maryland and federal research and development credits, respectively, that will begin to expire in 2018. The NOL and research and development credit carryforwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities. NOL and tax credit carryforwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three-year period in excess of 50%, as defined under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, as well as similar state tax provisions. This could limit the amount of NOLs and research and development credits that the Company can utilize annually to offset future taxable income or tax liabilities. The amount of the annual limitation, if any, will be determined based on the value of the Company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. All of our tax years are currently open to examination by each tax jurisdiction in which the Company is subject to taxation.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

12. INCOME TAXES (Continued)

A reconciliation of income tax expense computed at the statutory federal income tax rate to income taxes as reflected in the financial statements is as follows:

	December 31,	
	2013	2014
Federal Statutory Rate	34.00%	34.00%
Permanent Differences	(0.03)%	(0.02)%
Warrants	(0.31)%	4.80%
State Taxes	7.87%	7.22%
Research and Development Credit	4.90%	2.75%
Other	0%	0.15%
Change in valuation allowance	(46.43)%	(48.90)%
Effective income tax rate	0.0%	0.0%

13. COMMITMENTS AND CONTINGENCIES

Offer Letters

The Company has entered into offer letters with certain of its executives. The letters provide for, among other things, salary, bonus and severance payments.

Office Lease

In August 2013, the Company entered into a lease for new corporate office space location in Baltimore, Maryland. The lease provides for three months of rent abatement and includes escalating rent payments. Rent expense is recognized on a straight-line basis over the term of the lease. During 2014 rent expense amounted to approximately $192,000. Pursuant to the terms of such lease, the Company's future lease obligation is as follows:

Year ending December 31,	
2015	$ 147,384
2016	151,068
2017	154,845
2018	158,716
	$ 612,013

14. SUBSEQUENT EVENTS

The Company has completed an evaluation of all subsequent events through April xx, 2015, the date on which these financial statements were available to be issued, to ensure that these financial statements include appropriate disclosure of events both recognized in the financial statements as of December 31, 2014 and events which occurred subsequently but were not recognized in the financial statements.

CERECOR INC.

Notes to Financial Statements (Continued)

As of and for the Years Ended December 31, 2014 and 2013

14. SUBSEQUENT EVENTS (Continued)

In February 2015, the Company entered into an exclusive license agreement with Eli Lilly and Company ("Lilly") pursuant to which Lilly granted the Company rights relating to certain small molecule compounds, which are potent and selective kappa opioid receptor antagonists. In consideration of the license, the Company is required to make an initial payment totaling $1,000,000. Pursuant to the license agreement, the Company paid $750,000 to Lilly within 30 days of the execution of the license, and, upon receipt of certain preclinical data, the Company will pay an additional $250,000. The initial payment of $750,000 will be recorded as research and development expense. Additional payments may be due upon achievement of development and regulatory milestones, including first commercial sale. Upon commercialization, the Company is obligated to pay Lilly milestones and royalties on net sales.

Shares

Common Stock

PROSPECTUS

, 2015

Maxim Group LLC

Through and including , 2015 (25 days after the commencement of this offering), all dealers that buy, sell or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by the registrant. All amounts are estimates except the Securities and Exchange Commission registration fee and the Financial Industry Regulatory Authority, Inc. filing fee.

	Amount
Securities and Exchange Commission registration fee	$ *
Financial Industry Regulatory Authority, Inc. filing fee	*
NASDAQ Capital Market initial listing fee	*
Accountants' fees and expenses	*
Legal fees and expenses	*
Blue Sky fees and expenses	*
Transfer Agent's fees and expenses	*
Printing and engraving expenses	*
Miscellaneous	*
Total Expenses	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of its directors or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty to the corporation or its stockholders, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock purchase or redemption in violation of Delaware corporate law or derived an improper personal benefit. Our amended and restated certificate of incorporation that will be effective upon the closing of this offering provides that no director shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to 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 other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case,

such person is fairly and reasonably entitled to indemnify for such expenses which the Court of Chancery or such other court shall deem proper.

Our amended and restated certificate of incorporation that will be effective upon the closing of the offering provides that we will indemnify each person who was or is a party or threatened to be made a party to 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 us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Our amended and restated certificate of incorporation that will be effective upon the closing of the offering also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee or, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

The underwriting agreement we will enter into in connection with the offering of common stock being registered hereby provides that the underwriters will indemnify, under certain conditions, our directors and officers (as well as certain other persons) against certain liabilities arising in connection with such offering.

Item 15. Recent Sales of Unregistered Securities.

Set forth below is information regarding shares of common stock and preferred stock issued, and options granted, by us within the past three years that were not registered under the Securities Act of 1933, as amended (the "Securities Act"). Also included is the consideration, if any, received by us for such shares and options and information relating to the section of the Securities Act, or rule of the Securities and Exchange Commission, under which exemption from registration was claimed.

(a) Issuances of Securities

In September 2014, we issued a warrant to purchase 66,667 shares of our common stock to a member of our board of directors in consideration for his past services to the Company.

In August 2014, we entered into a $7.5 million secured term loan facility and in connection with such loan we issued the lender a warrant to purchase 625,208 shares of Series B preferred stock at an exercise price of $0.2999 per share. Upon the closing of this offering, in accordance with their terms, the warrants will automatically become exercisable for 625,208 shares of common stock at an exercise price of $0.2999 per share of common stock.

In August 2014, we issued and sold to an investor at a purchase price of $0.2999 per share an aggregate of 3,334,445 shares of our Series B convertible preferred stock for an aggregate purchase price of $1.0 million.

In July 2014, we issued and sold to investors at a purchase price of $0.2999 per share an aggregate of 55,614,290 shares of our Series B convertible preferred stock for an aggregate consideration of $14,000,334 in cash and $2,258,682 in aggregate principal and interest due under convertible promissory notes held by existing investors.

In July 2014, we issued convertible demand promissory notes to investors in an aggregate principal amount of $1.0 million. In July 2014, the convertible promissory notes converted into shares of Series B convertible preferred stock in accordance with the terms of such notes.

In July 2014, we issued a warrant to purchase 500,167 shares of our common stock to a consulting firm in partial consideration for advisory services.

From April 2014 through June 2014, we issued convertible promissory notes, to investors in an aggregate principal amount of $1,250,000. In connection with the issuance of these notes, we issued warrants to purchase 4,168,054 shares our common stock. In July 2014, the convertible promissory notes converted into shares of Series B convertible preferred stock in accordance with the terms of such notes.

In December 2013, we issued a warrant to purchase 100,000 shares of our common stock to a consulting firm in partial consideration for the consulting services in connection with identifying commercial opportunities.

In August 2013, we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 9,074,511 shares of our Series A-1 convertible preferred stock and warrants to purchase 2,268,573 shares of our common stock for an aggregate purchase price of $6.8 million.

In August 2013, in connection with the sale of the Series A-1 convertible preferred stock, we issued a warrant to purchase 680,585 shares of our common stock to the placement agent in such offering.

In May 2012, we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 1,600,000 shares of our Series A convertible preferred stock and warrants to purchase 400,000 shares of our common stock for an aggregate purchase price of $1.2 million.

In April 2012, we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 464,000 shares of our Series A convertible preferred stock and warrants to purchase 116,000 shares of our common stock for an aggregate purchase price of $348,000.

In April 2012, in connection with the sale of the Series A convertible preferred stock, we issued a warrant to purchase 3,530,559 shares of our common stock to the placement agent in such offerings.

In March 2012, we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 12,854,643 shares of our Series A convertible preferred stock and warrants to purchase 3,213,656 shares of our common stock for an aggregate purchase price of $9.6 million. We also issued 4,077,475 shares of our Series A convertible preferred stock and a warrant to purchase 1,019,368 shares of our common stock upon the conversion of the convertible demand promissory note issued in April 2011.

In February 2012, we issued and sold to investors at a purchase price of $0.75 per unit an aggregate of 12,120,273 shares of our Series A convertible preferred stock and warrants to purchase 3,030,066 shares of our common stock for an aggregate purchase price of $9.1 million.

No underwriters were involved in the foregoing sales of securities. The securities described in this section (a) of Item 15 were issued to investors in reliance upon the exemption from the registration requirements of the Securities Act, as set forth in Section 4(2) under the Securities Act relative to transactions by an issuer not involving any public offering, to the extent an exemption from such registration was required. All purchasers of shares of our preferred stock described above represented to us in connection with their purchase that they were accredited investors and were acquiring the shares for their own account for investment purposes only and not with a view to, or for sale in connection with, any distribution thereof and that they could bear the risks of the investment and could hold the securities for an indefinite period of time. The purchasers received written disclosures that the securities had not been registered under the Securities Act and that any resale must be made pursuant to a registration statement or an available exemption from such registration.

(b) Stock Option and Restricted Stock Grants

Since inception, we have (i) issued 3,000,000 shares of restricted common stock, at a purchase price of $0.001 per share, to an executive officer pursuant to the 2011 Stock Incentive Plan, (ii) granted stock options to purchase an aggregate of 11,007,272 shares of our common stock, with exercise prices ranging from $0.01 to $0.60 per share, to employees, directors and consultants pursuant to the 2011 Stock Incentive Plan and (iii) granted stock options to purchase an aggregate of 4,700,000 shares of our common stock, with an exercise price of $0.31 per share, to employees, directors and consultants outside of the 2011 Stock Incentive Plan. Of these options, none have been exercised.

The stock options and the common stock issuable upon the exercise of such options as described in this section (b) of Item 15 were issued pursuant to written compensatory plans or arrangements with our employees, directors and consultants, in reliance on the exemption provided by Rule 701 promulgated under the Securities Act. All recipients either received adequate information about us or had access, through employment or other relationships, to such information.

All of the foregoing securities described in sections (a) and (b) of Item 15 are deemed restricted securities for purposes of the Securities Act. All certificates representing the issued shares of capital stock described in this Item 15 included appropriate legends setting forth that the securities had not been registered and the applicable restrictions on transfer.

Item 16. Exhibits and Financial Statement Schedules.

(a) The exhibits to the registration statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

(b) No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreements, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 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 Act and will be governed by the final adjudication of such issue.

(c) The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, 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 of 1933, 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 Baltimore, State of Maryland, on this th day of , 2015.

CERECOR INC.

By: _____

Blake M. Paterson, M.D.
President and Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Cerecor Inc., hereby severally constitute and appoint Dr. Blake M. Paterson, M.D., and , and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for him and in his name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and any other registration statement for the same offering pursuant to Rule 462(b) under the Securities Act of 1933, 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 or necessary to be done in and about the premises, as full 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 their or his 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 held on the dates indicated.

Signature	Title	Date
_____ Blake M. Paterson, M.D.	Director, President and Chief Executive Officer (Principal Executive Officer)	
_____	Chief Financial Officer (Principal Financial and Accounting Officer)	
_____ James Barrett, Ph.D.	Director	
_____ Eugene A. Bauer, M.D.	Director	

Signature	Title	Date
Isaac Blech	Director	
Phil Gutry	Director	
Magnus Persson, M.D., Ph.D.	Director	
Behshad Sheldon	Director	
Mayukh Sukhatme, M.D.	Director	
Frank Torti, M.D.	Director	

EXHIBIT INDEX

Exhibit Number	Description of Exhibit
1.1*	Form of Underwriting Agreement
3.1	Certificate of Incorporation of Cerecor Inc., as currently in effect
3.2*	Form of Amended and Restated Certificate of Incorporation of Cerecor Inc. (to become effective upon the closing of this offering)
3.3†	Bylaws of Cerecor Inc., as currently in effect
3.4*	Form of Amended and Restated Bylaws of Cerecor Inc. (to become effective upon the closing of this offering)
4.1	Second Amended and Restated Investors' Rights Agreement, dated as of July 11, 2014
4.2†	Form of Warrant to Purchase Shares of Common Stock issued in connection with the sale of Series A Convertible Preferred Stock
4.3	Form of Warrant to Purchase Shares of Common Stock issued in connection with the sale of Series A-1 Convertible Preferred Stock, as amended by the Amendment to Common Stock Warrants, dated as of July 11, 2014
4.4†	Common Stock Warrant, dated as of April 4, 2012, issued to Maxim Partners LLC.
4.5†	Common Stock Warrant, dated as of August 23, 2013, issued to Maxim Partners LLC.
4.6†	Common Stock Warrant, dated as of December 16, 2013, issued to CIFCO International Group.
4.7	Form of Warrant to Purchase Shares of Common Stock issued in connection with the issuance of convertible promissory notes from April 2014 through June 2014.
4.8	Warrant Agreement, dated as of August 19, 2014, issued to Hercules Technology Growth Capital, Inc.
4.9	Warrant to Purchase Common Stock, dated as of July 11, 2014, issued to Trout Capital LLC
5.1*	Opinion of Morgan, Lewis & Bockius LLP
10.1†#	Exclusive Patent and Know-How License Agreement, effective as of March 19, 2013, by and between Essex Chemie AG and Cerecor Inc.
10.2†#	Exclusive Patent and Know-How License Agreement, effective as of March 19, 2013, by and between Essex Chemie AG and Cerecor Inc.
10.3*+	Cerecor Inc. 2011 Stock Incentive Plan, as amended, including forms of Incentive Stock Option Agreement and Nonqualified Stock Option Agreements thereunder.
10.4*+	Offer Letter Agreement by and between Cerecor Inc. and Blake M. Paterson, dated as of April 28, 2011.
10.5*+	Offer Letter Agreement by and between Cerecor Inc. and John Kaiser, dated as of September 12, 2012.
10.6*+	Offer Letter Agreement by and between Cerecor Inc. and James Vornov, dated as of September 18, 2012.

Exhibit Number	Description of Exhibit
10.7†	Lease Agreement by and between Cerecor Inc. and PDL Pratt Associates, LLC, dated as of August 8, 2013.
10.8#	Exclusive Patent and Know-How License Agreement, effective as of February 18, 2015, by and between Eli Lilly and Company and Cerecor Inc.
10.9	Loan and Security Agreement, dated as of August 19, 2014, by and between Cerecor Inc. and Hercules Technology Growth Capital, Inc.
23.1*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.2*	Consent of Morgan, Lewis and Bockius LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included in the signature page to this registration statement)

† Previously filed.

* To be filed by amendment.

+ Management compensatory agreement.

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 230.406. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been filed separately with the Securities and Exchange Commission.

QuickLinks -- Click here to rapidly navigate through this document

Exhibit 3.1

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
CERECOR INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Cerecor Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

1. That the Corporation was originally incorporated in Delaware under the name Ceregen Corporation, and the date of its filing of its original Certificate of Incorporation (the "**Original Certificate**") with the Secretary of State of the State of Delaware was January 31, 2011. The Original Certificate was amended on March 17, 2011, amended and restated on February 14, 2012, further amended on May 18, 2012, and amended and restated on August 23, 2013 (as so amended, the "**Amended Certificate**").

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Cerecor Inc. (the "**Corporation**").

SECOND: The registered office of the Corporation is located at c/o Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, New Castle County, Delaware 19808. The name of its registered agent at that address is Corporation Service Company.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 230,000,000 shares of Common Stock, $0.001 par value per share ("**Common Stock**") and (ii) 155,190,902 shares of Preferred Stock, $0.001 par value per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. *General.* The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. *Voting.* The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); *provided*, *however*, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to the Certificate of Incorporation that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either

separately or together with the holders of one or more other such series, to vote thereon pursuant to the Certificate of Incorporation or pursuant to the General Corporation Law. There shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

31,116,391 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series A Preferred Stock**", 9,074,511 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series A-1 Preferred Stock**" and 115,000,000 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series B Preferred Stock**" with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. *Dividends.*

From and after the date hereof, the Corporation shall issue non-cumulative dividends at the rate per annum of 8% per share, based on the applicable Original Issue Price (as defined below), on all outstanding shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock), (the "**Preferred Dividends**"), such Preferred Dividends to be payable only when, as, and if declared by the Board of Directors and the Corporation shall be under no obligation to declare such Preferred Dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in the Certificate of Incorporation) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Preferred Stock in an amount at least equal to the sum of (i) the amount of the Preferred Dividends then accrued on such share of Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the applicable Original Issue Price; *provided* that if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this *Section 1* shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend. The "**Original Issue Price**" shall mean (x) with respect to Series A Preferred Stock, $0.75 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock (the "**Series A Original Issue Price**"), (y) with respect to Series A-1 Preferred Stock, $0.75 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A-1 Preferred Stock (the "**Series A-1 Original**

Issue Price") and (z) with respect to Series B Preferred Stock, $0.29990 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock (the "**Series B Original Issue Price**").

2. *Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.*

2.1 *Preferential Payments to Holders of Preferred Stock.*

2.1.1. *Preferential Payments to Holders of Series B Preferred Stock.* In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock, Series A-1 Preferred Stock or Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Series B Original Issue Price, plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Preferred Stock been converted into Common Stock pursuant to *Section 4* immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (the amount payable pursuant to this sentence is hereinafter referred to as the "**Series B Liquidation Amoun**t"). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B Preferred Stock the full amount to which they shall be entitled under this *Section 2.1.1*, the holders of shares of Series B Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.1.2. *Payments to Holders of Series A Preferred Stock and Series A-1 Preferred Stock.* In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Series B Preferred Stock, the holders of shares of Series A Preferred Stock and Series A-1 Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Series A Original Issue Price or Series A-1 Original Issue Price, as applicable, plus any dividends declared but unpaid thereon, or (ii) such amount per share as would have been payable had all shares of Preferred Stock been converted into Common Stock pursuant to *Section 4* immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (the amount payable pursuant to this sentence is hereinafter referred to as the "**Series A Liquidation Amount**" or "**Series A-1 Liquidation Amount**" as applicable). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, and after the payments described in *Section 2.1.1* have been made, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A-1 Preferred Stock and Series A Preferred Stock the full amount to which they shall be entitled under this *Section 2.1.2*, the holders of shares of Series A-1 Preferred Stock and Series A Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 *Payments to Holders of Common Stock.* In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the

payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of shares of Common Stock, pro rata based on the number of shares held by each such holder.

2.3 *Deemed Liquidation Events.*

2.3.1. *Definition.* Each of the following events shall be considered a "**Deemed Liquidation Event**" unless the holders of a majority of the outstanding shares of Series B Preferred Stock (the "**Requisite Holders**") elect otherwise by written notice sent to the Corporation prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

For the avoidance of doubt, the issuance of stock pursuant to customary venture capital financings by the Corporation shall not be considered a "Deemed Liquidation Event."

2.3.2. *Effecting a Deemed Liquidation Event.*

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in *Section 2.3.1(a)(i*) unless the agreement or plan of merger or consolidation for such transaction (the " **Merger Agreement**") provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with *Sections 2.1* and *2.2*.

(b) In the event of a Deemed Liquidation Event referred to in *Section 2.3.1(a)(ii)* or *2.3.1(b)*, if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90^{th}) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause; (ii) to require the redemption of such shares of Preferred Stock, and (iii) if the Requisite Holders so request in a written instrument

delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "**Available Proceeds**"), on the one hundred fiftieth (150^{th}) day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the Series B Liquidation Amount, Series A-1 Liquidation Amount or Series A Liquidation Amount, as applicable. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall ratably redeem each holder's shares of Preferred Stock to the fullest extent of such Available Proceeds in accordance with the liquidation preferences set forth in *Section 2.1* hereof, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. Prior to the distribution or redemption provided for in this *Section 2.3.2(b)*, the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event.

(c) In connection with the redemption of Preferred Stock as set forth in this *Section 2.3.2,* the Corporation shall send written notice of such redemption (the "**Redemption Notice**") to each holder of record of Preferred Stock not less than forty (40) days prior to each Redemption Date. Each Redemption Notice shall state:

(i) the number of shares of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice;

(ii) the Redemption Date and the Redemption Price;

(iii) the date upon which the holder's right to convert such shares terminates (as determined in accordance with *Section 4.1*); and

(iv) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

If the Corporation receives, on or prior to the twentieth (20^{th}) day after the date of delivery of the Redemption Notice to a holder of Preferred Stock, written notice from such holder that such holder elects to be excluded from the redemption provided in this *Section 2.3.2,* then the shares of Preferred Stock registered on the books of the Corporation in the name of such holder at the time of the Corporation's receipt of such notice shall thereafter be "**Excluded Shares**." Excluded Shares shall not be redeemed or redeemable pursuant to this *Section 2.3.2*, whether on such Redemption Date or thereafter.

(d) *Surrender of Certificates; Payment.* On or before the applicable Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in *Section 4*, shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and

agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Preferred Stock represented by a certificate are redeemed, a new certificate, instrument, or book entry representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder.

(e) *Rights Subsequent to Redemption.* If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of any such certificate or certificates therefor.

2.3.3. *Amount Deemed Paid or Distributed.* The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board of Directors of the Corporation.

2.3.4. *Allocation of Escrow and Contingent Consideration.* In the event of a Deemed Liquidation Event, if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional Consideration**"), the Merger Agreement and any other applicable agreements executed in connection with such Deemed Liquidation Event shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with *Sections 2.1* and *2.2* as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with *Sections 2.1* and *2.2* after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this *Section 2.3.4*, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. *Voting.*

3.1 *General.* On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class.

3.2 *Election of Directors.* The holders of record of the shares of Series B Preferred Stock, exclusively and as a separate class, shall be entitled to elect five (5) directors of the Corporation (the "**Series B Directors**"); the holders of record of the shares of Series A Preferred Stock and Series A-1 Preferred Stock, exclusively and voting together as a single class, shall be entitled to elect one (1) director of the Corporation; and the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation. Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Preferred Stock or Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this *Section 3.2*, then any directorship not so filled shall remain vacant until such time as the holders of the Preferred Stock or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this *Section 3.2*, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this *Section 3.2*.

3.3 *Preferred Stock Protective Provisions.* At any time when shares of Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the Requisite Holders, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.3.1. (i) liquidate, dissolve or wind-up the business and affairs of the Corporation; (ii) effect any merger, consolidation, reclassification or recapitalization of the outstanding capital stock of the Corporation or any other Deemed Liquidation Event; (iii) enter into any agreement regarding a license of intellectual property outside of the ordinary course of business, a material asset transfer, a material acquisition by the Corporation or a Deemed Liquidation Event; or (iv) consent to any of the foregoing;

3.3.2. amend, alter or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation;

3.3.3. (i) create, or authorize the creation of, or issue or obligate itself to issue shares of, whether by reclassification or otherwise, any additional class or series of capital stock or any other equity or debt securities convertible into equity securities of the Corporation unless the same ranks junior to the existing Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, voting, the payment of dividends and rights of redemption; or (ii) increase the authorized number of shares of Preferred Stock or Common Stock, or increase the authorized number of shares of any additional class or series of capital stock or such other securities;

3.3.4. (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the existing Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with any series of Preferred Stock in respect of any such right, preference or privilege;

3.3.5. purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock and (iii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof;

3.3.6. create, or authorize the creation of, or issue, or authorize the issuance of any debt security, or permit any subsidiary to take any such action with respect to any debt security, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed $500,000 unless such debt security has received the prior approval of the Board of Directors, including the approval of at least three Series B Directors;

3.3.7. enter into any interested party transaction, unless approved by the Board of Directors (including a disinterested majority of the Board of Directors, which shall include at least three Series B Directors so long as at least three Series B Directors are disinterested or, if fewer than three Series B Directors are disinterested, all Series B Directors); or

3.3.8. increase or decrease the authorized number of directors constituting the Board of Directors or alter the method of selecting members of the Board of Directors.

3.4 *Additional Protective Provisions.*

3.4.1. At any time when at least 3,111,639 shares of Series A Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock) are outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of at least a majority of the outstanding shares of Series A Preferred Stock shall be necessary for effecting any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or Bylaws of the Corporation that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series A Preferred Stock (whether by merger consolidation or otherwise) so as to affect the Series A Preferred Stock adversely and in a manner different than any other series of Preferred Stock (it being understood that the Series A Preferred Stock shall not be affected differently because of the proportional differences in the amounts of respective issue prices, liquidation preferences and redemption prices that arise out of differences in the Original Issue Price vis-à-vis other series of Preferred Stock).

3.4.2. At any time when at least 907,451 shares of Series A-1 Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A-1 Preferred Stock) are outstanding, in

addition to any other vote or consent required herein or by law, the vote or written consent of the holders of at least a majority of the outstanding shares of Series A-1 Preferred Stock shall be necessary for effecting any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or Bylaws of the Corporation that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series A-1 Preferred Stock (whether by merger consolidation or otherwise) so as to affect the Series A-1 Preferred Stock adversely and in a manner different than any other series of Preferred Stock (it being understood that the Series A-1 Preferred Stock shall not be affected differently because of the proportional differences in the amounts of respective issue prices, liquidation preferences and redemption prices that arise out of differences in the Original Issue Price vis-à-vis other series of Preferred Stock).

3.4.3. At any time when at least 5,335,112 shares of Series B Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) are outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the Requisite Holders shall be necessary for effecting any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or Bylaws of the Corporation that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series B Preferred Stock (whether by merger consolidation or otherwise) so as to affect the Series B Preferred Stock adversely and in a manner different than any other series of Preferred Stock (it being understood that the Series B Preferred Stock shall not be affected differently because of the proportional differences in the amounts of respective issue prices, liquidation preferences and redemption prices that arise out of differences in the Original Issue Price vis-à-vis other series of Preferred Stock).

4. *Optional Conversion*.

The holders of Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 *Right to Convert*.

4.1.1. *Conversion Ratio.* Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the applicable Original Issue Price by the applicable Conversion Price (as defined below) in effect at the time of conversion. The "**Conversion Price**" shall mean (a) with respect to Series A Preferred Stock, an amount initially equal to $0.60 per share (the "**Series A Conversion Price**"), (b) with respect to Series A-1 Preferred Stock, an amount initially equal to $0.50 per share (the "**Series A-1 Conversion Price**") and (c) with respect to Series B Preferred Stock, an amount initially equal to $0.29990 per share (the "**Series B Conversion Price**"). Such initial Series A Conversion Price, Series A-1 Conversion Price and Series B Conversion Price and the rate at which shares of Series A Preferred Stock, Series A-1 Preferred Stock and Series B Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2. *Termination of Conversion Rights.* In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 *Fractional Shares.* No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value

of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 *Mechanics of Conversion.*

4.3.1. *Notice of Conversion.* In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in *Section 4.2* in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2. *Reservation of Shares.* The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price of any series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of such

Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Conversion Price.

4.3.3. *Effect of Conversion.* All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in *Section 4.2* and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4. *No Further Adjustment.* Upon any such conversion, no adjustment to the Conversion Price of any series of Preferred Stock shall be made for any declared but unpaid dividends on such Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5. *Taxes.* The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this *Section 4*. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 *Adjustments to Conversion Price for Diluting Issues.*

4.4.1. *Special Definitions.* For purposes of this Article Fourth, the following definitions shall apply:

(a) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "**Original Issue Date**" shall mean the date on which the first share of Series B Preferred Stock was issued.

(c) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to *Section 4.4.3* below, deemed to be issued) by the Corporation after the Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by *Section 4.5, 4.6, 4.7* or *4.8***;**

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation, including at least three Series B Directors; or

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security.

(v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors of the Corporation , including at least three Series B Directors; or

(vi) shares of Common Stock, Options or Convertible Securities issued to company advisors, suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors of the Corporation, including at least three Series B Directors; or

(vii) shares of Common Stock, Options or Convertible Securities issued pursuant to the acquisition of another entity by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture or development project agreement, *provided* that such issuances are approved by the Board of Directors of the Corporation, including at least three Series B Directors;

(viii) shares of Series B Preferred Stock issued pursuant to that certain Series B Preferred Stock Purchase Agreement dated on or about the date hereof by and among the Corporation and certain investors (the "**Purchase Agreement**"); or

(ix) shares of Common Stock issued pursuant to a Qualified IPO (as defined below).

4.4.2. *No Adjustment of Conversion Price.* No adjustment in the Conversion Price of any series of Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Requisite Holders agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3. *Deemed Issue of Additional Shares of Common Stock*.

(a) If the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case

such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price of any series of Preferred Stock pursuant to the terms of *Section 4.4.4*, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such applicable Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the applicable Conversion Price to an amount which exceeds the lower of (i) the applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the applicable Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price of any series of Preferred Stock pursuant to the terms of *Section 4.4.4* (either because the consideration per share (determined pursuant to *Section 4.4.5*) of the Additional Shares of Common Stock subject thereto was equal to or greater than the applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in *Section 4.4.3(a)* shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price of any series of Preferred Stock pursuant to the terms of *Section 4.4.4*, the applicable Conversion Price shall be readjusted to such applicable Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the applicable Conversion Price provided for in this *Section 4.4.3* shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this *Section 4.4.3*). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the applicable Conversion Price that would result under the terms of this *Section 4.4.3* at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4. *Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock.* In the event the Corporation shall at any time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to *Section 4.4.3*), without consideration or for a consideration per share less than the Series B Conversion Price in effect immediately prior to such issue, then each Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula (provided, that in no event shall the Conversion Price for any series of Preferred Stock be increased pursuant to the operation of such formula):

$$CP2 = CP1* (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP2" shall mean the applicable Conversion Price in effect immediately after such issue of Additional Shares of Common Stock

(b) "CP1" shall mean the applicable Conversion Price in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to the Series B Conversion Price in effect immediately prior to such issue (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by the Series B Conversion Price in effect immediately prior to such issue); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

Notwithstanding the foregoing, the maximum proportional adjustment pursuant to this *Section 4.4.4* for any series of Preferred Stock shall be equal to the lowest proportional adjustment of any series of Preferred Stock determined by the foregoing formula. As an example, if the foregoing formula would result in the Series A Conversion Price being reduced from $0.60 to $0.45, the Series A-1 Conversion Price being reduced from $0.50 to $0.36 and the Series B Conversion Price being reduced from $0.29990 to $0.23992, then the Conversion Price of each series of Preferred Stock would be reduced by 20%, such that the new Series A Conversion Price would be equal to $0.48, the new Series A-1 Conversion Price would be equal to $0.40 and the new Series B Conversion Price would be equal to $0.23992.

4.4.5. *Determination of Consideration.* For purposes of this *Section 4.4*, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) *Cash and Property:* Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) *Options and Convertible Securities.* The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to *Section 4.4.3*, relating to Options and Convertible Securities, shall be determined by dividing:

(i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6. *Multiple Closing Dates.* In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price of any

series of Preferred Stock pursuant to the terms of *Section 4.4.4*, then, upon the final such issuance, the applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 *Adjustment for Stock Splits and Combinations.* If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 *Adjustment for Certain Dividends and Distributions.* In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price of each series of Preferred Stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price of each series of Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price of each series of Preferred Stock shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 *Adjustments for Other Dividends and Distributions.* In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of *Section 1* do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock,

a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 *Adjustment for Merger or Reorganization, etc.* Subject to the provisions of *Section 2.3*, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by *Sections 4.4*, *4.6* or *4.7*), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this *Section 4* with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this *Section 4* (including provisions with respect to changes in and other adjustments of the applicable Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock. For the avoidance of doubt, nothing in this *Section 4.8* shall be construed as preventing the holders of Preferred Stock from seeking any appraisal rights to which they are otherwise entitled under the DGCL in connection with a merger triggering an adjustment hereunder, nor shall this *Section 4.8* be deemed conclusive evidence of the fair value of the shares of Preferred Stock in any such appraisal proceeding.

4.9 *Certificate as to Adjustments.* Upon the occurrence of each adjustment or readjustment of the Conversion Price of any series of Preferred Stock pursuant to this *Section 4,* the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of such series of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the applicable Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such shares of Preferred Stock.

4.10 *Notice of Record Date.* In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. *Mandatory Conversion.*

5.1 *Trigger Events.* Upon either (a) the closing of the sale of shares of Common Stock to the public at a price of at least $0.59980 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $45,000,000 of gross proceeds to the Corporation, before deduction of the underwriting discounts, commissions and expenses (a "**Qualified IPO**"), or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Holders (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate for each series of Preferred Stock as calculated pursuant to *Section 4.1.1.* and (ii) such shares may not be reissued by the Corporation.

5.2 *Procedural Requirements.* All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this *Section 5*. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to *Section 5.1*, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this *Section 5.2*. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b)pay cash as provided in *Section 4.2* in lieu of any fraction of a share of Common Stock otherwise issuable upon such

conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

5A. *Special Mandatory Conversion.*

5A.1. *Trigger Event.* In the event that any holder of shares of Series B Preferred Stock other than an Excluded Investor (as defined in that certain Series B Preferred Stock Purchase Agreement, dated on or about the date hereof, by and between the Corporation and the other signatories thereto) (each a "**Qualified Holder**") does not participate in a Qualified Financing (as defined below) by purchasing in the aggregate, in such Qualified Financing and within the time period specified by the Corporation (*provided* that, the Corporation has sent to each Qualified Holder at least ten (10) days written notice of, and the opportunity to purchase its Pro Rata Amount (as defined below) of, the Qualified Financing), such Qualified Holder's Pro Rata Amount, then each share of Series B Preferred Stock held by such Qualified Holder shall automatically, and without any further action on the part of such Qualified Holder, be converted into one-tenth (1/10) of a share of Common Stock, effective upon, subject to, and concurrently with, the consummation of the Qualified Financing. For purposes of determining the number of shares of Series B Preferred Stock owned by a Qualified Holder, and for determining the number of Offered Securities (as defined below) a Qualified Holder has purchased in a Qualified Financing, all shares of Series B Preferred Stock held by Affiliates (as defined below) of such Qualified Holder shall be aggregated with such Qualified Holder's shares and all Offered Securities purchased by Affiliates of such Qualified Holder shall be aggregated with the Offered Securities purchased by such Qualified Holder (*provided* that no shares or securities shall be attributed to more than one entity or person within any such group of affiliated entities or persons). Such conversion is referred to as a "**Special Mandatory Conversion.**"

5A.2. *Procedural Requirements.* Upon a Special Mandatory Conversion, each Qualified Holder converted pursuant to *Section 5A.1* shall be sent written notice of such Special Mandatory Conversion and the place designated for mandatory conversion of all such shares of Series B Preferred Stock pursuant to this *Section 5A*. Upon receipt of such notice, each Qualified Holder of such shares of Series B Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that any such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Series B Preferred Stock converted pursuant to *Section 5A.1*, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the time of the Special Mandatory Conversion (notwithstanding the failure of the Qualified Holder or Qualified Holders thereof to surrender any certificates for such shares at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such Qualified Holders therefor (or lost certificate affidavit and agreement), to receive the items provided for in the next sentence of this *Section 5A.2*. As soon as practicable after the Special Mandatory Conversion and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Series B Preferred Stock so converted, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay cash as provided

in *Section 4.2* in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Series B Preferred Stock converted. Such converted Series B Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series B Preferred Stock accordingly.

5A.3. *Definitions.* For purposes of this *Section 5A*, the following definitions shall apply:

5A.3.1 "**Affiliate**" shall mean, with respect to any holder of shares of Series B Preferred Stock, any person, entity or firm which, directly or indirectly, controls, is controlled by or is under common control with such holder, including, without limitation, any entity of which the holder is a partner or member, any partner, officer, director, member or employee of such holder and any venture capital fund now or hereafter existing of which the holder is a partner or member which is controlled by or under common control with one or more general partners of such holder or shares the same management company with such holder.

5A.3.2 "**Offered Securities**" shall mean the equity securities of the Corporation set aside by the Board of Directors of the Corporation for purchase by holders of outstanding shares of Series B Preferred Stock in connection with a Qualified Financing, and offered to such holders.

5A.3.3 "**Pro Rata Amount**" shall mean, with respect to any Qualified Holder, the lesser of (a) a number of Offered Securities calculated by multiplying the aggregate number of Offered Securities by a fraction, the numerator of which is equal to the number of shares of Series B Preferred Stock owned by such Qualified Holder, and the denominator of which is equal to the aggregate number of outstanding shares of Series B Preferred Stock owned by all Qualified Holders, or (b) the maximum number of Offered Securities that such Qualified Holder is permitted by the Corporation to purchase in such Qualified Financing, after giving effect to any cutbacks or limitations established by the Board of Directors and applied on a pro rata basis to all Qualified Holders.

5A.3.4 "**Qualified Financing**" shall mean any transaction involving the issuance or sale of Series B Preferred Stock after the Original Issue Date pursuant to the terms of the Purchase Agreement, unless the Requisite Holders elect, by written notice sent to the Corporation prior to the consummation of the Qualified Financing, that such transaction not be treated as a Qualified Financing for purposes of this *Section 5A*.

6. *Redemption.* The shares of Preferred Stock are not redeemable.

7. *Redeemed or Otherwise Acquired Shares.* Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

8. *Waiver.* Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Holders.

9. *Notices.* Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by the Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: The following indemnification provisions shall apply to the persons enumerated below.

1. *Right to Indemnification of Directors and Officers.* The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "**Indemnified Person**") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys" fees) reasonably incurred by such Indemnified Person in such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in *Section 3* of this Article Tenth, the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. *Prepayment of Expenses of Directors and Officers.* The Corporation shall pay the expenses (including attorneys' fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, *provided*, *however*, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article Tenth or otherwise.

3. *Claims by Directors and Officers.* If a claim for indemnification or advancement of expenses under this Article Tenth is not paid in full within thirty (30) days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may file suit to

recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. *Indemnification of Employees and Agents.* The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. *Advancement of Expenses of Employees and Agents.* The Corporation may pay the expenses (including attorneys' fees) incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. *Non-Exclusivity of Rights.* The rights conferred on any person by this Article Tenth shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the certificate of incorporation, these by-laws, agreement, vote of stockholders or disinterested directors or otherwise.

7. *Other Indemnification.* The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer or employee of another Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise shall be reduced by any amount such person may collect as indemnification from such other Corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise.

8. *Insurance.* The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article Tenth; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article Tenth.

9. *Amendment or Repeal.* Any repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Series B Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired,

created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on July 11, 2014.

By: /s/ DR. BLAKE PATERSON

Name: Dr. Blake Paterson
Title: *Chief Executive Officer*

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Exhibit 4.1

SECOND AMENDED AND RESTATED
INVESTORS' RIGHTS AGREEMENT

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SECOND AMENDED AND RESTATED
INVESTORS' RIGHTS AGREEMENT

THIS SECOND AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**"), is made as of the 11th day of July, 2014, by and among Cerecor Inc., a Delaware corporation (the "**Company**"), and each of the investors listed on *Schedule A* hereto, each of which is referred to in this Agreement as an "**Investor**."

RECITALS

WHEREAS, certain of the Investors (the "**Existing Investors**") hold shares of the Company's Series A Preferred Stock, Series A-1 Preferred Stock and/or shares of Common Stock and possess certain rights pursuant to an Amended and Restated Investors' Rights Agreement dated as of August 23, 2013 between the Company and such Investors (the "**Prior Agreement**"); and

WHEREAS, the Existing Investors are holders of a majority of the Registrable Securities of the Company (as defined in the Prior Agreement), and desire to amend and restate the Prior Agreement in its entirety and to accept the rights and obligations created pursuant to this Agreement in lieu of the rights and obligations of the Existing Investors under the Prior Agreement; and

WHEREAS, certain of the Investors are parties to that certain Series B Preferred Stock Purchase Agreement of even date herewith between the Company and certain of the Investors (the "**Purchase Agreement**"), under which certain of the Company's and such Investors' obligations are conditioned upon the execution and delivery of this Agreement by such Investors, Existing Investors holding a majority of the Registrable Securities, and the Company;

NOW, THEREFORE, the Existing Investors hereby agree that the Prior Agreement shall be amended and restated, and the parties to this Agreement further agree as follows:

1. *Definitions.* For purposes of this Agreement:

1.1 "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

1.2 "**Common Stock**" means shares of the Company's common stock, par value $0.001 per share.

1.3 "**Damages**" means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon: (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.4 "**Derivative Securities**" means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

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

1.6 "**Excluded Registration**" means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.7 "**Form S-1**" means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.8 "**Form S-3**" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.9 "**GAAP**" means generally accepted accounting principles in the United States.

1.10 "**Holder**" means any holder of Registrable Securities who is a party to this Agreement.

1.11 "**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including, adoptive relationships, of a natural person referred to herein.

1.12 "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.13 "**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

1.14 "**Major Investor**" means any Investor that, individually or together with such Investor's Affiliates, holds at least ten percent (10%) of the shares of Preferred Stock then outstanding.

1.15 "**NEA**" means New Enterprise Associates 14, Limited Partnership.

1.16 "**New Securities**" means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for such equity securities.

1.17 "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.18 "**Preferred Stock**" means, collectively, shares of Series A Preferred Stock, Series A-1 Preferred Stock and Series B Preferred Stock.

1.19 "**Qualified IPO**" has the meaning given to such term in the Company's Amended and Restated Certificate of Incorporation, as may be amended from time to time.

1.20 "**Registrable Securities**" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock, excluding any Common Stock issued upon conversion of Preferred Stock pursuant to the "Special Mandatory Conversion" provisions of the Company's Certificate of Incorporation; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, acquired by the Investors after the date hereof; and (iii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other

distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses *(i)* and *(ii)* above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to *Section 6.1*, and excluding for purposes of *Section 2* any shares for which registration rights have terminated pursuant to *Section 2.13* of this Agreement.

1.21 "**Registrable Securities then outstanding**" means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.22 "**Restricted Securities**" means the securities of the Company required to be notated with the legend set forth in *Section 2.12(b)* hereof.

1.23 "**SEC**" means the Securities and Exchange Commission.

1.24 "**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.25 "**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

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

1.27 "**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in *Section 2.6*.

1.28 "**Series A Preferred Stock**" means shares of the Company's Series A Preferred Stock, par value $0.001 per share.

1.29 "**Series A-1 Preferred Stock**" means shares of the Company's Series A- Preferred Stock, par value $0.001 per share.

1.30 "**Series B Director**" means any director of the Company that the holders of Series B Preferred Stock are entitled to elect pursuant to Section 1.2(a), Section 1.2(b), Section 1.2(c) or Section 1.2(d) of the Voting Agreement.

1.31 "**Series B Preferred Stock**" means shares of the Company's Series B Preferred Stock, par value $0.001 per share.

1.32 "**Voting Agreement**" means the Second Amended and Restated Voting Agreement, dated as of the date hereof, by and among the Company, certain of the Investors and the other parties thereto.

2. *Registration Rights.* The Company covenants and agrees as follows:

2.1 *Demand Registration*.

(a) *Form S-1 Demand*. If at any time after the earlier of (i) three (3) years after the date of this Agreement and (ii) one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from Holders of a majority of the shares of Series B Preferred Stock then outstanding (the "**Requisite Holders**") that the Company file a Form S-1 registration statement with respect to Registrable Securities with an anticipated aggregate offering price, net of Selling Expenses, of at least $10 million, then the Company shall (x) within ten (10) days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within sixty (60) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities

Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of *Sections 2.1(c)* and *2.3*.

(b) *Form S-3 Demand*. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of Registrable Securities that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least $1 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of *Sections 2.1(c)* and *2.3*.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this *Section 2.1* a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Company's Board of Directors (including at least three Series B Directors) it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing for a period of not more than ninety (90) days after the request of the Initiating Holders is given; *provided*, *however*, that the Company may not invoke this right more than once in any twelve (12) month period; and *provided further* that the Company shall not register any securities for its own account or that of any other stockholder during such ninety (90) day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to *Section 2.1(a)(i)* during the period that is sixty (60) days before the Company's good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, the registration statement filed in connection with the Company's IPO, *provided* that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (ii) after the Company has effected two registrations pursuant to *Section 2.1(a)*; or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to *Section 2.1(b)*. The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to *Section 2.1(b)* (i) during the period that is thirty (30) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, *provided* that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two registrations pursuant to *Section 2.1(b)* within the twelve (12) month period immediately preceding the date of such

request. A registration shall not be counted as "effected" for purposes of this *Section 2.1(d)* until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to *Section 2.6*, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this *Section 2.1(d)*.

2.2 *Company Registration.* If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its Common Stock under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of *Section 2.3*, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this *Section 2.2* before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with *Section 2.6*.

2.3 *Underwriting Requirements*.

(a) If, pursuant to *Section 2.1*, the Initiating Holders 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 *Section 2.1*, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Initiating Holders, subject only to the reasonable approval of the Company. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in *Section 2.4(e)*) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this *Section 2.3*, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; *provided*, *however*, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to *Section 2.2*, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering

exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. Notwithstanding the foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company and the Initiating Holders) are first entirely excluded from the offering, (ii) the number of Registrable Securities included in the offering be reduced below twenty-five percent (25%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering or (iii) notwithstanding (ii) above, any Registrable Securities which are to be sold by Initiating Holders be excluded from such underwriting unless the Registrable Securities to be sold by all other Holders are first excluded from such offering. For purposes of the provision in this *Section 2.3(b)* concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of *Section 2.1*, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in *Section 2.3(a)*, fewer than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 *Obligations of the Company.* Whenever required under this *Section 2* to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; *provided*, *however*, that (i) such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period shall be extended for up to ninety (90) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold.

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) 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 underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

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

(h) promptly make available for inspection by the selling Holders, any managing underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

In addition, the Company shall ensure that, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, its insider trading policy shall provide that the Company's directors may implement a trading program under Rule 10b5-1 of the Exchange Act.

2.5 *Furnish Information.* It shall be a condition precedent to the obligations of the Company to take any action pursuant to this *Section 2* with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6 *Expenses of Registration.* All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to *Section 2*, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements of one counsel for the selling Holders ("**Selling Holder Counsel**"), shall be borne and paid by the Company; *provided*, *however*, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to *Section 2.1* if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Requisite Holders agree to forfeit their right to one registration pursuant to *Sections 2.1(a)* or *2.1(b)*, as the case may be; *provided further* that if, at the time of such withdrawal, the Holders shall have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to *Sections 2.1(a)* or *2.1(b)*. All Selling Expenses relating to Registrable Securities registered pursuant to this *Section 2* shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 *Delay of Registration.* No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this *Section 2*.

2.8 *Indemnification.* If any Registrable Securities are included in a registration statement under this *Section 2*:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; *provided*, *however*, that the indemnity agreement contained in this *Section 2.8(a)* shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other

aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; *provided*, *however*, that the indemnity agreement contained in this *Section 2.8(b)* shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and *provided further* that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under *Sections 2.8(b)* and *2.8(d)* exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this *Section 2.8* of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this *Section 2.8*, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; *provided*, *however*, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this *Section 2.8*, to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this *Section 2.8*.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either: (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this *Section 2.8* 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 2.8* provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this *Section 2.8*, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; *provided*, *however*, that, in any such case (x) no Holder will be required to contribute any amount in excess of the public offering price

of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and *provided further* that in no event shall a Holder's liability pursuant to this *Section 2.8(d)*, when combined with the amounts paid or payable by such Holder pursuant to *Section 2.8(b)*, exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the IPO are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this *Section 2.8* shall survive the completion of any offering of Registrable Securities in a registration under this *Section 2*, and otherwise shall survive the termination of this Agreement.

2.9 *Reports Under Exchange Act.* With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company; and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 *Limitations on Subsequent Registration Rights.* From and after the date of this Agreement, the Company shall not, without the prior written consent of the Requisite Holders, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder to (i) include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included; or (ii) initiate a demand for

registration of any securities held by such holder or prospective holder; *provided* that this limitation shall not apply to any additional Investor who becomes a party to this Agreement in accordance with *Section 6.9*.

2.11 *"Market Stand-off" Agreement.* Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the registration by the Company of shares of its Common Stock or any other equity securities under the Securities Act on a registration statement on Form S-1, and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports, and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock held immediately before the effective date of the registration statement for such offering or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this *Section 2.11* shall apply only to the IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, or the transfer of any shares to any trust for the direct or indirect benefit of the Holder or the immediate family of the Holder, *provided* that the trustee of the trust agrees to be bound in writing by the restrictions set forth herein, and *provided further* that any such transfer shall not involve a disposition for value, and shall be applicable to the Holders only if all officers and directors are subject to the same restrictions and the Company uses commercially reasonable efforts to obtain a similar agreement from all stockholders individually owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock). The underwriters in connection with such registration are intended third-party beneficiaries of this *Section 2.11* and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this *Section 2.11* or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Holders subject to such agreements, based on the number of shares subject to such agreements.

2.12 *Restrictions on Transfer.*

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b) Each certificate representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar

event, shall (unless otherwise permitted by the provisions of *Section 2.12(c)*) be endorsed with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this *Section 2.12*.

(c) The holder of each certificate representing Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this *Section 2*. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; *provided* that each transferee agrees in writing to be subject to the terms of this *Section 2.12*. Each certificate evidencing the Restricted Securities transferred as above provided shall bear, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in *Section 2.12(b)*, except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 *Termination of Registration Rights.* The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to *Sections 2.1* or *2.2* shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation;

(b) such time as (i) such Holder holds less than one percent (1%) of all Registrable Securities then outstanding and (ii) Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's shares without limitation during a three-month period without registration; and

(c) the later of (i) the fifth (5^{th}) anniversary of the Qualified IPO (as defined in the Company's Certificate of Incorporation) and (ii) August 23, 2020.

3. *Information and Observer Rights.*

3.1 *Delivery of Financial Statements.* The Company shall deliver to each Major Investor:

(a) as soon as practicable, but in any event within one hundred twenty (120) days after the end of each fiscal year of the Company (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and a comparison between (x) the actual amounts as of and for such fiscal year and (y) the comparable amounts for the prior year and as included in the Budget (as defined in *Section 3.1(e)*) for such year, with an explanation of any material differences between such amounts and a schedule as to the sources and applications of funds for such year, and (iii) a statement of stockholders' equity as of the end of such year, all such financial statements audited and certified by independent public accountants of nationally or regionally recognized standing selected by the Company;

(b) as soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, unaudited statements of income and cash flows for such fiscal quarter, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments; and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c) as soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period, the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit the Major Investors to calculate their respective percentage equity ownership in the Company, and certified by the chief financial officer or chief executive officer of the Company as being true, complete, and correct;

(d) as soon as practicable, but in any event within thirty (30) days of the end of each month, an unaudited income statement and statement of cash flows for such month, and an unaudited balance sheet and statement of stockholders' equity as of the end of such month, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(e) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board of Directors and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company;

(f) with respect to the financial statements called for in *Section 3.1(a)*, *Section 3.1(b)* and *Section 3.1(d)*, an instrument executed by the chief financial officer and chief executive officer of the Company certifying that such financial statements were prepared in accordance with GAAP consistently applied with prior practice for earlier periods (except as otherwise set forth in *Section 3.1(b)* and *Section 3.1(d)*) and fairly present the financial condition of the Company and its results of operation for the periods specified therein; and

(g) such other information relating to the financial condition, business, prospects, or corporate affairs of the Company as any Major Investor may from time to time reasonably request; *provided*, *however*, that the Company shall not be obligated under this *Section 3.1* to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in a form acceptable to the Company); or (ii) the disclosure of which, in the opinion of counsel, would adversely affect the attorney-client privilege between the Company and its counsel.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this *Section 3.1* to the contrary, the Company may cease providing the information set forth in this *Section 3.1* during the period starting with the date thirty (30) days before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; *provided* that the Company's covenants under this *Section 3.1* shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 *Inspection.* The Company shall permit each Major Investor, at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; *provided*, *however*, that the Company shall not be obligated pursuant to this *Section 3.2* to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 *Observer Rights.* As long as MPM Capital owns not less than 33% of the shares of the Preferred Stock acquired by MPM Capital (including its Affiliates) pursuant to the Purchase Agreement, the Company shall invite a representative of MPM Capital to attend all meetings of its Board of Directors in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could materially adversely affect the attorney-client privilege between the Company and its counsel or result in an actual conflict of interest, or if such Investor or its representative is a direct competitor of the Company.

3.4 *Termination of Information Rights.* The covenants set forth in *Section 3.1*, *Section 3.2* and *Section 3.3* shall terminate and be of no further force or effect (i) immediately before the consummation of the Qualified IPO, (ii) when the Company first becomes subject to the periodic

reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, whichever event occurs first.

3.5 *Confidentiality.* Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this *Section 3.5* by such Investor), (b) is or has been independently developed or conceived by the Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; *provided*, *however*, that an Investor may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this *Section 3.5*; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, *provided* that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, *provided* that the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

4. *Rights to Future Stock Issuances*.

4.1 *Right of First Offer.* Subject to the terms and conditions of this *Section 4.1* and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to the Major Investors. A Major Investor shall be entitled to apportion the right of first offer hereby granted to it. in such proportions as it deems appropriate, among (i) itself, (ii) its Affiliates and (iii) its beneficial interest holders, such as limited partners, members or any other Person having "beneficial ownership," as such term is defined in Rule 13d-3 promulgated under the Exchange Act, of such Major Investor ("**Investor Beneficial Owners**"); *provided* that each such Affiliate or Investor Beneficial Owner agrees to enter into this Agreement and each of the Voting Agreement and Second Amended and Restated Right of First Refusal and Co-Sale Agreement of even date herewith among the Company, the Investors and the other parties named therein, as an "**Investor**" under each such agreement.

(a) The Company shall give notice (the "**Offer Notice**") to each Major Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within twenty (20) days after the Offer Notice is given, each Major Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock then held by such Major Investor (including all shares of Common Stock then issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by such Major Investor) bears to the total Common Stock of the Company then held by all the Major Investors (including all shares of Common Stock issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by the Major Investors). At the expiration of such twenty (20) day period, the Company shall promptly notify each Major Investor that elects to purchase or

acquire all the shares available to it (each, a "**Fully Exercising Investor**") of any other Major Investor's failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Major Investors were entitled to subscribe but that were not subscribed for by the Major Investors which is equal to the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Investor bears to the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held, by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this *Section 4.1(b)* shall occur within the later of ninety (90) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to *Section 4.1(c)*.

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in *Section 4.1(b)*, the Company may, during the ninety (90) day period following the expiration of the periods provided in *Section 4.1(b)*, offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this *Section 4.1*.

(d) The right of first offer in this *Section 4.1* shall not be applicable to (i) Exempted Securities (as defined in the Company's Certificate of Incorporation); (ii) shares of Common Stock issued in the IPO; and (iii) the issuance of shares of Series B Preferred Stock to Hercules or Additional Purchasers pursuant to *Section 1.2* of the Purchase Agreement.

4.2 *Termination.* The covenants set forth in *Section 4.1* shall terminate and be of no further force or effect (i) immediately before the consummation of the Qualified IPO, or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, whichever event occurs first.

5. *Additional Covenants*.

5.1 *Insurance.* The Company shall use its commercially reasonable efforts to obtain, within thirty (30) days of the date hereof, from financially sound and reputable insurers, Directors and Officers liability insurance coverage in an amount of at least $3 million per occurrence, with such terms, conditions and policy limits satisfactory to the Board of Directors (including at least three Series B Directors), and will use commercially reasonable efforts to cause such insurance policies to be maintained until such time as the Board of Directors (including at least three Series B Directors) determines that such insurance should be discontinued. Such policy shall not be cancelable by the Company without prior approval by the Board of Directors (including at least three Series B Directors). The Company shall use its commercially reasonable efforts prior to an IPO to increase its Directors and Officers liability insurance to at least $20 million per occurrence, including coverage of claims under the Securities Act and the Exchange Act. Notwithstanding any other provision of this Section 5.1 to the contrary, for so long as a Series B Director is serving on the Board of Directors, the Company shall not cease to maintain a Directors and Officers liability insurance policy in an amount of at least (x) $3 million per occurrence prior to an IPO and (y) $20 million per occurrence in connection with and after and IPO, unless approved by at least three Series B Directors (or a majority of the Series B Directors if less than five Series B Directors

is then serving on the Board of Directors) and the Company shall annually, within one hundred twenty (120) days after the end of each fiscal year of the Company, deliver to NEA and each Series B Director a certification that such a Directors and Officers liability insurance policy remains in effect.

5.2 *Employee Agreements.* The Company will cause each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement, in the form attached hereto as *Exhibit A*. In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any of the above-referenced agreements or any restricted stock agreement between the Company and any employee, without the consent of at least three Series B Directors.

5.3 *Employee Stock.* Unless otherwise approved by the Board of Directors, including at least three Series B Directors, all future employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four (4) year period, with the first twenty-five percent (25%) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following thirty-six (36) months, and (ii) a market stand-off provision substantially similar to that in *Section 2.11*. In addition, unless otherwise approved by the Board of Directors, including at least three Series B Directors, the Company shall retain a "right of first refusal" on employee transfers until the Company's IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.4 *Qualified Small Business Stock.* The Company shall use commercially reasonable efforts to cause the shares of Series B Preferred Stock issued pursuant to the Purchase Agreement, as well as any shares into which such shares are converted, within the meaning of Section 1202(f) of the Internal Revenue Code (the "**Code**"), to constitute "qualified small business stock" as defined in Section 1202(c) of the Code. The Company shall submit to its stockholders (including the Investors) and to the Internal Revenue Service any reports that may be required under Section 1202(d)(1)(C) of the Code and the regulations promulgated thereunder. In addition, within twenty (20) business days after any Investor's written request therefor, the Company shall, at its option, either (i) deliver to such Investor a written statement indicating whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code or (ii) deliver to such Investor such factual information in the Company's possession as is reasonably necessary to enable such Investor to determine whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code. The Company's obligation to furnish a written statement pursuant to this Section 5.4 shall continue notwithstanding the fact that a class of the Company's stock may be traded on an established securities market.

5.5 *Successor Indemnification.* If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board of Directors as in effect immediately before such transaction, whether such obligations are contained in the Company's Bylaws, its Certificate of Incorporation, or elsewhere, as the case may be.

5.6 *Expenses of Counsel.* In the event of a transaction which is a Sale of the Company (as defined in the Voting Agreement of even date herewith among the Investors and the Company),

the reasonable fees and disbursements of one counsel for the Major Investors ("**Investor Counsel**"), in their capacities as stockholders, shall be borne and paid by the Company. At the outset of considering a transaction which, if consummated would constitute a Sale of the Company, the Company shall obtain the ability to share with the Investor Counsel (and such counsel's clients) and shall share the confidential information (including, without limitation, the initial and all subsequent drafts of memoranda of understanding, letters of intent and other transaction documents and related noncompete, employment, consulting and other compensation agreements and plans) pertaining to and memorializing any of the transactions which, individually or when aggregated with others would constitute the Sale of the Company. The Company shall be obligated to share (and cause the Company's counsel and investment bankers to share) such materials when distributed to the Company's executives and/or any one or more of the other parties to such transaction(s). In the event that Investor Counsel deems it appropriate, in its reasonable discretion, to enter into a joint defense agreement or other arrangement to enhance the ability of the parties to protect their communications and other reviewed materials under the attorney client privilege, the Company shall, and shall direct its counsel to, execute and deliver to Investor Counsel and its clients such an agreement in form and substance reasonably acceptable to Investor Counsel. In the event that one or more of the other party or parties to such transactions require the clients of Investor Counsel to enter into a confidentiality agreement and/or joint defense agreement in order to receive such information, then the Company shall share whatever information can be shared without entry into such agreement and shall, at the same time, in good faith work expeditiously to enable Investor Counsel and its clients to negotiate and enter into the appropriate agreement(s) without undue burden to the clients of Investor Counsel.

5.7 *Indemnification Matters.* The Company hereby acknowledges that one (1) or more of the directors nominated to serve on the Board of Directors by the Investors (each a "**Fund Director**") may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their affiliates (collectively, the "**Fund Indemnitors**"). The Company hereby agrees (a) that it is the indemnitor of first resort (*i.e.*, its obligations to any such Fund Director are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such Fund Director are secondary), (b) that it shall be required to advance the full amount of expenses incurred by such Fund Director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such Fund Director to the extent legally permitted and as required by the Company's Certificate of Incorporation or Bylaws of the Company (or any agreement between the Company and such Fund Director), without regard to any rights such Fund Director may have against the Fund Indemnitors, and, (c) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of any such Fund Director with respect to any claim for which such Fund Director has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Fund Director against the Company.

5.8 *Right to Conduct Activities.* The Company hereby agrees and acknowledges that each Major Investor (together with their respective affiliates) is a professional investment fund, and as such invests in numerous portfolio companies, some of which may be deemed competitive with the Company's business (as currently conducted or as currently propose to be conducted). The Company hereby agrees that, to the extent permitted under applicable law, each such Major Investor shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by such Major Investor in any entity competitive with the Company, or (ii) actions taken by any partner, officer or other representative of such Major Investor to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such

competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing shall not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company's confidential information obtained pursuant to this Agreement, or (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company.

5.9 *FCPA.* The Company represents that it shall not (and shall not permit any of its subsidiaries or affiliates or any of its or their respective directors, officers, managers, employees, independent contractors, representatives or agents to) promise, authorize or make any payment to, or otherwise contribute any item of value to, directly or indirectly, to any third party, including any Non-U.S. Official (as (as such term is defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "**FCPA**")), in each case, in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) cease all of its or their respective activities, as well as remediate any actions taken by the Company, its subsidiaries or affiliates, or any of their respective directors, officers, managers, employees, independent contractors, representatives or agents in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) maintain systems of internal controls (including, but not limited to, accounting systems, purchasing systems and billing systems) to ensure compliance with the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. Upon request, the Company agrees to provide responsive information and/or certifications concerning its compliance with applicable anti-corruption laws. The Company shall promptly notify each Major Investor if the Company becomes aware of any Enforcement Action (as defined in the Purchase Agreement). The Company shall, and shall cause any direct or indirect subsidiary or entity controlled by it, whether now in existence or formed in the future, to comply with the FCPA. The Company shall use its best efforts to cause any direct or indirect subsidiary, whether now in existence or formed in the future, to comply in all material respects with all applicable laws.

5.10 *FIRPTA.* The Company shall provide prompt notice to New Enterprise Associates 14, Limited Partnership ("NEA 14") following any "determination date" (as defined in Treasury Regulation Section 1.897-2(c)(1)) on which the Company becomes a United States real property holding corporation. In addition, upon a written request by NEA 14, the Company shall provide NEA 14 with a written statement informing NEA 14 whether NEA 14's interest in the Company constitutes a United States real property interest. The Company's determination shall comply with the requirements of Treasury Regulation Section 1.897-2(h)(1) or any successor regulation, and the Company shall provide timely notice to the Internal Revenue Service, in accordance with and to the extent required by Treasury Regulation Section 1.897-2(h)(2) or any successor regulation, that such statement has been made. The Company's written statement to NEA 14 shall be delivered to NEA 14 within 10 days of NEA 14's written request therefor. The Company's obligation to furnish such written statement shall continue notwithstanding the fact that a class of the Company's stock may be regularly traded on an established securities market or the fact that there is no preferred stock then outstanding.

5.11 *Termination of Covenants.* The covenants set forth in Sections 5.2, 5.3 and 5.9 shall terminate and be of no further force or effect (i) immediately before the consummation of the Qualified IPO or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, whichever event occurs first.

6. *Miscellaneous*.

6.1 *Successors and Assigns.* The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; (ii) is a Holder's Immediate Family Member or trust for the benefit of an

individual Holder or one or more of such Holder's Immediate Family Members; or (iii) after such transfer, holds at least two percent (2%) of the shares of Registrable Securities then outstanding; *provided*, *however*, that (x) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of *Section 2.11*. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; *provided further* that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 *Governing Law.* This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law principles that would result in the application of the laws of any other jurisdiction.

6.3 *Counterparts.* This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

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

6.5 *Notices.* All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (a) personal delivery to the party to be notified, (b) when sent, if sent by facsimile (with delivery confirmation) or email during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) business day after deposit with a nationally recognized overnight courier, freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on the signature page, *Schedule A* or *Schedule B* hereof, as the case may be, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this *Section 6.5*. If notice is given to the Company, a mandatory copy (which shall not constitute notice) shall also be sent to Cooley LLP, 1299 Pennsylvania Avenue NW, Washington DC, 20004-2400, Attention: Aaron Velli, Facsimile: (202) 842-7899, Email: avelli@cooley.com and if notice is given to any Stockholder, a mandatory copy (which shall not constitute notice) shall also be sent to Proskauer Rose LLP, One International Place, Boston, MA 02110, Attention: Ori Solomon, Facsimile: (617) 526-9899, Email: osolomon@proskauer.com.

6.6 *Amendments and Waivers.* Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the Requisite Holders; *provided* that the Company may in its sole discretion waive compliance

with *Section 2.12(c)* (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of *Section 2.12(c)* shall be deemed to be a waiver); and *provided further* that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination, or waiver applies to all Investors in the same fashion (it being agreed that a waiver of the provisions of *Section 4* with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may nonetheless, by agreement with the Company, purchase securities in such transaction). The Company shall give prompt notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination, or waiver. Any amendment, termination, or waiver effected in accordance with this *Section 6.6* shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 *Severability.* In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 *Aggregation of Stock.* All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

6.9 *Additional Investors.* Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series B Preferred Stock after the date hereof, any purchaser of such shares of Series B Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

6.10 *Entire Agreement.* This Agreement (including any Schedules and Exhibits hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled. Upon the effectiveness of this Agreement, the Prior Agreement shall be deemed amended and restated and superseded and replaced in its entirety by this Agreement, and shall be of no further force or effect.

6.11 *Dispute Resolution.* The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of the State of Delaware and to the jurisdiction of the United States District Court for the District of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of the State of Delaware or the United States District Court for the District of Delaware, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the

suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court. The prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the District of Delaware or any court of the State of Delaware having subject matter jurisdiction.

6.12 *Waiver of Jury Trial.* EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

6.13 *Delays or Omissions.* No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.14 *Acknowledgment.* The Company acknowledges that the Investors are in the business of venture capital investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which compete directly or indirectly with those of the Company. Nothing in this Agreement shall preclude or in any way restrict the Investors from investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

COMPANY:

CERECOR INC.

By: /s/ BLAKE PATERSON

Name: Blake Paterson
Title: *Chief Executive Officer*

Signed by the following Investors:

New Enterprise Associates 14, L.P.
NEA Ventures 2014, L.P.
Apple Tree Partners IV, LP
MPM BioVentures V, LP
MPM Asset Management Investors BV5 LLC
David Abramson
ACNYC, LLC
Phil Agnes
Ahlborg Acquisitions LLC
Gilya Alchits
Nigel V. Alexander
Allenwood Ventures, Inc.
Monte D. Anglin and Janet S. Anglin
AR Properties
Ronald Artinian
ARZT, LLC
Jim Aukstuolis
The Bahr Family Limited Partnership
Bao Ning Xie
Raymond F. Barbush III
Sol J. Barer
Martin Becker
Trust of David Benaderet UAD 1/15/13
Stephen Bender
Daniel Blech Trust DTD 8/3/2005
Isaac Blech
Bradley C. Boers
Bozarth LLC
IRA FBO KAREN BRAINARD PERSHING
LLC AS CUSTODIAN ROLLOVER
ACCOUNT
Howard B. Brodsky Revocable Trust of 1988
UAD 10/24/1988
Franklin D. Brown
Ray Alan Bruening
Robert Burke
Leonard J. Calbo and Marguerite Joan Calbo
Adolfo Carmona and Donna Carmona
The Carnahan Trust UAD 08/11/95
Anthony C. Celeste and Barbara Celeste
Richard Cohen
Michael Cohn and Paula Cohn
David S. Cooper
Charles J. Costich and Karin J. Costich
Ben Crown
C Barnes Darwin II
David D Deatkine Jr
Patrick Decavaignac Nancy J Connoly JT
James M. Disiao
James L Dritz
Scott Allen Edelbach Michelle Lynne Edelbach JT
Paul Ehrlich CPA Defined Benefit Plan

Paul D. Ehrman
Ron Eller and Beth Eller
Douglas L Engers
Steven Farber
Lawrence Feinberg
Frederick A. Fochtman and Linda M. Fochtman
David Foni and Adriana K. Foni
Fortezza Investments, LP
Robert Frankel
David and Debroah Franzetta Trust UAD
1/29/1998
Diana & David Freshwater Living Trust UAS
01/20/04
David L. Frydrych
GBS Ventures, Inc
Keith Gelles
Robert P. Giesen
James B. and Karen A. Glavin Family Trust
UAD 10/30/98; James B. Glavin and Karen A.
Glavin TTEES
Bruce Donald Goethe Laura K Goethe Comm
Prop WROS
Howard M. Haft
Nathan Halegua
John Hawk
Daniel H Hildebrand
Donald E. Hinkle
Joel L. Hochman Revocable Trust
Jing-Zhou Hou
Te-Shao Hsu
IRA FBO Thomas Huang, Pershing LLC as
Custodian
Richard S. Jackson Roth IRA, Pershing LLC as Custodian
JaDaMo LLC
Marc R Jalbert
Robert Kargman and Marjie B. Kargman
William M Kargman
James A Kluge
Thomas C. Kotyk
William S. Lapp
Robert H. Lenox
Todd Loudin
Steven K. Luminais and K. Elizabeth Kindwall
Luminais
Rick D. Mace and Karen J. Mace
Manny Family Revocable Trust UAD 09/17/05
Stanley M Marks
James C. Maylo
Kevin P McCarthy
Robert A. McDonald
Robert A. Melnick
Millenium Trust Co, LLC
Robert C Monks
Reed C. Moskowitz

Fatos Mucha
Mulkey II Limited Partnership
MSSB C/F David S. Nagelberg IRA Standard
Steven M. Nelson
Northlea Partners LLLP
David Y Norton
The Oaks Family LLC
Colin Offenhartz
David R. Olson
Henry Scovern and Laura K. Pakarow
Panella Living Trust; Joseph Panella & Pamela
Panella Ttees
Jonathan Patronik
Brian D. Petersen and Jane F.S. Petersen
Daniel P Petro
Michael Pierce
Michael E. Portnoy (IRA FBO MICHAEL E
PORTNOY PERSHING LLC AS
CUSTODIAN)
Brian Potiker Revocable Trust UAD 8/7/96
Timothy G. Rahr and Sarah Roman
Raisol, LLC
Kiran Rajasenan and Rosemarie Rajasenan JT
James Ramo 1979 Revocable Trust
Anastasios Raptis and Hariklia Efthimiou JT
Marty L Reich
Mark W. Reutlinger and Analee P. Reutlinger
Comm Prop
Glenn D. Rice (SEP FBO GLENN D RICE
PERSHING LLC AS CUSTODIAN)
Michael Rieber
Brenda A. Riffee Revocable Trust UAD
10/16/06
Stephen E. Riffee Revocable Trust UAD
10/16/06
Dyke Rogers
Thomas M. Rogstad
Michael Paul Ross
Steven Rothstein
Marc A. Rotter
Mark W. Salmon
Joshua Schein 2009 Spearfish Trust UAD
12/28/2009
Peter D. Schiffrin
Alyson D Schlosser
David M. Schneider
David E Schwartz
Anil K Sharma Praguti G Sharma JT
William Sheppard
Estelle Siegel (ESTELLE SIEGEL SEYMOUR SIEGEL JT TEN)
Stuart Silverman
Lawrence Silverstein
Shamus, LLC
Arnold E. Spangler

Richard & Jeannie Stillman
Clayton A. Struve
Walter Sturm and Sandra Sturm
Min Sun
John D Suryan Monica S Suryan JT
TGR Partners, LLC
James W. Thomas
Transpac Investments Limited
Terrence E Troy
Robert E. Truskowski
Henry M. Tufo and Carleen Tufo
Robert M. Upshaw and Yarima F. Upshaw
Steve Valko
Hans Abel Van Der Laan and Annette Van Der Laan
G Jan Van Heek
Ted Vanvick
Louis Vigden
Vivari, Ltd
John V. Wagner
Brian D. Warshaw and Randy Warshaw JT
Neil H. Wasserman (SEP FBO NEIL H WASSERMAN PERSHING LLC AS CUSTODIAN)
Trust U/W Renee Weiss dtd 05-09-90
Rande R Willsion
Howard J Worman
YKA Partners, Ltd
Kazuaki Yonemoto
Steven A. Yost Roth IRA, Pershing LLC as Custodian
George Zetinski
Shawn H. Zimberg MD
Lizabeth H. Zlatkus
World Total Return Fund LLLP
Ronald Borchardt
UDI TOLEDANO
David Lawd
Patrick Kolenik
Steven Paul
Richard S. Jackson
Jeff Kurtz
Jerry C. Smith/Vicki S. Smith JTROS
Barbara Slusher
Robert DeSantis
Eugene A. Bauer, M.D.
Cary Sucoff
Blake Paterson
Solomon H. Snyder

SCHEDULE A

Investors

New Enterprise Associates 14, L.P.
NEA Ventures 2014, L.P.
Apple Tree Partners IV, LP
MPM BioVentures V, LP
MPM Asset Management Investors BV5 LLC
2k Limited Partnership
David Abramson
ACNYC, LLC
Phil Agnes
Ahlborg Acquisitions LLC
Gregory M. Alberton
Gilya Alchits
Nigel V. Alexander
Allenwood Ventures, Inc.
Monte D. Anglin and Janet S. Anglin
AR Properties
Ronald Artinian
ARZT, LLC
Jim Aukstuolis
Evan Azriliant
Babst Family Trust UAD 4/01/86
The Bahr Family Limited Partnership
Bao Ning Xie
The Stanford Baratz Revocable Trust UAD 09/07/94; Stanford Baratz and Amy Baratz TTEES
Raymond F. Barbush III
Barclay Armitage
Sol J. Barer
BBB Assets, LLC
Martin Becker
Troy Belle
Trust of David Benaderet UAD 1/15/13
Stephen Bender
Daniel Blech Trust DTD 8/3/2005
Isaac Blech
Bradley C. Boers
Bozarth LLC
IRA FBO KAREN BRAINARD PERSHING LLC AS CUSTODIAN ROLLOVER ACCOUNT
Howard B. Brodsky Revocable Trust of 1988 UAD 10/24/1988
Diana & David Freshwater Living Trust UAS 1/20/2004
David L. Frydrych
James B Fryfogle
David J. Galey
Robert N. Garff
GBS Ventures, Inc
Franklin D. Brown
Ray Alan Bruening
Robert Burke
C and A Managed Capital LP
Leonard J. Calbo and Marguerite Joan Calbo
Adolfo Carmona and Donna Carmona
The Carnahan Trust UAD 08/11/95
Anthony C. Celeste and Barbara Celeste
Chicago Investments, Inc.
Richard Cohen
Michael Cohn and Paula Cohn
Dennis E. Conklin
David S. Cooper
Charles J. Costich and Karin J. Costich
Ben Crown
Peter R. Culpepper
C Barnes Darwin II
David D Deatkine Jr
Patrick Decavaignac Nancy J Connoly JT
James M. Disiao
Scott V. Dols and Vicki N. Dols
Carl J Domino
James L Dritz
The Dumper Family Trust UAD 05/17/12
Janet Dumper & Robert S Dumper Ttees
Scott Allen Edelbach Michelle Lynne Edelbach
JT
Paul Ehrlich CPA Defined Benefit Plan
Paul D. Ehrman
Ron Eller and Beth Eller
Douglas L Engers
Steven Farber
Paul A. Fegley
Lawrence Feinberg
Gary M. Ferman
Frederick A. Fochtman and Linda M. Fochtman
David Foni and Adriana K. Foni
Fortezza Investments, LP
Robert Frankel
David and Debroah Franzetta Trust UAD 1/29/1998
Kanter Family Foundation
Robert Kargman and Marjie B. Kargman
William M Kargman
Victor F. Keen
James A Kluge
Thomas C. Kotyk
William S. Lapp

Keith Gelles
Wayne Gey
Robert P. Giesen
James B. and Karen A. Glavin Family Trust UAD 10/30/98; James B. Glavin and Karen A. Glavin TTEES
Bruce Donald Goethe Laura K Goethe Comm Prop WROS
Gomez Holdings Inc.
Shobha Gopalakrishnan
Mark W. Grinbaum and Tatyana Grinbaum
Robert Grinberg
Lamar Anderson Gwaltney
Howard M. Haft
Nathan Halegua
Timothy P Hanley Monica Hanley Ten Com
Daniel J. Hartung and Julie A. Hartung JT
John Hawk
Jeremiah M. Healy (IRA FBO JEREMIAH M HEALY PERSHING LLC AS CUSTODIAN)
Henry Herzing Revocable Living Trust UAD 10/27/93
Daniel H Hildebrand
Donald E. Hinkle
Joel L. Hochman Revocable Trust
Larry Hopfenspirger
Jing-Zhou Hou
Te-Shao Hsu
IRA FBO Thomas Huang, Pershing LLC as Custodian
Alexis Hubshman (SEP FBO ALEXIS HUBSHMAN PERSHING LLC AS CUSTODIAN)
Richard S. Jackson Roth IRA, Pershing LLC as Custodian
JaDaMo LLC
Marc R Jalbert
JLB Family Trust
Jordan Family LLC
UD Ethel F. Peierls Charitable Lead Trust
E. Jeffrey Peierls
Periscope Partners LP
Peter R. Pernicone
Brian D. Petersen and Jane F.S. Petersen
Daniel P Petro
Roger Pfohl
Malcolm Phillips
Michael Pierce
Michael E. Portnoy (IRA FBO MICHAEL E PORTNOY PERSHING LLC AS CUSTODIAN)
Brian Potiker Revocable Trust UAD 8/7/96
Timothy G. Rahr and Sarah Roman
Raisol, LLC
Daniel LaRoche
Roger S Lash
Michael D. Leigh
Robert H. Lenox
Jack E. Leonard and Karen Kay Leonard
Todd Loudin
Steven K. Luminais and K. Elizabeth Kindwall Luminais
William Lurie
Rick D. Mace and Karen J. Mace
Manny Family Revocable Trust UAD 9/17/05
Marketplace Lofts Limited Partnership
Stanley M Marks
James C. Maylo
Kevin P McCarthy
Robert A. McDonald
Robert A. Melnick
Millenium Trust Co, LLC, Custodian FBO James H,. Stebbins
Robert C Monks
Reed C. Moskowitz
Fatos Mucha
David A. Mulkey Limited Partnership II
Mulkey II Limited Partnership
MSSB C/F David S. Nagelberg IRA Standard
Steven M. Nelson
Northlea Partners LLLP
David Y Norton
The Oaks Family LLC
Colin Offenhartz
David R. Olson
Steven H. Oram Revocable Trust
Henry Scovern and Laura K. Pakarow
Panella Living Trust; Joseph Panella & Pamela Panella Ttees
Jonathan Patronik
The Peierls Foundation, Inc.
Brian Eliot Peierls
Stuart Silverman
Lawrence Silverstein
Shamus, LLC
Arnold E. Spangler
Bryan S. Spille
Richard & Jeannie Stillman
Richard D. Storer and Jane W. Storer
Robert Stranger
Clayton A. Struve
Walter Sturm and Sandra Sturm
Min Sun
John D Suryan Monica S Suryan JT
James W Swistock
TGR Partners, LLC
James W. Thomas

Kiran Rajasenan and Rosemarie Rajasenan JT
James Ramo 1979 Revocable Trust
Anastasios Raptis and Hariklia Efthimiou JT
Marty L Reich
Mark W. Reutlinger and Analee P. Reutlinger Comm Prop
Glenn D. Rice (SEP FBO GLENN D RICE PERSHING LLC AS CUSTODIAN)
Michael Rieber
Brenda A. Riffee Revocable Trust UAD 10/16/06
Stephen E. Riffee Revocable Trust UAD 10/16/06
Richard Roehl
Dyke Rogers
Thomas M. Rogstad
Michael Paul Ross
Steven Rothstein
Marc A. Rotter
Mark W. Salmon
Joshua Schein 2009 Spearfish Trust UAD 12/28/2009
Peter D. Schiffrin
Alyson D Schlosser
David M. Schneider
David E Schwartz
Anil K Sharma Praguti G Sharma JT
William Sheppard
Estelle Siegel (ESTELLE SIEGEL SEYMOUR SIEGEL JT TEN)
Seth Siegel
Chilakamarri Yeshwant Trust
YKA Partners, Ltd
Kazuaki Yonemoto
Steven A. Yost Roth IRA, Pershing LLC as Custodian
George Zetinski
Shawn H. Zimberg MD
Lizabeth H. Zlatkus
Gerald A Tomsic Revocable Trust UAD 8/10/95
Transpac Investments Limited
Terrence E Troy
Robert E. Truskowski
Henry M. Tufo and Carleen Tufo
U.S.A. Fund LLLP
United Acquisition Corp.
Robert M. Upshaw and Yarima F. Upshaw
Steve Valko
Hans Abel Van Der Laan and Annette Van Der Laan
G Jan Van Heek
Ted Vanvick
Louis Vigden
Vivari, Ltd
James Vornov
John V. Wagner
Brian D. Warshaw and Randy Warshaw JT
Neil H. Wasserman (SEP FBO NEIL H WASSERMAN PERSHING LLC AS CUSTODIAN)
Wealth Concepts, LLC
Trust U/W Renee Weiss dtd 05-09-90
Kenneth Widelitz (IRA FBO KENNETH WIDELITZ PERSHING LLC AS CUSTODIAN)
Widelitz Family Trust UAD 4/15/94
Rande R Willsion
Howard J Worman

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Exhibit 4.3

THE WARRANT REPRESENTED HEREBY AND THE COMMON STOCK OR OTHER SECURITIES ISSUABLE UPON THE EXERCISE HEREOF HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR ANY STATE SECURITIES LAWS AND NEITHER THIS WARRANT NOR THE COMMON STOCK OR OTHER SECURITIES ISSUABLE UPON THE EXERCISE HEREOF NOR ANY INTEREST THEREIN MAY BE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN EXEMPTION THEREFROM UNDER SUCH ACT AND SUCH LAWS AND THE RULES AND REGULATIONS THEREUNDER. THE SECURITIES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE PROVISIONS OF AN AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT, AN AMENDED AND RESTATED VOTING AGREEMENT AND AN AMENDED AND RESTATED RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT, EACH DATED AS OF [·], 2013 (COPIES OF WHICH ARE ON FILE WITH THE SECRETARY OF THE COMPANY) AND MAY NOT BE SOLD, TRANSFERRED, ASSIGNED, PLEDGED, HYPOTHECATED OR OTHERWISE DISPOSED OF EXCEPT IN COMPLIANCE WITH THE PROVISIONS OF SUCH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT, AMENDED AND RESTATED VOTING AGREEMENT AND AMENDED AND RESTATED RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT.

Warrant No. [·] **Dated: [·], 2013**

COMMON STOCK WARRANT

CERECOR INC.

THIS IS TO CERTIFY THAT for value received, **[HOLDER'S NAME]**, a **[ENTITY TYPE]** formed under the laws of the State of **[STATE]** (the "***Holder***"), is entitled, subject to the terms and conditions set forth below, to purchase from Cerecor Inc., a Delaware corporation (the "***Company***"), the Warrant Shares (as defined in Section 1(h) below), at a price per share equal as set forth in Section 1(g) below (the "***Exercise Price***"). This warrant (this "***Warrant***") is being issued in connection with the purchase of shares of Series A-1 Preferred Stock of the Company pursuant to a Series A-1 Preferred Stock and Warrant Purchase Agreement, dated on or about the date hereof, by and among the Company, the Holder and the other parties thereto (the "***Purchase Agreement***"). All Warrants issued under the Purchase Agreements are referred to herein, collectively, as the "***Warrants***." The Holder, collectively with all Holders of other Warrants, are sometimes referred to collectively as the "***Holders***."

Capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Purchase Agreements.

1. Manner of Exercise; Expiration Date.

(a) This Warrant shall be exercisable in accordance with this Section 1 and Section 2 below from and after the date hereof until 5:00 p.m., New York time on the fifth (5th) anniversary of the date hereof (the "***Exercise Period***"). The Holder may from time to time during the Exercise Period on any business day exercise this Warrant, for all or any part of the Warrant Shares purchasable at such time hereunder, by delivering to the Company at its principal office (i) a written notice of the Holder's election to exercise this Warrant (an "***Exercise Notice***"), which Exercise Notice shall be irrevocable and shall specify the number of Warrant Shares to be purchased, (ii) payment of the aggregate Exercise Price for the applicable number of Warrant Shares to be purchased by check or wire transfer of immediately available funds to an account then specified by the Company and (iii) this Warrant (the date on which the foregoing items are delivered to the Company being hereinafter referred to as the "***Exercise Date***"). Such Exercise Notice shall be in the form of Annex A hereto, duly executed by the Holder or its duly authorized agent.

(b) Upon receipt of the items specified in Section 1(a), the Company shall execute (or cause to be executed) and deliver (or cause to be delivered) to the Holder a certificate or certificates representing the aggregate number of full Warrant Shares issuable upon such exercise, together with cash in lieu of any fraction of a share, as hereafter provided. This Warrant shall be deemed to have been exercised and such certificate or certificates shall be deemed to have been issued, and the Holder shall be deemed to have become a Holder of record of such shares for all purposes, as of the Exercise Date.

(c) If this Warrant is exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing the Warrant Shares being issued, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant. Such new Warrant shall in all other respects be identical to this Warrant.

(d) The Company shall pay any and all issue and other taxes (other than income taxes) that may be payable in respect of the issuance of this Warrant or any issuance or delivery of Warrant Shares on exercise of this Warrant; provided, however, that the Company shall not be obligated to pay any transfer taxes resulting from any transfer requested by the Holder of record of this Warrant in connection with any such exercise.

(e) The Company shall at all times reserve and keep available out of its authorized but unissued shares of capital stock, solely for the purpose of effecting the exercise of this Warrant, such number of its shares of capital stock as shall from time to time be sufficient to effect such exercise of this Warrant for the maximum number of shares of such class or series of capital stock issuable upon exercise of this Warrant; and if at any time the number of authorized but unissued shares of such capital stock shall not be sufficient to effect such exercise of this Warrant for the maximum number of shares of such capital stock then issuable upon exercise hereunder, the Company will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of such capital stock to such number of shares as shall be sufficient for such purpose, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Company's Certificate of Incorporation (as amended from time to time). The Company will not at any time close its stock transfer books in a manner which prevents the timely exercise of this Warrant.

(f) No fractional shares shall be issued upon the exercise of this Warrant. All shares of capital stock (including fractions thereof) issuable upon exercise of this Warrant as to each share of capital stock shall be aggregated for purposes of determining whether the exercise would result in the issuance of any fractional shares. If, after the aforementioned aggregation, the exercise would result in the issuance of a fraction of a share of capital stock, the Company shall, in lieu of issuing any fractional share, pay the Holder a sum of cash equal to the fair market value (as described in Section 2 below) of such fraction on the date of exercise.

(g) During the period from issuance until the IPO Penalty Date (as defined in the Amended and Restated Certificate of Incorporation (the "***Restated Charter***")), (i) in the event the Company has consummated a Qualified IPO (as defined in the Restated Charter) on or before the Exercise Date, the Exercise Price shall be the public offering price per share in such Qualified IPO, and (ii) in the event the Company has not completed a Qualified IPO on or before the Exercise Date, the Exercise Price shall be $1.00, in case of each of foregoing clauses (i) and (ii), subject to further adjustment pursuant to Section 3 hereof. From and after the IPO Penalty Date, the Exercise Price shall be $1.00, subject to further adjustment pursuant to Section 3 hereof.

(h) "***Warrant Shares***" means a number of shares of common stock, par value $0.001 per share, of the Company ("***Common Stock***") equal to [ ](1) (the "***Initial Warrant Shares***"); *provided that*:

(i) if the Company does not file a registration statement with the Securities and Exchange Commission under the Securities Act of 1933, as amended, with respect to a Qualified IPO on or before Registration Penalty Date (as defined in the Restated Charter), then the number of Warrant Shares shall increase by an additional 20% of the Initial Warrant Shares starting on the Registration Penalty Date, and on each monthly anniversary of the Registration Penalty Date thereafter during the continuance of such failure to file, the number of Warrant Shares shall increase by an additional 20% of the Initial Warrant Shares until the number of Warrant Shares reaches an amount equal to the Initial Warrant Shares *multiplied by* 2 (the "***Maximum Warrant Shares***"), after which it shall be capped and will no longer increase.

(ii) if the Corporation does not complete a Qualified IPO on or before the IPO Penalty Date (as defined in the Restated Charter), then the number of Warrant Shares shall increase by an additional 20% of the Initial Warrant Shares starting on the IPO Penalty Date, and on each monthly anniversary of the IPO Penalty Date thereafter during the continuance of such failure to complete a Qualified IPO, the number of Warrant Shares shall increase by an additional 20% of the Initial Warrant Shares until the number of Warrant Shares reaches an amount equal to the Maximum Warrant Shares, after which it shall be capped and will no longer increase.

(iii) notwithstanding the foregoing, in no case shall the number of Warrant Shares exceed the number of Maximum Warrant Shares.

(iv) notwithstanding the foregoing, in the event a registration statement filed by the Company pursuant to the Securities Exchange Act of 1934, as amended, becomes effective on or before the Registration Penalty Date, then the number of Warrant Shares will be capped at the number of Initial Warrant Shares and shall not increase at any time under any condition of this Section 1(h), including Section 1(h)(i) or 1(h)(ii) above.

2. Net Exercise Issue. Notwithstanding any provision herein to the contrary, if the fair market value of one share of Common Stock is greater than the Exercise Price (at the date of calculation as set forth below), in lieu of exercising this Warrant for cash, the Holder may elect to receive shares equal to the value (as determined below) of this Warrant (or the portion thereof being canceled) by surrender of this Warrant at the principal office of the Company together with the properly endorsed Exercise Notice in which event the Company shall issue to the Holder a number of shares of Common Stock computed using the following formula:

$$X = \frac{Y\,(A-B)}{A}$$

Where
- X = the number of Warrant Shares to be issued to the Holder
- Y = the number of Warrant Shares with respect to which this Warrant is being exercised
- A = the fair market value of one share of Common Stock (at the date of such calculation)
- B = Exercise Price (as adjusted to the date of such calculation)

For purposes of the above calculation, the fair market value of one share of Common Stock shall be:

(a) the average daily Market Price (as defined below) during the period of the most recent 10 trading days, ending on the last business day before the effective date of exercise of the Warrant, on which the national securities exchanges or over-the-counter market in which the

(1) Equal to 25% of the number of shares of Series A-1 Preferred Stock purchased by such investor.

shares of Common Stock is quoted were open for trading. If the Common Stock is traded on a national securities exchange or admitted to unlisted trading privileges on such an exchange, or is quoted on the NASDAQ Stock Market, the Market Price as of a specified day shall be the last reported sale price of Common Stock on such exchange or on the NASDAQ on such date or if no such sale is made on such day, the mean of the closing bid and asked prices for such day on such exchange or on the NASDAQ (the "***Market Price***"); or

(b) if the Common Stock is not then listed or admitted to trading on any national securities exchange or quoted on the NASDAQ Stock Market, the fair market value shall be determined in good faith by the Board of Directors of the Company.

3. Adjustments for Stock Dividends, Splits, etc. If the Company declares or pays a dividend on the outstanding shares of the Common Stock or other securities, then upon exercise of this Warrant, for each Warrant Share acquired, Holder shall receive, without cost to Holder, the total number and kind of securities to which Holder would have been entitled had Holder owned the Warrant Shares of record as of the date the dividend occurred. If the Company subdivides the outstanding shares of Common Stock by reclassification or otherwise into a greater number of shares, the number of Warrant Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of Common Stock are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Warrant Shares shall be proportionately decreased.

4. Fractional Shares. No fractional Warrant Shares shall be issuable upon exercise or conversion of the Warrant and the number of Warrant Shares to be issued shall be rounded down to the nearest whole Warrant Share. If a fractional share interest arises upon any exercise or conversion of the Warrant, the Company shall eliminate such fractional share interest by paying Holder the amount computed by multiplying the fractional interest by the fair market value of a full Warrant Share.

5. Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of any such loss, theft or destruction of this Warrant, on delivery of an indemnity agreement reasonably satisfactory in form and amount to the Company or, in the case of any such mutilation, on surrender and cancellation of this Warrant, the Company at its expense will execute and deliver, in lieu thereof, a new Warrant of like tenor.

6. Negotiability, etc. This Warrant is issued upon the following terms, all of which the Holder hereof by the taking hereof consents and agrees:

(a) The Holder shall not be entitled to pledge, mortgage, transfer, endorse or otherwise convey this Warrant (a "***Transfer***"), in whole or in part, except (i) in accordance with the provisions of the Amended and Restated Right of First Refusal and Co-Sale Agreement or (ii) the prior written consent of the Company. To the extent permitted by the preceding sentence, the Holder and its direct and indirect transferees may Transfer all or any portion of this Warrant by surrendering this Warrant to the Company together with a completed assignment in the form attached hereto as Annex B. Upon such surrender, the Company shall deliver a new Warrant or Warrants to the person or persons entitled thereto and, if applicable, shall deliver to Holder a new Warrant evidencing the right of Holder to purchase the balance of the Warrant Shares subject to purchase hereunder. The term "Holder" as used herein shall include any transferee to whom this Warrant has been Transferred in accordance with this Section 6.

(b) The Holder shall not be entitled to vote or to receive dividends or to be deemed the Holder of capital stock that may at any time be issuable upon exercise of this Warrant for any purpose whatsoever, nor shall anything contained herein be construed to confer upon the Holder any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold

consent to any corporate action (whether upon any recapitalization, issuance or reclassification of stock, change of par value or change of stock to no par value, consolidation, merger or conveyance or otherwise), or to receive notice of meetings, or to receive dividends or subscription rights, until the Holder shall have exercised this Warrant and been issued shares of capital stock in accordance with the provisions hereof.

(c) Neither this Warrant nor any shares of capital stock or other securities purchased pursuant to this Warrant have been registered under the 1933 Act and applicable state securities laws. Therefore, the transfer or exchange of this Warrant or such shares may be made only in a transaction permitted under the 1933 Act and applicable state securities laws or pursuant to an exemption therefrom. Prior to registration, the certificates evidencing the Warrant Shares or other securities issued on the exercise of this Warrant shall bear a legend to the effect that the shares evidenced by such certificates have not been registered under the 1933 Act and applicable state securities laws.

(d) Until this Warrant is transferred on the books of the Company, the Company may treat the registered Holder hereof as the absolute owner hereof for all purposes, notwithstanding any notice to the contrary.

7. Notices, etc. All notices and other communications from the Company to the Holder of this Warrant shall be sent by facsimile or overnight courier or shall be mailed by first class registered or certified mail, postage prepaid, at such address as may have been furnished to the Company in writing by such Holder or, until any such Holder furnishes to the Company an address, then to, and at the address of, the last Holder of this Warrant who has so furnished an address to the Company. All such notices and communications shall, when mailed, be effective when deposited in the mails and, when sent by facsimile or overnight courier, delivered, be effective when received.

8. Amendments. This Warrant and any term hereof may be changed, waived, discharged or terminated only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought; provided, that the holders of a majority of the aggregate Warrant Shares issued under the Purchase Agreement and then outstanding shall have the right to act on behalf of all Holders of Warrants with respect to all Warrants.

9. Governing Law. This Warrant shall be construed and enforced in accordance with and governed by the laws of the State of Delaware without regard to the laws that might be applied under any conflict of laws principles.

10. Headings. The headings in this Warrant are for purposes of reference only, and shall not limit or otherwise affect any of the terms hereof.

11. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

[END OF TEXT. SIGNATURE PAGE FOLLOWS.]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by a duly authorized officer as of the date first written above.

CERECOR INC.

By: _____

Name: Blake M. Paterson
Title: *Chief Executive Officer*

ANNEX A

FORM OF EXERCISE NOTICE

(To be executed if Holder desires to exercise the Warrants evidenced by this Warrant Certificate).

TO CERECOR INC.

☐ The undersigned hereby (1) irrevocably elects to exercise Warrant Shares represented by this Warrant to purchase shares of Common Stock issuable upon the exercise of such Warrant, (2) makes payment in full of the aggregate Exercise Price for such Warrants by enclosure of a certified or bank cashier's check therefor, upon condition that a new Warrant be issued for the balance of the Warrant Shares remaining, if any, and (3) requests that a certificate for the shares of Common Stock purchased hereunder be issued in the name of and delivered to:

(Please print name and address)

☐ The undersigned hereby elects to convert percent (%) of the value of the Warrant pursuant to the provisions of Section 2 of the Warrant.

If such number of Warrant Shares not be all of the Warrant Shares evidenced by this Warrant Certificate, a new Warrant for the balance remaining of such Warrant Shares shall be registered in the name of and delivered to:

(Please print name and address)

Dated: _____

Signature: _____

ANNEX B

FORM OF ASSIGNMENT

(To be executed by the registered Holder if such Holder desires to transfer the attached Warrant.)

FOR VALUE RECEIVED, hereby sells, assigns, and transfers unto a Warrant to purchase shares of common stock, par value $0.001 per share, of Cerecor Inc., a Delaware corporation (the "***Company***"), together with all right, title, and interest therein, and does hereby irrevocably constitute and appoint attorney to transfer such Warrant on the books of the Company, with full power of substitution.

The undersigned represents, unless the sale of this Warrant has been registered under the Securities Act of 1933, as amended (the "***Securities Act***"), that the undersigned is acquiring such Warrant for its own account for investment and not with a view to or for sale in connection with any distribution thereof (except for any resale pursuant to a Registration Statement under the Securities Act).

Dated: _____

Signature: _____

CERECOR INC.

AMENDMENT TO COMMON STOCK WARRANTS

This **AMENDMENT TO COMMON STOCK WARRANTS** (this "***Amendment***") is made as of July 11, 2014, by and among Cerecor Inc. (the "***Company***") and the holders of Warrants (as defined below) that are signatories hereto (the "***Holders***").

RECITALS

WHEREAS, the Company previously issued certain warrants (the " ***Warrants***") to purchase shares of its common stock, par value $0.001 per share ("***Common Stock***"), to the Holders pursuant to that certain Series A-1 Preferred Stock and Warrant Purchase Agreement, dated August 23, 2013 (the "***Purchase Agreement***");

WHEREAS, Section 8 of each of the Warrants provides that the holders of a majority of the aggregate Warrant Shares (as defined in the Warrants) issued under the Purchase Agreement and currently outstanding (the "***Requisite Majority***") shall have the right to act on behalf of all Holders of Warrants with respect to the amendment of all Warrants;

WHEREAS, the undersigned Holders constitute the Requisite Majority;

WHEREAS, the Company and the Holders hereby desire to amend the each of the Warrants as set forth below.

NOW, THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Section 1.(g) of each Warrant is hereby deleted in its entirety and the following is substituted in lieu thereof:

"The Exercise Price shall be $1.00, subject to adjustment pursuant to Section 3 hereof."

2. Section 1.(h) of each Warrant is hereby amended to (A) delete Sections 1.(h)(i), 1.(h)(ii), 1.(h)(iii) and 1.(h)(iv) thereof; (B) delete "(the "***Initial Warrant Shares***"); *provided that*:", in the first sentence of Section 1.(h), and (C) to add a period at the end of such sentence.

3. This Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The Amendment may be executed by facsimile signatures.

4. This Amendment shall be governed by and construed in accordance with the laws of the State of Delaware without regard to principles of conflicts of laws that would result in the application of the law of any other jurisdiction.

5. Except as specifically amended by this Amendment, all other terms and conditions of the Warrant shall remain in full force and effect in accordance with its terms without modification.

[END OF TEXT. SIGNATURE PAGES FOLLOW.]

CERECOR INC.:

/s/ BLAKE PATERSON

Name: Blake Paterson
Title: *Chief Executive Officer*

SIGNATURE PAGE TO CERECOR INC. AMENDMENT TO COMMON STOCK WARRANTS

Signed by the following Holders:

Allenwood Ventures, Inc.
Michael Cohn and Paula Cohn
David Abramson
Monte D Anglin & Janet S Anglin
Henry Scovern and Laura K. Pakarow
Ron Eller and Beth Eller
Charles J. Costich and /s/ Karin J. Costich
Anil K. Sharma and Pragati G. Sharma JT TEN
David S. Cooper
Robert P. McDonald
Millenium Trust Co, LLC
Ahlborg Acquisitions, LLC
James M. Diasio
Thomas C. Kotyk
James A. Kluge
Clayton A. Struve
John V. Wagner
Howard M. Haft
Todd Loudin
Sol J. Barer
Raymond Barbush
Paul D. Ehrman
Min Sun
Bruce Donald Goethe Laura K. Goethe Comm Prop WROS
James L. Dritz
Franklin D. Brown
Mark R. Jalbert
Jing-Zhou Hou
Donald E. Hinkle
Terrence E. Troy
Stanley M. Marks
Douglas L Engers
John D. Suryan and Monica S. Suryan JT TEN
Rick D. Mace and Karen J. Mace
JaDaMo, LLC
Nathan Halegua
Reed Moskowitz
Adolfo Carmona and Donna Carmona
Patrick Decavaignac and Nancy J Connolly JT
Diana and David Freshwater Living Trust UAS 1/20/04
Brian Potiker Revocable trust uad 8/7/96
Joshua Schein 2009 Spearfish Trust
GBS Ventures
Steven A. Yost IRA
David & Deborah Franzetta Trust UAD 1/29/98
George Zelinski
David De Atkine Jr
Richard Cohen
Stephen Bender
David M. Schneider
Colin Offenhartz
Steven Nelson

Kazuaki Yonemoto
Henry Tufo/Carleen Tufo
Robert E. Truskowski
Jonathan Patronik
Daniel Hildebrand
John Hawk
C. Barnes Darwin II
Jim Aukstuolis
Alyson D. Schlosser
William Sheppard
Gilya Alchits
Thomas M. Rogstad
Ted Vanvick
David L. Frydrych
David York Morrow
James Ramo 1979 Revocable Trust
Panella Living Trust; Joseph Panella and Pamela Panella TTEES
Robert P. Giesen
Kiran Rajasenan and Rosemarie Rajasenan JT
Trust U/W Renee Weiss
Shamus, LLC
Robert A. Melnick
Steven Rothstein
Robert C. Monks
Fortezza Investments, LP
The Bahr Family Limited Partnership
Steven Farber
Dyke Rogers
VIVARI, LTD
Richard Cohen
Trust of David Benaderet UAD 1/15/13
William S. Lapp
James B. and Karen A. Glavin Family UAD 10/30/98; James B. Glavinand Karen A. Glavin TTEES
Jerry C. Smith/Vicki S. Smith JTROS
A R Properties
ARZT, LLC
Robert Burke
Martin Lorne Reich
Robert H. Lenox
Kevin P. Mccarthy
Keith Gelles
Shawn H. Zimberg MD
Ronald Artinian
William B. Kargman
Robert Frankel
Louis Vigden
David Y. Norton
Daniel P. Petro
Michael Pierce
Neil H. Wasserman
World Total Return Fund LLLP
Richard S. Jackson Roth IRA Pershing LLC as Custodian
Joel L. Hochman Revocable Trust
The Carnahan Trust UAD 08/11/95

IRA FBO Thomas Huang Pershing LLC as Custodian
Anastasios Raptis and Hariklia Efthimiou JT
Steven K. Luminais and. Elizabeth Kindwall Luminais
Scott Allen Edelbach andMichelle Lynn Edelbach JT TEN
Brian D. Warshaw and Randy Warshaw
Leonard J. Calbo and Marguerite Joan Calbo
G Jan Van Heek
Te-Shao Hsu
Peter Schiffrin
Lizabeth H. Zlatkus
Richard R. Willison
Howard J Worman
Arnold E. Spangler
Robert P. Giesen
Lawrence I. Silverstein

QuickLinks

Exhibit 4.7

THIS WARRANT AND THE UNDERLYING SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT AS TO SUCH SECURITIES UNDER THE ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

CERECOR, INC.

WARRANT TO PURCHASE COMMON STOCK

No. [·] **[·], 2014**

Void After [·], 2019

THIS CERTIFIES THAT, for value received, ***[HOLDER'S NAME]***, (the "***Holder***"), is entitled to subscribe for and purchase during the Exercise Period (defined below) from CERECOR, INC., a Delaware corporation (the "***Company***"), the Exercise Shares.

This warrant (this "***Warrant***") is issued as part of a series of warrants (collectively, the "***Warrants***") pursuant to the terms of that certain Convertible Promissory Note and Warrant Purchase Agreement (as amended, the "***Agreement***") dated as of **[·], 2014** to the persons and entities listed on the Schedule of Purchasers attached to the Agreement (collectively, the "***Holders***").

1. DEFINITIONS. As used herein, the following terms shall have the following respective meanings:

(a) "***Common Stock***" means the Company's Common Stock.

(b) "***Exercise Period***" means the period commencing with the date hereof and ending five years later, unless sooner terminated as provided below.

(c) "***Exercise Price***" means the Price Per Share *multiplied by* the number of shares of Common Stock being purchased pursuant to an exercise of this Warrant.

(d) "***Exercise Shares***" means a number of shares of Common Stock that equals (i) the amount of the Loan Amount, *divided by* (ii) the Price Per Share, rounded to the nearest whole share.

(e) "***IPO***" means the Company's initial public offering.

(f) "***Price Per Share***" means (a) if a Qualified Financing occurs prior to the IPO, the price per share at which equity securities are sold in such Qualified Financing, and (b) otherwise, the price per share at which shares are offered to the public in the IPO.

(g) "***Qualified Financing***" has the meaning given to such term in the Agreement.

2. EXERCISE OF WARRANT.

2.1 The rights represented by this Warrant may be exercised in whole or in part at any time during the Exercise Period, by delivery of the following to the Company at its address set forth above (or at such other address as it may designate by notice in writing to the Holder):

(a) An executed Notice of Exercise in the form attached hereto;

(b) Payment of the Exercise Price either in cash or by check; and

(c) This Warrant.

2.2 Upon the exercise of the rights represented by this Warrant, a certificate or certificates for the Exercise Shares so purchased, registered in the name of the Holder or persons affiliated with the Holder, if the Holder so designates, shall be issued and delivered to the Holder within a reasonable time after the rights represented by this Warrant shall have been so exercised.

2.3 The person in whose name any certificate or certificates for Exercise Shares are to be issued upon exercise of this Warrant shall be deemed to have become the holder of record of such shares on the date on which this Warrant was surrendered and payment of the Exercise Price was made, irrespective of the date of delivery of such certificate or certificates, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are closed, such person shall be deemed to have become the holder of such shares at the close of business on the next succeeding date on which the stock transfer books are open.

2.4 This Warrant may not be exercised if the issuance of the Exercise Shares upon such exercise would constitute a violation of any applicable federal or state securities laws or other laws or regulations.

3. REPRESENTATIONS OF HOLDER.

3.1 Acquisition of Warrant for Personal Account. The Holder represents and warrants that it is acquiring the Warrant and the Exercise Shares solely for its account for investment and not with a view to or for sale or distribution of said Warrant or Exercise Shares or any part thereof. The Holder also represents that the entire legal and beneficial interests of the Warrant and Exercise Shares the Holder is acquiring is being acquired for, and will be held for, its account only.

3.2 Securities Are Not Registered.

(a) The Holder understands that the Warrant and the Exercise Shares have not been registered under the Securities Act of 1933, as amended (the "Act") on the basis that no distribution or public offering of the stock of the Company is to be effected. The Holder realizes that the basis for the exemption may not be present if, notwithstanding its representations, the Holder has a present intention of acquiring the securities for a fixed or determinable period in the future, selling (in connection with a distribution or otherwise), granting any participation in, or otherwise distributing the securities. The Holder has no such present intention.

(b) The Holder recognizes that the Warrant and the Exercise Shares must be held indefinitely unless they are subsequently registered under the Act or an exemption from such registration is available. The Holder recognizes that the Company has no obligation to register the Warrant or the Exercise Shares of the Company, or to comply with any exemption from such registration.

(c) The Holder is aware that neither the Warrant nor the Exercise Shares may be sold pursuant to Rule 144 adopted under the Act unless certain conditions are met, including, among other things, the existence of a public market for the shares, the availability of certain current public information about the Company, the resale following the required holding period under Rule 144 and the number of shares being sold during any three month period not exceeding specified limitations. Holder is aware that the conditions for resale set forth in Rule 144 have not been satisfied and that the Company presently has no plans to satisfy these conditions in the foreseeable future.

3.3 Disposition of Warrant and Exercise Shares.

(a) The Holder further agrees not to make any disposition of all or any part of the Warrant or Exercise Shares in any event unless and until:

(i) The Company shall have received a letter secured by the Holder from the Securities and Exchange Commission stating that no action will be recommended to the Commission with respect to the proposed disposition;

(ii) There is then in effect a registration statement under the Act covering such proposed disposition and such disposition is made in accordance with said registration statement; or

(iii) The Holder shall have notified the Company of the proposed disposition and shall have furnished the Company with a detailed statement of the circumstances surrounding the proposed disposition, and if reasonably requested by the Company, the Holder shall have furnished the Company with an opinion of counsel, reasonably satisfactory to the Company, for the Holder to the effect that such disposition will not require registration of such Warrant or Exercise Shares under the Act or any applicable state securities laws.

(b) The Holder understands and agrees that all certificates evidencing the shares to be issued to the Holder may bear the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT AS TO THE SECURITIES UNDER THE ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

4. FRACTIONAL SHARES. No fractional shares shall be issued upon the exercise of this Warrant as a consequence of any adjustment pursuant hereto. All Exercise Shares (including fractions) issuable upon exercise of this Warrant may be aggregated for purposes of determining whether the exercise would result in the issuance of any fractional share. If, after aggregation, the exercise would result in the issuance of a fractional share, the Company shall, in lieu of issuance of any fractional share, pay the holder otherwise entitled to such fraction a sum in cash equal to the product resulting from multiplying the then current fair market value of an Exercise Share by such fraction.

5. EARLY TERMINATION. In the event of, at any time during the Exercise Period, an initial public offering of securities of the Company registered under the Act, or any capital reorganization, or any reclassification of the capital stock of the Company (other than a change in par value or from par value to no par value or no par value to par value or as a result of a stock dividend or subdivision, split-up or combination of shares), or the consolidation or merger of the Company with or into another corporation (other than a merger solely to effect a reincorporation of the Company into another state), or the sale or other disposition of all or substantially all the properties and assets of the Company in its entirety to any other person, the Company shall provide to the Holder ten (10) days advance written notice of such public offering, reorganization, reclassification, consolidation, merger or sale or other disposition of the Company's assets, and this Warrant shall terminate unless exercised prior to the date such public offering is closed or the occurrence of such reorganization, reclassification, consolidation, merger or sale or other disposition of the Company's assets.

6. MARKET STAND-OFF AGREEMENT. Holder hereby agrees that Holder will not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any Exercise Shares, shares of the Company's Common Stock or other securities of the Company held by Holder (other than those included in the registration) during the 180 day period following the effective date of the Company's initial public offering (or such longer

period as the underwriters or the Company will request in order to facilitate compliance with applicable law).

7. NO STOCKHOLDER RIGHTS. This Warrant in and of itself shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

8. NO TRANSFER OF WARRANT. This Warrant and all rights hereunder are not transferable or assignable.

9. LOST, STOLEN, MUTILATED OR DESTROYED WARRANT. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably impose (which shall, in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed. Any such new Warrant shall constitute an original contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated or destroyed Warrant shall be at any time enforceable by anyone.

10. NOTICES, ETC. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed email if sent during normal business hours of the recipient, if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company at the address listed on the signature page and to Holder at or at such other address as the Company or Holder may designate by ten (10) days advance written notice to the other parties hereto.

11. ACCEPTANCE. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

12. GOVERNING LAW. This Warrant and all rights, obligations and liabilities hereunder shall be governed by the laws of the State of Delaware.

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its duly authorized officer as of **[·]**, 2014.

CERECOR, INC.

By: /s/ BLAKE M. PATERSON

Name: Blake M. Paterson
Title: *President/CFO*
Address: 400 E. Pratt Street, Suite 606
Baltimore, MD 21202

NOTICE OF EXERCISE

TO: CERECOR, INC.

(1) ☐ The undersigned hereby elects to purchase shares of Common Stock of **Cerecor, Inc.** (the "***Company***") pursuant to the terms of the attached Warrant, and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Please issue a certificate or certificates representing said shares of Common Stock in the name of the undersigned or in such other name as is specified below:

_____

(Name)

_____

_____

(Address)

(3) The undersigned represents that (i) the aforesaid shares of Common Stock are being acquired for the account of the undersigned for investment and not with a view to, or for resale in connection with, the distribution thereof and that the undersigned has no present intention of distributing or reselling such shares; (ii) the undersigned is aware of the Company's business affairs and financial condition and has acquired sufficient information about the Company to reach an informed and knowledgeable decision regarding its investment in the Company; (iii) the undersigned is experienced in making investments of this type and has such knowledge and background in financial and business matters that the undersigned is capable of evaluating the merits and risks of this investment and protecting the undersigned's own interests; (iv) the undersigned understands that the shares of Common Stock issuable upon exercise of this Warrant have not been registered under the Securities Act of 1933, as amended (the "***Securities Act***"), by reason of a specific exemption from the registration provisions of the Securities Act, which exemption depends upon, among other things, the bona fide nature of the investment intent as expressed herein, and, because such securities have not been registered under the Securities Act, they must be held indefinitely unless subsequently registered under the Securities Act or an exemption from such registration is available; (v) the undersigned is aware that the aforesaid shares of Common Stock may not be sold pursuant to Rule 144 adopted under the Securities Act unless certain conditions are met and until the undersigned has held the shares for the number of years prescribed by Rule 144, that among the conditions for use of the Rule is the availability of current information to the public about the Company and the Company has not made such information available and has no present plans to do so; and (vi) the undersigned agrees not to make any disposition of all or any part of the aforesaid shares of Common Stock unless and until there is then in effect a registration statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with said registration statement, or the undersigned has provided the Company with an opinion of counsel satisfactory to the Company, stating that such registration is not required.

[*Signature Page Follows*]

(Date)

(Signature)

(Print name)

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: _____

(Please Print)

Address: _____

(Please Print)

Dated: , 20

Holder's Signature: _____

Holder's Address: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatever. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

QuickLinks

Exhibit 4.8

THIS WARRANT, AND THE SECURITIES ISSUABLE UPON THE EXERCISE OF THIS WARRANT, HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR ANY STATE SECURITIES LAWS. SUCH SECURITIES MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED, TRANSFERRED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL (WHICH MAY BE COMPANY COUNSEL) REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE ACT, OR ANY APPLICABLE STATE SECURITIES LAWS.

WARRANT AGREEMENT

To Purchase Shares of Preferred Stock of

CERECOR INC.

Dated as of August 19, 2014 (the "*Effective Date*")

WHEREAS, CERCOR INC., a Delaware corporation, has entered into a Loan and Security Agreement of even date herewith (the "*Loan Agreement*") with Hercules Technology Growth Capital, Inc., a Maryland corporation, in its capacity as a lender and as administrative agent (the "*Warrantholder*"), as a lender, and the other lender parties thereto;

WHEREAS, the Company (as defined below) desires to grant to Warrantholder, in consideration for, among other things, the financial accommodations provided for in the Loan Agreement, the right to purchase shares of Preferred Stock (as defined below) pursuant to this Warrant Agreement (the "*Agreement*");

NOW, THEREFORE, in consideration of the Warrantholder executing and delivering the Loan Agreement and providing the financial accommodations contemplated therein, and in consideration of the mutual covenants and agreements contained herein, the Company and Warrantholder agree as follows:

SECTION 1. GRANT OF THE RIGHT TO PURCHASE PREFERRED STOCK.

For value received, the Company hereby grants to the Warrantholder, and the Warrantholder is entitled, upon the terms and subject to the conditions hereinafter set forth, to subscribe for and purchase, at any time and from time to time on or before the Expiration Date (as defined below), from the Company, an aggregate number of fully paid and non-assessable shares of the Preferred Stock equal to the quotient derived by dividing (a) the Warrant Coverage (as defined below) by (b) the Exercise Price (as defined below). The Exercise Price of such shares are subject to adjustment as provided in Section 8. As used herein, the following terms shall have the following meanings:

"*Acquisition*" means (A) any consolidation or merger of the Company with or into any other corporation or other entity or person, or any other corporate reorganization, in which the stockholders of the Company (in the aggregate) immediately prior to such consolidation, merger or reorganization, own less than fifty percent (50%) of the voting power of the surviving entity immediately after such consolidation, merger or reorganization; or (B) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred; provided that none of the following shall constitute an Acquisition: (i) any consolidation or merger effected exclusively to change the domicile of the Company, (ii) any transaction or series of transactions principally for bona fide equity financing purposes in which cash is received by the Company, or (iii) an Initial Public Offering.

"*Act*" means the Securities Act of 1933, as amended.

"*Asset Transfer*" means a sale, lease or other disposition of all or substantially all of the assets of the Company.

"*Company*" means Cerecor Inc., a Delaware corporation, and any successor or surviving entity that assumes the obligations of the Company under this Agreement pursuant to Section 8(a).

"*Charter*" means the Company's Certificate of Incorporation or other constitutional document, as may be amended from time to time.

"*Common Stock*" means the Company's common stock, $0.001 par value per share;

"*Equity Round*" means any non-public offering of equity securities by the Company, after the Effective Date but prior to the consummation of an Initial Public Offering that results in the conversion of all preferred stock of the Company into Common Stock, in a transaction or series of related transactions principally for equity financing purposes in which the cash is received by the Company and/or debt of the Company is cancelled or converted in exchange for equity securities of the Company; provided that Equity Round shall not include additional closings of the Company's Series B Preferred Stock round of financing.

"*Exercise Price*" means $0.29990 per share;

"*Initial Public Offering*" means the initial underwritten public offering of the Company's Common Stock pursuant to a registration statement under the Act, which public offering has been declared effective by the Securities and Exchange Commission ("*SEC*");

"*Merger Event*" means an Acquisition or an Asset Transfer;

"*Preferred Stock*" means the Series B Preferred Stock of the Company, and, to the extent provided in Sections 8(a) and (b), any other stock into or for which such Preferred Stock may be converted or exchanged; and

"*Purchase Price*" means, with respect to any exercise of this Agreement, an amount equal to the Exercise Price as of the relevant time multiplied by the number of shares of Preferred Stock requested to be exercised under this Agreement pursuant to such exercise.

"*Rights Agreement*" means the Company's Second Amended and Restated Investors' Rights Agreement by and among the Company and the parties named therein, dated July 11, 2014, as amended from time to time.

"*Series B Preferred Stock*" means the Company's Series B Preferred Stock, $0.001 par value per share, as presently constituted under the Charter, and any other class, series or other designation of security into or for which such Series B Preferred Stock is converted, substituted or exchanged pursuant to a reorganization, reclassification, recapitalization or similar transaction.

"*Warrant Coverage*" means $187,500.

SECTION 2. TERM OF THE AGREEMENT.

Except as otherwise provided for herein, the term of this Agreement and the right to purchase Preferred Stock as granted herein (the "Warrant) shall commence on the Effective Date and shall be exercisable for a period ending upon the earlier to occur of (i) ten (10) years from the Effective Date; or (ii) five (5) years after the Initial Public Offering (as applicable, the "*Expiration Date*").

SECTION 3. EXERCISE OF THE PURCHASE RIGHTS.

(a) *Exercise.* The purchase rights set forth in this Agreement are exercisable by the Warrantholder, in whole or in part, at any time, or from time to time, prior to the expiration of the term set forth in Section 2, by tendering to the Company at its principal office a notice of exercise in the form attached hereto as *Exhibit I* (the "*Notice of Exercise*"), duly completed and executed.

Promptly upon receipt of the Notice of Exercise and the payment of the Purchase Price in accordance with the terms set forth below, and in no event later than three (3) days thereafter, the Company shall issue to the Warrantholder a certificate for the number of shares of Preferred Stock purchased and shall execute the acknowledgment of exercise in the form attached hereto as *Exhibit II* (the "*Acknowledgment of Exercise*") indicating the number of shares which remain subject to future purchases, if any.

The Purchase Price may be paid at the Warrantholder's election either (i) by cash or check, or (ii) by surrender of all or a portion of the Warrant for shares of Preferred Stock to be exercised under this Agreement and, if applicable, an amended Agreement representing the remaining number of shares purchasable hereunder, as determined below ("*Net Issuance*"). If the Warrantholder elects the Net Issuance method, the Company will issue Preferred Stock in accordance with the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where: X = the number of shares of Preferred Stock to be issued to the Warrantholder.

Y = the number of shares of Preferred Stock requested to be exercised under this Agreement.

A = the fair market value of one (1) share of Preferred Stock at the time of issuance of such shares of Preferred Stock.

B = the Exercise Price.

For purposes of the above calculation, current fair market value of Preferred Stock shall mean with respect to each share of Preferred Stock:

(i) if the exercise is in connection with an Initial Public Offering, and if the Company's Registration Statement relating to such Initial Public Offering has been declared effective by the SEC, then the fair market value per share shall be the product of (x) the initial "Price to Public" of the Common Stock specified in the final prospectus with respect to the offering and (y) the number of shares of Common Stock into which each share of Preferred Stock is convertible at the time of such exercise;

(ii) if the exercise is after, and not in connection with an Initial Public Offering, and:

(A) if the Common Stock is traded on a securities exchange, the fair market value shall be deemed to be the product of (x) the prior day closing price before the day the current fair market value of the securities is being determined and (y) the number of shares of Common Stock into which each share of Preferred Stock is convertible at the time of such exercise; or

(B) if the Common Stock is traded over-the-counter, the fair market value shall be deemed to be the product of (x) the prior day closing bid and asked price quoted on the NASDAQ system (or similar system) before the day the current fair market value of the securities is being determined and (y) the number of shares of Common Stock into which each share of Preferred Stock is convertible at the time of such exercise;

(iii) if at any time the Common Stock is not listed on any securities exchange or quoted in the NASDAQ National Market or the over-the-counter market, the current fair market value of Preferred Stock shall be the product of (x) the highest price per share which the Company could obtain from a willing buyer (not a current employee or director) for shares of Common Stock sold by the Company, from authorized but unissued shares, as determined in good faith by its Board of Directors and (y) the number of shares of Common Stock into which each share of Preferred Stock

is convertible at the time of such exercise, unless the Company shall become subject to a Merger Event, in which case the fair market value of Preferred Stock shall be deemed to be the per share value received by the holders of the Company's Preferred Stock on a common equivalent basis pursuant to such Merger Event.

Upon partial exercise by either cash or Net Issuance, the Company shall promptly issue an amended Agreement representing the remaining number of shares purchasable hereunder. All other terms and conditions of such amended Agreement shall be identical to those contained herein, including, but not limited to the Effective Date hereof.

(b) *Exercise Prior to Expiration.* To the extent this Agreement is not previously exercised as to all Preferred Stock subject hereto, and if the fair market value of one share of the Preferred Stock is greater than the Exercise Price then in effect, this Agreement shall be deemed automatically exercised pursuant to Section 3(a) (even if not surrendered) immediately before its expiration. For purposes of such automatic exercise, the fair market value of one share of the Preferred Stock upon such expiration shall be determined pursuant to Section 3(a). To the extent this Agreement or any portion thereof is deemed automatically exercised pursuant to this Section 3(b), the Company agrees to promptly notify the Warrantholder of the number of shares of Preferred Stock, if any, the Warrantholder is to receive by reason of such automatic exercise.

SECTION 4. RESERVATION OF SHARES.

During the term of this Agreement, the Company will at all times have authorized and reserved a sufficient number of shares of its Preferred Stock to provide for the exercise of the rights to purchase Preferred Stock as provided for herein, and shall have authorized and reserved a sufficient number of shares of its Common Stock to provide for the conversion of the shares of Preferred Stock issuable hereunder.

SECTION 5. NO FRACTIONAL SHARES OR SCRIP.

No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Agreement, but in lieu of such fractional shares the Company shall make a cash payment therefor upon the basis of the then fair market value of one share of Preferred Stock.

SECTION 6. NO RIGHTS AS STOCKHOLDER.

This Agreement does not entitle the Warrantholder to any voting rights or other rights as a stockholder of the Company prior to the exercise of this Agreement.

SECTION 7. WARRANTHOLDER REGISTRY.

The Company shall maintain a registry showing the name and address of the registered holder of this Agreement. Warrantholder's initial address, for purposes of such registry, is set forth below Warrantholder's signature on this Agreement. Warrantholder may change such address by giving written notice of such changed address to the Company.

SECTION 8. ADJUSTMENT RIGHTS.

The Exercise Price and the number of shares of Preferred Stock purchasable hereunder are subject to adjustment, as follows:

(a) *Merger Event.* If at any time there shall be Merger Event, then, as a part of such Merger Event, lawful provision shall be made so that the Warrantholder shall thereafter be entitled to receive, upon exercise of this Agreement, the number of shares of preferred stock or other securities or property (collectively, "*Reference Property*") that the Warrantholder would have received in connection with such Merger Event if Warrantholder had exercised this Agreement immediately prior to the Merger Event. In any such case, appropriate adjustment (as determined in good faith by the Company's Board of Directors) shall be made in the application of the provisions

of this Agreement with respect to the rights and interests of the Warrantholder after the Merger Event to the end that the provisions of this Agreement (including adjustments of the Exercise Price and adjustments to ensure that the provisions of this Section 8 shall thereafter be applicable, as nearly as possible, to the purchase rights under this Agreement in relation to any Reference Property thereafter acquirable upon exercise of such purchase rights) shall continue to be applicable in their entirety, and to the greatest extent possible. Without limiting the foregoing, in connection with any Merger Event, upon the closing thereof, the successor or surviving entity shall assume the obligations of this Agreement; provided that the foregoing assumption requirement shall not apply if the consideration to be paid for or in respect of the outstanding shares of Preferred Stock in such Merger Event consists solely of cash and/or readily marketable securities. In connection with a Merger Event and upon Warrantholder's written election to the Company, the Company shall cause this Warrant Agreement to be exchanged for the consideration that Warrantholder would have received if Warrantholder had chosen to exercise its right to have shares issued pursuant to the Net Issuance provisions of this Warrant Agreement without actually exercising such right, acquiring such shares and exchanging such shares for such consideration. The provisions of this Section 8(a) shall similarly apply to successive Merger Events.

(b) *Reclassification of Shares.* Except for Merger Events subject to Section 8(a), and subject to Section 8(f), if the Company at any time shall, by combination, reclassification, exchange or subdivision of securities or otherwise, change any of the securities as to which purchase rights under this Agreement exist into the same or a different number of securities of any other class or classes, this Agreement shall thereafter represent the right to acquire such number and kind of securities as would have been issuable as the result of such change with respect to the securities which were subject to the purchase rights under this Agreement immediately prior to such combination, reclassification, exchange, subdivision or other change. The provisions of this Section 8(b) shall similarly apply to successive combination, reclassification, exchange, subdivision or other change.

(c) *Subdivision or Combination of Shares.* If the Company at any time shall combine or subdivide its Preferred Stock, (i) in the case of a subdivision, the Exercise Price shall be proportionately decreased and the number of shares of Preferred Stock issuable hereunder shall be proportionately increased, or (ii) in the case of a combination, the Exercise Price shall be proportionately increased and the number of shares of Preferred Stock issuable hereunder shall be proportionately decreased.

(d) *Stock Dividends.* If the Company at any time while this Agreement is outstanding and unexpired shall:

(i) pay a dividend with respect to the Preferred Stock payable in Preferred Stock, then the Exercise Price shall be adjusted, from and after the date of determination of stockholders entitled to receive such dividend or distribution, to that price determined by multiplying the Exercise Price in effect immediately prior to such date of determination by a fraction (A) the numerator of which shall be the total number of shares of Preferred Stock outstanding immediately prior to such dividend or distribution, and (B) the denominator of which shall be the total number of shares of Preferred Stock outstanding immediately after such dividend or distribution; or

(ii) make any other distribution with respect to Preferred Stock (or stock into which the Preferred Stock is convertible), except any distribution specifically provided for in any other clause of this Section 8, then, in each such case, provision shall be made by the Company such that the Warrantholder shall receive upon exercise or conversion of this Warrant a proportionate share of any such distribution as though it were the holder of the Preferred Stock (or other stock for which the Preferred Stock is convertible) as of the record

date fixed for the determination of the stockholders of the Company entitled to receive such distribution.

(e) *Antidilution Rights.* Additional antidilution rights applicable to the Preferred Stock purchasable hereunder are as set forth in the Charter and shall be applicable with respect to the Preferred Stock issuable hereunder. The Company shall promptly provide the Warrantholder with any restatement, amendment, modification or waiver of the Charter; *provided*, that no such amendment, modification or waiver shall impair or reduce the antidilution rights applicable to the Preferred Stock as of the date hereof unless such amendment, modification or waiver affects the rights of Warrantholder with respect to the Preferred Stock in the same manner as it affects all other holders of Preferred Stock. The Company shall provide Warrantholder with prior written notice of any issuance of its stock or other equity security to occur after the Effective Date of this Agreement, which notice shall include (a) the price at which such stock or security is to be sold, (b) the number of shares to be issued, and (c) such other information as necessary for Warrantholder to determine if a dilutive event has occurred. For the avoidance of doubt, there shall be no duplicate anti-dilution adjustment pursuant to this subsection (e), the forgoing subsection (d) and the Charter.

(f) *Notice of Adjustments.* If: (i) the Company shall declare any dividend or distribution upon its Preferred Stock, whether in stock, cash, property or other securities; (ii) there shall be any Merger Event; (iv) there shall be an Initial Public Offering; (iii) there shall be any Asset Transfer; or (iv) there shall be any voluntary dissolution, liquidation or winding up of the Company; then, in connection with each such event, the Company shall send to the Warrantholder: (A) at least twenty (20) days' prior written notice of the date on which the books of the Company shall close or a record shall be taken for such dividend, distribution, subscription rights (specifying the date on which the holders of Preferred Stock shall be entitled thereto) or for determining rights to vote in respect of such Merger Event, dissolution, liquidation or winding up; (B) in the case of any such Merger Event, Asset Transfer, dissolution, liquidation or winding up, at least twenty (20) days' prior written notice of the date when the same shall take place (and specifying the date on which the holders of Preferred Stock shall be entitled to exchange their Preferred Stock for securities or other property deliverable upon such Merger Event, dissolution, liquidation or winding up); and (C) in the case of an Initial Public Offering, at least twenty (20) days' written notice prior to the anticipated effective date thereof.

Each such written notice shall set forth, in reasonable detail, (i) the event requiring the notice, and (ii) if any adjustment is required to be made, (A) the amount of such adjustment, (B) the method by which such adjustment was calculated, (C) the adjusted Exercise Price (if the Exercise Price has been adjusted), and (D) the number of shares subject to purchase hereunder after giving effect to such adjustment, and shall be given in accordance with Section 12(g) below.

(g) *Timely Notice.* Failure to timely provide such notice required by subsection (f) above shall entitle Warrantholder to retain the benefit of the applicable notice period notwithstanding anything to the contrary contained in any insufficient notice received by Warrantholder. For purposes of this subsection (g), and notwithstanding anything to the contrary in Section 12(g), the notice period shall begin on the date Warrantholder actually receives a written notice containing all the information required to be provided in such subsection (g).

SECTION 9. REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE COMPANY.

(a) *Reservation of Preferred Stock.* The Preferred Stock issuable upon exercise of the Warrantholder's rights has been duly and validly reserved and, when issued in accordance with the provisions of this Agreement or the Charter, as applicable, will be validly issued, fully paid and non-assessable, and will be free of any taxes, liens, charges or encumbrances of any nature whatsoever; *provided*, that the Preferred Stock issuable pursuant to this Agreement may be subject to restrictions on transfer under state and/or federal securities laws. The Company has made available

to the Warrantholder true, correct and complete copies of its Charter and current bylaws. The issuance of certificates for shares of Preferred Stock upon exercise of this Agreement shall be made without charge to the Warrantholder for any issuance tax in respect thereof, or other cost incurred by the Company in connection with such exercise and the related issuance of shares of Preferred Stock; *provided*, that the Company shall not be required to pay any tax which may be payable in respect of any transfer and the issuance and delivery of any certificate in a name other than that of the Warrantholder.

(b) *Due Authority.* The execution and delivery by the Company of this Agreement and the performance of all obligations of the Company hereunder, including the issuance to Warrantholder of the right to acquire the shares of Preferred Stock and the Common Stock into which it may be converted, have been duly authorized by all necessary corporate action on the part of the Company. This Agreement: (1) does not violate the Company's Charter or current bylaws; (2) does not contravene any law or governmental rule, regulation or order applicable to it; and (3) does not and will not contravene any provision of, or constitute a default under, any indenture, mortgage, contract or other instrument to which it is a party or by which it is bound. This Agreement constitutes a legal, valid and binding agreement of the Company, enforceable in accordance with its terms.

(c) *Consents and Approvals.* No consent or approval of, giving of notice to, registration with, or taking of any other action in respect of any state, federal or other governmental authority or agency is required with respect to the execution, delivery and performance by the Company of its obligations under this Agreement, except for the filing of notices pursuant to Regulation D under the Act and any filing required by applicable state securities law, which filings will be effective by the time required thereby.

(d) *Issued Securities.* All issued and outstanding shares of Common Stock, Preferred Stock or any other securities of the Company have been duly authorized and validly issued and are fully paid and nonassessable. All outstanding shares of Common Stock, Preferred Stock and any other securities were issued in full compliance with all federal and state securities laws. In addition, as of the date immediately preceding the date of this Agreement:

(i) The authorized capital of the Company consists of (A) 230,000,000 shares of Common Stock, of which 18,193,930 shares are issued and outstanding, and (B) 155,190,902 shares of Preferred Stock, of which 31,116,391 shares have been designated Series A Preferred Stock, 31,116,391 of which are issued and outstanding, 9,074,511 shares have been designated Series A-1 Preferred Stock, 9,074,511 of which are issued and outstanding, and 115,000,000 shares have been designated Series B Preferred Stock, 55,614,290 of which are issued and outstanding and are convertible into shares of Common Stock at $0.60 per share, $0.50 per share, and $0.29990 per share, respectively.

(ii) The Company has reserved 19,724,005 shares of Common Stock for issuance under its 2011 Stock Incentive Plan, under which 11,007,272 options are outstanding and 3,000,000 shares have been issued pursuant to restricted stock purchase agreements. Except as set forth on Schedule 5.14 to the Loan Agreement, there are no other options, warrants, conversion privileges or other rights presently outstanding to purchase or otherwise acquire any authorized but unissued shares of the Company's capital stock or other securities of the Company. The Company has no outstanding loans to any employee, officer or director of the Company, and the Company agrees not to enter into any such loan or otherwise guarantee the payment of any loan made to an employee, officer or director by a third party.

(iii) In accordance with the Company's Charter, no stockholder of the Company has preemptive rights to purchase new issuances of the Company's capital stock.

(e) *Registration Rights.* The Company agrees that the shares of Common Stock issued and issuable upon conversion of the shares of Preferred Stock issued and issuable upon exercise of this Warrant, and, at all times (if any) when the Preferred Stock shall be Common Stock, the shares of Preferred Stock issued and issuable upon exercise of this Warrant, shall have the "Piggyback," and S-3 registration rights pursuant to and as set forth in the Rights Agreement on a pari passu basis with the holders of outstanding shares of Preferred Stock who are parties thereto. The provisions set forth in the Rights Agreement or similar agreement relating to such registration rights in effect as of the Effective Date may not be amended, modified or waived without the prior written consent of the Warrantholder unless such amendment, modification or waiver affects the rights associated with the shares of Preferred Stock issued and issuable upon exercise hereof in the same manner as such amendment, modification, or waiver affects the rights associated with all outstanding shares of Preferred Stock whose holders are parties thereto.

(f) *Other Commitments to Register Securities.* Except as set forth in this Agreement, the Company is not, pursuant to the terms of any other agreement currently in existence, under any obligation to register under the Act any of its presently outstanding securities or any of its securities which may hereafter be issued.

(g) *Exempt Transaction.* Subject to the accuracy of the Warrantholder's representations in Section 10, the issuance of the Preferred Stock upon exercise of this Agreement, and the issuance of the Common Stock upon conversion of the Preferred Stock, will each constitute a transaction exempt from (i) the registration requirements of Section 5 of the Act, in reliance upon Section 4(2) thereof, and (ii) the qualification requirements of the applicable state securities laws.

(h) *Compliance with Rule 144.* If the Warrantholder proposes to sell Preferred Stock issuable upon the exercise of this Agreement, or the Common Stock into which it is convertible, in compliance with Rule 144 promulgated by the SEC, then, upon Warrantholder's written request to the Company, the Company shall furnish to the Warrantholder, within ten days after receipt of such request, a written statement confirming the Company's compliance with the filing requirements of the SEC as set forth in such Rule, as such Rule may be amended from time to time.

(i) *Information Rights.* During the term of this Warrant, Warrantholder shall be entitled to the information rights contained in Section 7.1 of the Loan Agreement, and Section 7.1 of the Loan Agreement is hereby incorporated into this Agreement by this reference as though fully set forth herein, provided, however, that the Company shall not be required to deliver a Compliance Certificate once all Indebtedness (as defined in the Loan Agreement) owed by the Company to Warrantholder has been repaid.

SECTION 10. REPRESENTATIONS AND COVENANTS OF THE WARRANTHOLDER.

This Agreement has been entered into by the Company in reliance upon the following representations and covenants of the Warrantholder:

(a) *Investment Purpose.* The right to acquire Preferred Stock issuable upon exercise of the Warrantholder's rights contained herein will be acquired for investment and not with a view to the sale or distribution of any part thereof, and the Warrantholder has no present intention of selling or engaging in any public distribution of the same except pursuant to an effective registration statement or an exemption from the registration requirements of the Act.

(b) *Private Issue.* The Warrantholder understands (i) that the Preferred Stock issuable upon exercise of this Agreement is not registered under the Act or qualified under applicable state securities laws on the ground that the issuance contemplated by this Agreement will be exempt from the registration and qualifications requirements thereof, and (ii) that the Company's reliance on such exemption is predicated on the representations set forth in this Section 10.

(c) *Financial Risk.* The Warrantholder has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment, and has the ability to bear the economic risks of its investment.

(d) *Risk of No Registration.* The Warrantholder understands that if the Company does not register with the SEC pursuant to Section 12 of the Securities Exchange Act of 1934 (the "*1934 Act*"), or file reports pursuant to Section 15(d) of the 1934 Act, or if a registration statement covering the securities under the Act is not in effect when it desires to sell (i) the rights to purchase Preferred Stock pursuant to this Agreement or (ii) the Preferred Stock issuable upon exercise of the right to purchase, it may be required to hold such securities for an indefinite period. The Warrantholder also understands that any sale of (A) its rights hereunder to purchase Preferred Stock or (B) Preferred Stock issued or issuable hereunder which might be made by it in reliance upon Rule 144 under the Act may be made only in accordance with the terms and conditions of that Rule.

(e) *Accredited Investor.* Warrantholder is an "accredited investor" within the meaning of the Securities and Exchange Rule 501 of Regulation D, as presently in effect.

(f) *Confidentiality.* Warrantholder acknowledges that certain information and materials provided by the Company pursuant to its obligations under this Warrant are confidential and proprietary information of the Company, and Warrantholder agrees to be bound by the confidentiality provision set forth in Section 11.12 of the Loan Agreement.

(g) *"Market Stand-Off"*. Subject to all officers, directors, and holders of Preferred Stock of the Company being subject to the same restrictions, Warrantholder hereby agrees that it shall not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale (a "*Market Stand-Off*"), any Common Stock (or other securities) of the Company held by such Warrantholder (other than those included in the registration) (i) during the 180-day period following the effective date of the Initial Public Offering (or such longer period, not to exceed 34 days after the expiration of the 180-day period, as the underwriters or the Company shall request in order to facilitate compliance with FINRA Rule 2711 or NYSE Member Rule 472 or any successor or similar rule or regulation), and (ii) the 90-day period following the effective date of a registration statement of the Company filed under the Act (or such longer period, not to exceed 34 days after the expiration of the 90-day period, as the underwriters or the Company shall request in order to facilitate compliance with FINRA Rule 2711 or NYSE Member Rule 472 or any successor or similar rule or regulation. The underwriters of the Company's stock are intended third party beneficiaries of this section and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Notwithstanding the foregoing, nothing shall prohibit Warrantholder from exercising this Warrant for Preferred Stock during the periods set forth in clause (i) and (ii) above.

SECTION 11. TRANSFERS.

Subject to compliance with applicable federal and state securities laws, this Agreement and all rights hereunder are transferable, in whole or in part, without charge to the holder hereof (except for transfer taxes) upon surrender of this Agreement properly endorsed, provided that any successor transferee prior to the Initial Public Offering makes the representations set forth in Section 10 and agrees, by acceptance of such transfer, to be bound by the covenants, terms and conditions of this Warrant. Each taker and holder of this Agreement, by taking or holding the same, consents and agrees that this Agreement, when endorsed in blank, shall be deemed negotiable, and that the holder hereof, when this Agreement shall have been so endorsed and its transfer recorded on the Company's books, shall be treated by the Company and all other persons dealing with this Agreement as the absolute owner hereof for any purpose and as the person entitled to exercise the rights represented by this Agreement. The transfer of this Agreement shall be recorded on the books of the Company upon receipt by the Company of a notice of transfer in the form attached hereto as Exhibit III (the "*Transfer Notice*"), at its

principal offices and the payment to the Company of all transfer taxes and other governmental charges imposed on such transfer. Until the Company receives such Transfer Notice, the Company may treat the registered owner hereof as the owner for all purposes. Notwithstanding the foregoing, so long as no Event of Default hereunder or under the Loan Agreement has occurred and is continuing, prior to an Initial Public Offering the holder hereof may not transfer this Agreement or any rights hereunder, in whole or in part, to any person, trust or entity reasonably determined in good faith by the Company's Board of Directors to be a competitor of the Company.

SECTION 12. MISCELLANEOUS.

(a) *Effective Date.* The provisions of this Agreement shall be construed and shall be given effect in all respects as if it had been executed and delivered by the Company on the date hereof. This Agreement shall be binding upon any successors or assigns of the Company.

(b) *Remedies.* In the event of any default hereunder, the non-defaulting party may proceed to protect and enforce its rights either by suit in equity and/or by action at law, including but not limited to an action for damages as a result of any such default, and/or an action for specific performance for any default where Warrantholder will not have an adequate remedy at law and where damages will not be readily ascertainable. The Company expressly agrees that it shall not oppose an application by the Warrantholder or any other person entitled to the benefit of this Agreement requiring specific performance of any or all provisions hereof or enjoining the Company from continuing to commit any such breach of this Agreement.

(c) *No Impairment of Rights.* The Company will not, by amendment of its Charter or through any other means, avoid or seek to avoid the observance or performance of any of the terms of this Agreement, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate in order to protect the rights of the Warrantholder against impairment. The foregoing notwithstanding, the Company shall not have been deemed to have impaired the Warrantholder's rights hereunder: (i) if it amends its Charter, or the holders of the Company's other series of preferred stock waive rights thereunder, in a manner that does not affect the Preferred Stock differently from the effect that such amendments or waivers have generally on the rights, preferences, privileges or restrictions of the other shares of the same class and series of stock, or (ii) if the Company, through a Merger Event, issue, or sale of securities or any other voluntary action, affects Warrantholder's rights hereunder in a manner that does not affect the Preferred Stock differently from the effect that such transactions have generally on the rights, preferences, privileges or restrictions of the other shares of the same class and series of stock.

(d) *Additional Documents.* The Company, upon execution of this Agreement, shall provide the Warrantholder with certified resolutions with respect to the representations, warranties and covenants set forth in Sections 9(a) through (b). The Company shall also supply documentation reasonably necessary to evaluate whether to exercise (in cash or a net issuance basis) this Warrant, including without limitation, (i) any merger/purchase/asset sale agreement and related documents and estimated payout allocations to each of the respective shareholders, warrant and option holders in connection with a Merger Event, (ii) the most recent capitalization tables, 409A valuations (if any), and board determination of share value (including any waterfall or per share allocations provided to the stockholders), and (iii) most recent Charter.

(e) *Attorney's Fees.* In any litigation, arbitration or court proceeding between the Company and the Warrantholder relating hereto, the prevailing party shall be entitled to attorneys' fees and expenses and all costs of proceedings incurred in enforcing this Agreement. For the purposes of this Section 12(e), attorneys' fees shall include without limitation fees incurred in connection with the following: (i) contempt proceedings; (ii) discovery; (iii) any motion, proceeding or other activity of any kind in connection with an insolvency proceeding; (iv) garnishment, levy, and debtor and

third party examinations; and (v) post-judgment motions and proceedings of any kind, including without limitation any activity taken to collect or enforce any judgment.

(f) *Severability.* In the event any one or more of the provisions of this Agreement shall for any reason be held invalid, illegal or unenforceable, the remaining provisions of this Agreement shall be unimpaired, and the invalid, illegal or unenforceable provision shall be replaced by a mutually acceptable valid, legal and enforceable provision, which comes closest to the intention of the parties underlying the invalid, illegal or unenforceable provision.

(g) *Notices.* Except as otherwise provided herein, any notice, demand, request, consent, approval, declaration, service of process or other communication that is required, contemplated, or permitted under this Agreement or with respect to the subject matter hereof shall be in writing, and shall be deemed to have been validly served, given, delivered, and received upon the earlier of: (i) the day of transmission by facsimile or hand delivery if transmission or delivery occurs on a business day at or before 5:00 pm in the time zone of the recipient, or, if transmission or delivery occurs on a non-business day or after such time, the first business day thereafter, or the first business day after deposit with an overnight express service or overnight mail delivery service; or (ii) the third calendar day after deposit in the United States mails, with proper first class postage prepaid, and shall be addressed to the party to be notified as follows:

If to Warrantholder:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.
Legal Department
Attention: Chief Legal Officer
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301
Facsimile: 650-473-9194
Telephone: 650-289-3060

If to the Company:

CERECOR INC.
Attention: Chief Financial Officer
400 E. Pratt Street, Suite 606
Baltimore, MD 21202
Facsimile:
Telephone: 410-522-8707

or to such other address as each party may designate for itself by like notice.

(h) *Entire Agreement; Amendments.* This Agreement constitutes the entire agreement and understanding of the parties hereto in respect of the subject matter hereof, and supersedes and replaces in their entirety any prior proposals, term sheets, letters, negotiations or other documents or agreements, whether written or oral, with respect to the subject matter hereof (including Warrantholder's proposal letter dated June 13, 2014 and accepted by the Company on June 18, 2014). None of the terms of this Agreement may be amended except by an instrument executed by each of the parties hereto.

(i) *Headings.* The various headings in this Agreement are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement or any provisions hereof.

(j) *No Strict Construction.* The parties hereto have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation

arises, this Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Agreement.

(k) *No Waiver.* No omission or delay by Warrantholder at any time to enforce any right or remedy reserved to it, or to require performance of any of the terms, covenants or provisions hereof by the Company at any time designated, shall be a waiver of any such right or remedy to which Warrantholder is entitled, nor shall it in any way affect the right of Warrantholder to enforce such provisions thereafter.

(l) *Survival.* All agreements, representations and warranties contained in this Agreement or in any document delivered pursuant hereto shall be for the benefit of Warrantholder and shall survive the execution and delivery of this Agreement and the expiration or other termination of this Agreement.

(m) *Governing Law.* This Agreement have been negotiated and delivered to Warrantholder in the State of California, and shall have been accepted by Warrantholder in the State of California. Delivery of Preferred Stock to Warrantholder by the Company under this Agreement is due in the State of California. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

(n) *Consent to Jurisdiction and Venue.* All judicial proceedings arising in or under or related to this Agreement may be brought in any state or federal court of competent jurisdiction located in the State of California. By execution and delivery of this Agreement, each party hereto generally and unconditionally: (a) consents to personal jurisdiction in Santa Clara County, State of California; (b) waives any objection as to jurisdiction or venue in Santa Clara County, State of California; (c) agrees not to assert any defense based on lack of jurisdiction or venue in the aforesaid courts; and (d) irrevocably agrees to be bound by any judgment rendered thereby in connection with this Agreement. Service of process on any party hereto in any action arising out of or relating to this Agreement shall be effective if given in accordance with the requirements for notice set forth in Section 12(g), and shall be deemed effective and received as set forth in Section 12(g). Nothing herein shall affect the right to serve process in any other manner permitted by law or shall limit the right of either party to bring proceedings in the courts of any other jurisdiction.

(o) *Mutual Waiver of Jury Trial.* Because disputes arising in connection with complex financial transactions are most quickly and economically resolved by an experienced and expert person and the parties wish applicable state and federal laws to apply (rather than arbitration rules), the parties desire that their disputes be resolved by a judge applying such applicable laws. EACH OF THE COMPANY AND WARRANTHOLDER SPECIFICALLY WAIVES ANY RIGHT IT MAY HAVE TO TRIAL BY JURY OF ANY CAUSE OF ACTION, CLAIM, CROSS-CLAIM, COUNTERCLAIM, THIRD PARTY CLAIM OR ANY OTHER CLAIM (COLLECTIVELY, "CLAIMS") ASSERTED BY THE COMPANY AGAINST WARRANTHOLDER OR ITS ASSIGNEE OR BY WARRANTHOLDER OR ITS ASSIGNEE AGAINST THE COMPANY. This waiver extends to all such Claims, including Claims that involve Persons other than Company and Warrantholder; Claims that arise out of or are in any way connected to the relationship between the Company and Warrantholder; and any Claims for damages, breach of contract, specific performance, or any equitable or legal relief of any kind, arising out of this Agreement.

(p) *Judicial Reference.* If the waiver of jury trial set forth above is ineffective or unenforceable, the parties agree that all Claims shall be resolved by reference to a private judge sitting without a jury, pursuant to Code of Civil Procedure Section 638, before a mutually acceptable referee or, if the parties cannot agree, a referee selected by the Presiding Judge of Santa Clara

County, California. Such proceeding shall be conducted in Santa Clara County, California, with California rules of evidence and discovery applicable to such proceeding.

(q) *Prejudgment Relief.* In the event Claims are to be resolved by arbitration, either party may seek from a court of competent jurisdiction identified in Section 12(n), any prejudgment order, writ or other relief and have such prejudgment order, writ or other relief enforced to the fullest extent permitted by law notwithstanding that all Claims are otherwise subject to resolution by judicial reference.

(r) *Counterparts.* This Agreement and any amendments, waivers, consents or supplements hereto may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by its officers thereunto duly authorized as of the Effective Date.

COMPANY:	CERECOR INC.
	By: /s/ BLAKE M. PATERSON
	Name: Title:
WARRANTHOLDER: CAPITAL, INC.,	HERCULES TECHNOLOGY GROWTH
	a Maryland corporation
	By: /s/ BEN BANG, SENIOR COUNSEL
	Ben Bang, Senior Counsel

EXHIBIT I

NOTICE OF EXERCISE

To: CERCOR INC.

(1) The undersigned Warrantholder hereby elects to purchase [ ] shares of the Series [ ] Preferred Stock of Cerecor Inc., pursuant to the terms of the Agreement dated the 19th day of August, 2014 (the "Agreement") between Cerecor Inc. and the Warrantholder, and [CASH PAYMENT: tenders herewith payment of the Purchase Price in full, together with all applicable transfer taxes, if any.] [NET ISSUANCE: elects pursuant to Section 3(a) of the Agreement to effect a Net Issuance.]

(2) Please issue a certificate or certificates representing said shares of Series [ ] Preferred Stock in the name of the undersigned or in such other name as is specified below.

_____

(Name)

_____

(Address)

(3) The undersigned hereby agrees that by execution and delivery of this Notice of Exercise prior to an Initial Public Offering, the undersigned agrees to execute and thereby become party to (i) that certain Second Amended and Restated Registration Rights Agreement by and among the Company and the parties named therein, dated November 14, 2012, and (ii) that certain Second Amended and Restated Stockholders Agreement by and among the Company and the parties named therein, dated November 14, 2012, as each may be amended from time to time.

WARRANTHOLDER:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC., a Maryland corporation

By: _____

Ben Bang, Senior Counsel

EXHIBIT II

ACKNOWLEDGMENT OF EXERCISE

The undersigned [ ] of Cerecor Inc., hereby acknowledges receipt of the "Notice of Exercise" from Hercules Technology Growth Capital, Inc. to purchase [ ] shares of the Series [ ] Preferred Stock of Cerecor Inc., pursuant to the terms of the Agreement, and further acknowledges that [ ] shares remain subject to purchase under the terms of the Agreement.

COMPANY: CERECOR INC.

By: _____

Title:
Date:

EXHIBIT III

TRANSFER NOTICE

(To transfer or assign the foregoing Agreement execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Agreement and all rights evidenced thereby are hereby transferred and assigned to

_____

(Please Print)

whose address is _____

_____

Dated: _____

Holder's Signature: _____

Holder's Address: _____

_____

Signature Guaranteed: _____

NOTE: The signature to this Transfer Notice must correspond with the name as it appears on the face of the Agreement, without alteration or enlargement or any change whatever. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Agreement.

QuickLinks

QuickLinks -- Click here to rapidly navigate through this document

Exhibit 4.9

THIS WARRANT AND THE UNDERLYING SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT AS TO SUCH SECURITIES UNDER THE ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

CERECOR INC.

WARRANT TO PURCHASE COMMON STOCK

No. CW-399. **July 11, 2014**

Void After July 10, 2019

THIS CERTIFIES THAT, for value received, **Trout Capital LLC** (the ***"Holder"),*** is entitled to subscribe for and purchase during the Exercise Period (defined below) from **CERECOR INC.,** a Delaware corporation (the ***"Company"),*** the Exercise Shares.

This warrant (this ***"Warrant")*** is issued pursuant to the terms of that certain letter agreement (the ***"Agreement")*** dated as of April 1, 2014, by and between the Company and the Holder.

1. DEFINITIONS. As used herein, the following terms shall have the following respective meanings:

(a) ***"Common Stock"*** means the Company's Common Stock.

(b) ***"Exercise Period"*** means the period commencing with the date hereof and ending five years later, unless sooner terminated as provided below.

(c) ***"Exercise Price"*** means the Price Per Share ***multiplied by*** the number of shares of Common Stock being purchased pursuant to an exercise of this Warrant.

(d) ***"Exercise Shares"*** means five hundred thousand one hundred sixty-six (500,166).

(e) **"*Price Per Share*"** means $0.29990.

2. EXERCISE OF WARRANT.

2.1 The rights represented by this Warrant may be exercised in whole or in part at any time during the Exercise Period, by delivery of the following to the Company at its address set forth above (or at such other address as it may designate by notice in writing to the Holder):

(a) An executed Notice of Exercise in the form attached hereto;

(b) Payment of the Exercise Price either in cash or by check; and

(c) This Warrant.

2.2 Upon the exercise of the rights represented by this Warrant, a certificate or certificates for the Exercise Shares so purchased, registered in the name of the Holder or persons affiliated with the Holder, if the Holder so designates, shall be issued and delivered to the Holder within a reasonable time after the rights represented by this Warrant shall have been so exercised.

2.3 The person in whose name any certificate or certificates for Exercise Shares are to be issued upon exercise of this Warrant shall be deemed to have become the holder of record of such shares on the date on which this Warrant was surrendered and payment of the Exercise Price was made, irrespective of the date of delivery of such certificate or certificates, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are closed,

such person shall be deemed to have become the holder of such shares at the close of business on the next succeeding date on which the stock transfer books are open.

2.4 This Warrant may not be exercised if the issuance of the Exercise Shares upon such exercise would constitute a violation of any applicable federal or state securities laws or other laws or regulations.

3. REPRESENTATIONS OF HOLDER.

3.1 Acquisition of Warrant for Personal Account. The Holder represents and warrants that it is acquiring the Warrant and the Exercise Shares solely for its account for investment and not with a view to or for sale or distribution of said Warrant or Exercise Shares or any part thereof. The Holder also represents that the entire legal and beneficial interests of the Warrant and Exercise Shares the Holder is acquiring is being acquired for, and will be held for, its account only.

3.2 Securities Are Not Registered.

(a) The Holder understands that the Warrant and the Exercise Shares have not been registered under the Securities Act of 1933, as amended (the "***Act***") on the basis that no distribution or public offering of the stock of the Company is to be effected. The Holder realizes that the basis for the exemption may not be present if, notwithstanding its representations, the Holder has a present intention of acquiring the securities for a fixed or determinable period in the future, selling (in connection with a distribution or otherwise), granting any participation in, or otherwise distributing the securities. The Holder has no such present intention.

(b) The Holder recognizes that the Warrant and the Exercise Shares must be held indefinitely unless they are subsequently registered under the Act or an exemption from such registration is available. The Holder recognizes that the Company has no obligation to register the Warrant or the Exercise Shares of the Company, or to comply with any exemption from such registration.

(c) The Holder is aware that neither the Warrant nor the Exercise Shares may be sold pursuant to Rule 144 adopted under the Act unless certain conditions are met, including, among other things, the existence of a public market for the shares, the availability of certain current public information about the Company, the resale following the required holding period under Rule 144 and the number of shares being sold during any three month period not exceeding specified limitations. Holder is aware that the conditions for resale set forth in Rule 144 have not been satisfied and that the Company presently has no plans to satisfy these conditions in the foreseeable future.

3.3 Disposition of Warrant and Exercise Shares.

(a) The Holder further agrees not to make any disposition of all or any part of the Warrant or Exercise Shares in any event unless and until:

(i) The Company shall have received a letter secured by the Holder from the Securities and Exchange Commission stating that no action will be recommended to the Commission with respect to the proposed disposition;

(ii) There is then in effect a registration statement under the Act covering such proposed disposition and such disposition is made in accordance with said registration statement; or

(iii) The Holder shall have notified the Company of the proposed disposition and shall have furnished the Company with a detailed statement of the circumstances surrounding the proposed disposition, and if reasonably requested by the Company, the

Holder shall have furnished the Company with an opinion of counsel, reasonably satisfactory to the Company, for the Holder to the effect that such disposition will not require registration of such Warrant or Exercise Shares under the Act or any applicable state securities laws.

(b) The Holder understands and agrees that all certificates evidencing the shares to be issued to the Holder may bear the following legend:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"). THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT AS TO THE SECURITIES UNDER THE ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

4. FRACTIONAL SHARES. No fractional shares shall be issued upon the exercise of this Warrant as a consequence of any adjustment pursuant hereto. All Exercise Shares (including fractions) issuable upon exercise of this Warrant may be aggregated for purposes of determining whether the exercise would result in the issuance of any fractional share. If, after aggregation, the exercise would result in the issuance of a fractional share, the Company shall, in lieu of issuance of any fractional share, pay the Holder otherwise entitled to such fraction a sum in cash equal to the product resulting from multiplying the then current fair market value of an Exercise Share by such fraction.

5. EARLY TERMINATION. In the event of, at any time during the Exercise Period, an initial public offering of securities of the Company registered under the Act, or any capital reorganization, or any reclassification of the capital stock of the Company (other than a change in par value or from par value to no par value or no par value to par value or as a result of a stock dividend or subdivision, split-up or combination of shares), or the consolidation or merger of the Company with or into another corporation (other than a merger solely to effect a reincorporation of the Company into another state), or the sale or other disposition of all or substantially all the properties and assets of the Company in its entirety to any other person, the Company shall provide to the Holder ten (10) days advance written notice of such public offering, reorganization, reclassification, consolidation, merger or sale or other disposition of the Company's assets, and this Warrant shall terminate unless exercised prior to the date such public offering is closed or the occurrence of such reorganization, reclassification, consolidation, merger or sale or other disposition of the Company's assets.

6. MARKET STAND-OFF AGREEMENT. Holder hereby agrees that Holder will not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any Exercise Shares, shares of the Company's Common Stock or other securities of the Company held by Holder (other than those included in the registration) during the twelve-month period following the effective date of the Company's initial public offering (or such longer period as the underwriters or the Company will request in order to facilitate compliance with applicable law).

7. NO STOCKHOLDER RIGHTS. This Warrant in and of itself shall not entitle the Holder to any voting rights or other rights as a stockholder of the Company.

8. NO TRANSFER OF WARRANT. This Warrant and all rights hereunder are not transferable or assignable.

9. LOST, STOLEN, MUTILATED OR DESTROYED WARRANT. If this Warrant is lost, stolen, mutilated or destroyed, the Company may, on such terms as to indemnity or otherwise as it may reasonably impose (which shall, in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed. Any such new Warrant shall constitute an original contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated or destroyed Warrant shall be at any time enforceable by anyone.

10. NOTICES, ETC. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed email if sent during normal business hours of the recipient, if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company at the address listed on the signature page and to Holder at Trout Capital LLC 740 Broadway 9th Floor New York, New York 10003 or at such other address as the Company or Holder may designate by ten (10) days advance written notice to the other parties hereto.

11. ACCEPTANCE. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

12. GOVERNING LAW. This Warrant and all rights, obligations and liabilities hereunder shall be governed by the laws of the State of Delaware.

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its duly authorized officer as of July 11, 2014.

CERECOR INC.

By: /s/ BLAKE PATERSON

Name: Blake Paterson
Title: *President and CFO*
Address: 400 E. Pratt Street, Suite 606
Baltimore, MD 21202

ACKNOWLEDGED AND AGREED:

By: /s/ JONATHAN FASSBERG

Name: Jonathan Fassberg
Title *CEO*
Address: 740 Broadway, 9th Floor
New York, NY 10003

QuickLinks

Exhibit 10.8

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

EXECUTION COPY

EXCLUSIVE PATENT AND KNOW-HOW LICENSE AGREEMENT

by and between

Eli Lilly and Company and

CERECOR INC.

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

EXCLUSIVE PATENT AND KNOW HOW LICENSE AGREEMENT

THIS EXCLUSIVE PATENT AND KNOW-HOW LICENSE AGREEMENT (this "**Agreement**"), effective as of this 18th day of February, 2015 (the "**Effective Date**"), is by and between Eli Lilly and Company ("**Lilly**"), and Cerecor Inc. ("**Cerecor**"), a corporation organized and existing under the laws of Delaware (hereinafter referred to as "**Licensee**"). Lilly and Licensee are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**".

WHEREAS, Lilly and its Affiliates have discovered and developed the Kappa opioid receptor antagonist designated as LY2456302;

WHEREAS, Licensee desires to develop and commercialize LY2456302; and

WHEREAS, Licensee and Lilly desire to enter into a license arrangement whereby Licensee will develop and commercialize LY2456302.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants herein contained, Licensee and Lilly hereby agree as follows:

ARTICLE I — DEFINITIONS

As used in this Agreement, the following capitalized terms, whether used in the singular or plural, shall have the respective meanings set forth below:

1.01 "Affiliate" shall mean any individual or entity directly or indirectly controlling, controlled by or under common control with a Party to this Agreement. For purposes of this Agreement, the direct or indirect ownership of fifty percent (50%) or more of the outstanding voting securities of an entity, or the right to receive fifty percent (50%) or more of the profits or earnings of an entity, shall be deemed to constitute control. Such other relationship as in fact results in actual control over the management, business and affairs of an entity shall also be deemed to constitute control.

1.02 "Calendar Quarter" shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31, for so long as this Agreement is in effect.

1.03 "Calendar Year" shall mean each successive period of twelve (12) months commencing on January 1 and ending on December 31, for so long as this Agreement is in effect.

1.04 "Change of Control" shall mean with respect to a Party: (a) the sale to a Third Party of all or substantially all of such Party's assets and business; (b) a merger, reorganization or consolidation involving such Party and a Third Party in which the voting securities of such Party outstanding immediately prior thereto ceases to represent at least fifty percent (50%) of the combined voting power of the surviving entity immediately after such merger, reorganization or consolidation; or (c) a person or entity, or group of persons or entities, acting in concert acquire more than fifty percent (50%) of the voting equity securities or management control of such Party. Notwithstanding the foregoing, a Change of Control shall not be deemed to occur (i) on account of the acquisition of securities of a Party by any institutional investor, or affiliate thereof, or similar investor, that acquires the Party's securities in a transaction or series of related transactions that are primarily a private financing transaction of the Party or (ii) a sale of assets, merger, or other transaction effected exclusively for the purpose of changing domicile of the Party. For clarity, any public offering of a Party's equity securities shall not be deemed to be a Change of Control.

1.05 "Clinical Trial" shall mean a Phase I Clinical Trial, Phase II Clinical Trial, Phase III clinical Trial, Phase IIIb Clinical Trial and/or post-approval clinical trial.

1.06 "Commercialization" or "Commercialize" shall mean, with respect to Licensed Product, any and all activities directed to the marketing, promotion, distribution, offering for sale and selling such product, importing and exporting such product for sale, and interacting with Regulatory Authorities regarding the foregoing. Commercialization shall also include Commercialization Studies. "Commercialize" has a correlative meaning.

1.07 "Commercialization Studies" shall mean a study or data collection effort for the Licensed Product that is initiated in the Territory after receipt of Marketing Authorization for the Licensed Product and is principally intended to support the Commercialization of the Licensed Product in the Territory; provided, that such study or data collection effort is not principally to support or maintain a Marketing Authorization or obtain a label change or maintain a label.

1.08 "Commercially Reasonable Efforts" shall mean, with respect to the performance of obligations or tasks of a Party, the level of efforts and resources, normally used by a similarly situated biopharmaceutical company in the exercise of its reasonable discretion relating to the Development or commercialization of a product, in each case owned by it or to which it has exclusive rights, having similar technical and regulatory factors and similar market potential, profit potential and strategic value, and that is at a similar stage in its Development or product life cycle as the Licensed Product, taking into account issues of patent coverage, safety and efficacy, product profile, competiveness of the marketplace, proprie- tary position, and profitability (including pricing and reimbursement).

1.09 "Development" or **"Develop"** shall mean all preclinical research and development activities and all clinical drug development activities, including, among other things: drug discovery, toxicology, formulation, statistical analysis and report writing, conducting clinical trials for the purpose of obtaining and maintaining Marketing Authorization (including without limitation, post-marketing studies), and regulatory affairs related to all of the foregoing. Development shall include all clinical studies (including Phase III-B) that are primarily intended to support or maintain a Marketing Authorization, maintain a label or obtain any label change, but shall exclude Commercialization Studies.

1.10 "Field" shall mean the prevention, diagnosis and/or treatment of all disease in humans.

1.11 "First Commercial Sale" shall mean, with respect to a particular Licensed Product in a particular country in the Territory, the first commercial sale of such Licensed Product to a Third Party for end use or consumption in such country in an arm's length transaction by Licensee, its Affiliates or sublicensee in the Field after the receipt of Marketing Authorization in such country. Sales for test marketing, sampling and promotional uses, Clinical Trial purposes or compassionate or similar use shall not be considered to constitute a First Commercial Sale.

1.12 "Generic Product" means, with respect to a particular Licensed Product in a country, a generic or biosimilar pharmaceutical product, that is not produced, licensed or owned by Licensee or any of its Affiliates, that: (a) contains the same, or a bioequivalent of the, active ingredient as a Licensed Product; and (b) is approved for use in such country by a regulatory authority through a regulatory pathway by referencing clinical data first submitted for obtaining regulatory approval for such Licensed Product. Generic Product includes any pharmaceutical products obtained via a bioequivalence or bioavailability showing such as those covered by section 505(b)(2) or under 5050(j) of the U.S. Federal Food, Drug, and Cosmetic Act or an equivalent outside the United States.

1.13 "Good Clinical Practices" shall mean the then current Good Clinical Practices as such term is defined from time to time by the United States Food and Drug Administration (**"FDA"**), or analogous set of regulations, guidelines or standards as defined by other relevant Regulatory Authority having jurisdiction over the Development, Manufacture or sale of Licensed Product in a particular jurisdiction of the Territory, if and to the extent the Development, Manufacture or sale of Licensed Product takes place in such jurisdiction.

1.14 "Good Laboratory Practices" shall mean the then current good laboratory practice regulations of the FDA as described in the United States Code of Federal Regulations (**"CFR"**) or analogous set of regulations, guidelines or standards as defined by other relevant Regulatory Authority having jurisdiction over the Development, Manufacture or sale of Licensed Product in a particular jurisdiction of the Territory, if and to the extent the Development, Manufacture or sale of Licensed Product takes place in such jurisdiction.

1.15 "Good Manufacturing Practices" shall mean the then current Good Manufacturing Practices as such term is defined from time to time by the FDA or analogous set of regulations, guidelines or standards as defined by other relevant Regulatory Authority having jurisdiction over the Development, Manufacture or sale of Licensed Compound or Licensed Product in a particular jurisdiction of the Territory, if and to the extent the Development, Manufacture or sale of Licensed Compound or Licensed Product takes place in such jurisdiction.

1.16 "IND" shall mean an investigational new drug application with respect to the Licensed Product filed with the FDA for beginning Clinical Trials in humans, or any comparable application filed with the Regulatory Authorities of a country other than the United States prior to beginning Clinical Trials in humans in that country, as well as all supplements or amendments filed with respect to such filings.

1.17 "Kappa Opioid Receptor Antagonist" shall mean an opioid receptor antagonist or inverse agonist which selectively targets kappa opioid receptors, but shall not include opioid receptor antagonists or inverse agonists with mixed or nonselective pharmacological actions.

1.18 "Know-How" shall mean scientific and technical information, trade secrets and data used or generated and owned or controlled, by a Party or on behalf of a Party, which are based on, derived from, or are directed to the Lilly Patent Rights with respect to Lilly Know-How, Licensee Patent Rights with respect to Licensee Know-How, Licensed Compounds or Licensed Products, or the manufacture or use of the foregoing, that are not in the public domain, including but not limited to (a) unpatented ideas, discoveries, inventions, or improvements, (b) information related to methods, procedures, formulas, processes, tests, assays, techniques, regulatory requirements and strategies useful in the development, testing, or analysis of the Licensed Compounds or Licensed Products, (c) medicinal chemistry, medical, pre-clinical, toxicological biological, chemical, pharmacological, safety, manufacturing and quality control data or other scientific data and information related thereto, and (iv) drawings, plans, designs, diagrams, sketches, specifications or other documents containing or relating to such information.

1.19 "Licensee" shall have the meaning given to such term in the preamble of this Agreement.

1.20 "Licensee Know-How" shall mean Know-How developed by Licensee and/or any of its Affiliates or sublicensees after the Effective Date pursuant to this Agreement that is necessary for the Development, Commercialization or Manufacture of Licensed Compound or Licensed Product.

1.21 "Licensee Patent Rights" shall mean those patents and patent applications including all (a) continuations, continuations-in-part, divisionals and substitute applications with respect to any such patent applications; (b) patents issued based on or claiming priority to any such patent applications; (c) any reissue, reexamination, renewal, extension (including any supplemental protection certificate) or restoration of any such patents; (d) any confirmation patent or registration patent or patent of addition based on any such patents; (e) foreign counterparts and (f) any other patents and patent applications that dominate the foregoing patents, that (x) are owned by Licensee as of the effective date of termination of this Agreement, and (y) claim the Licensed Compound or Licensed Product or their use, composition, formulation, preparation or manufacture.

1.22 "Licensed Compound" shall mean those compounds listed in *Schedule 1.23*, including salts, esters, metabolites, prodrugs, acid forms, base forms, steroisomers, racemates, tautomers, polymorphs, solvates, hydrates and crystalline forms thereof.

1.23 "Licensed Product" shall mean any pharmaceutical product containing a Licensed Compound, including all dosage forms, formulations and line extensions thereof, including, without limitation, a Combination Product, except for calculation of Net Sales in *Section 1.32*.

1.24 "Lilly" shall have the meaning given to such term in the preamble to this Agreement.

1.25 "Lilly Know-How" shall mean the Know-How (a) owned or controlled by Lilly and/or any of its Affiliates as of the Effective Date, and/or (b) controlled by Lilly pursuant to a written agreement between Lilly and a Third Party executed during the Term for which Licensee has elected to pay Third Party License Expenses in accordance with Section 2.06, in each of (a) and (b) that was (i) used or generated by or on behalf of Lilly or its Affiliates prior to the Effective Date in the Development or Manufacture of Licensed Compound or Licensed Product or (ii) that is necessary or useful for the Development, Commercialization or Manufacture of Licensed Compound or Licensed Product. Lilly Know-How shall include without limitation the Know-How that is listed on *Schedule 1.26* or is otherwise provided to Licensee by Lilly under this Agreement.

1.26 "Lilly Patent Rights" shall mean solely (a) those patents and patent applications listed in Schedule 1.27, and/or (b) those patent and patent applications controlled by Lilly pursuant to a written agreement between Lilly and a Third Party executed during the Term for which Licensee has elected to pay Third Party License Expenses in accordance with Section 2.06, and in each of (a) and (b) all of Lilly's rights together with all inventions disclosed or claimed therein or covered thereby including all (i) continuations, continuations-in-part, divisionals and substitute applications with respect to any such patent applications; (ii) patents issued based on or claiming priority to any such patent applications; (iii) any reissue, reexamination, renewal, extension (including any supplemental protection certificate) or restoration of any such patents; (iv) any confirmation patent or registration patent or patent of addition based on any such patents; (v) foreign counterparts and (vi) any other patents and patent applications that dominate the foregoing patents.

1.27 "Major European Country" shall mean each of France, Germany, Italy, Spain or the United Kingdom.

1.28 "Manufacture" shall mean all activities related to the manufacturing of a pharmaceutical product, or any ingredient thereof, including but not limited to test method development and stability testing, formulation, process development, manufacturing for use in non-clinical or clinical studies, manufacturing scale-up, manufacturing Licensed Compound or Licensed Product quality assurance/quality

control development, quality control testing (including in-process release and stability testing), packaging, release of product or any component or ingredient thereof, quality assurance activities related to manufacturing and release of product, and regulatory activities related to all of the foregoing.

1.29 "Marketing Authorization" shall mean, with respect to each country in the Territory, the receipt of all approvals from the relevant Regulatory Authority necessary to market and sell a Licensed Product in any country (including without limitation all applicable Price Approvals even if not legally required to sell Licensed Product in a country).

1.30 "NDA" shall mean a New Drug Application, Marketing Application Authorization, filing pursuant to Section 510(k) of the of the Food, Drug and Cosmetic Act, or similar application or submission for Marketing Authorization of a Licensed Product filed with a Regulatory Authority to obtain Marketing Authorization for a pharmaceutical or diagnostic product in that country or in that group of countries.

1.31 "Net Sales" shall mean with respect to a Licensed Product, the gross amount invoiced by *Licensee* (including a *Licensee* Affiliate) or any sublicensee thereof to unrelated Third Parties, excluding any sublicensee, for the Licensed Product in the Territory, less the following items consistent with U.S. Generally Accepted Accounting Principles consistently applied:

a) Trade, quantity and cash discounts allowed;

b) Discounts, refunds, rebates, chargebacks, retroactive price adjustments, and any other allowances which effectively reduce the net selling price;

c) Licensed Product returns, rejections, damaged goods and allowances; and

d) Tariffs, duties, excise, sales, value-added and other similar taxes (other than taxes based on income), customs duties or other government charges, in each case imposed on the sale of Licensed product to the extent included in the price and separately itemized on the invoice, including VAT, but only to the extent that such VAT are not reimbursable or refundable.

Disposition of Licensed Product for, or use of the Licensed Product in, clinical trials or other scientific testing, as free samples, or under compassionate use, patient assistance, or test marketing programs or other similar programs or studies where a Licensed Product is supplied without any charge shall not result in any Net Sales.

Such amounts shall be determined from the books and records of *Licensee*, affiliates of Licensee or any sublicensee maintained in accordance with U. S. Generally Accepted Accounting Principles consistently applied. *Licensee* further agrees in determining such amounts, it will use *Licensee*'s then current standard procedures and methodology, including *Licensee* 's then current standard exchange rate methodology for the translation of foreign currency sales into U.S. Dollars.

In the event that the Licensed Product is sold as part of a Combination Product (where "Combination Product" means any pharmaceutical product which comprises the Licensed Product and other pharmaceutically active compound(s) and/or ingredients), the Net Sales of the Licensed Product, for the purposes of determining royalty payments, shall be determined by multiplying the Net Sales of the Combination Product (as defined in the standard Net Sales definition) by the fraction, A / (A+B) where A is the weighted average sale price of the Licensed Product when sold separately in finished form, and B is the weighted average sale price of the other product(s) sold separately in finished form.

In the event that the weighted average sale price of the Licensed Product can be determined but the weighted average sale price of the other product(s) cannot be determined, Net Sales for purposes of determining royalty payments shall be calculated by multiplying the Net Sales of the Combination Product by the fraction A / C where A is the weighted average sale price of the Licensed Product when sold separately in finished form and C is the weighted average sale price of the Combination Product.

In the event that the weighted average sale price of the other product(s) can be determined but the weighted average sale price of the Licensed Product cannot be determined, Net Sales for purposes of determining royalty payments shall be calculated by multiplying the Net Sales of the Combination Product by the following formula: one (1) minus (B / C) where B is the weighted average sale price of the other product(s) when sold separately in finished form and C is the weighted average sale price of the Combination Product.

In the event that the weighted average sale price of both the Licensed Product and the other product(s) in the Combination Product cannot be determined, the Parties shall negotiate in good faith and agree on another, commercially reasonable means of calculating Net Sales with respect to such Combination Product that fairly reflects the relative contribution, to the total market value of such Combination Product, of the Licensed Product in the Combination Product.

The weighted average sale price for a Licensed Product, other product(s), or Combination Product shall be calculated once each Calendar Year and such price shall be used during all applicable royalty reporting periods for the entire following Calendar Year. When determining the weighted average sale price of a Licensed Product, other product(s), or Combination Product, the weighted average sale price shall be calculated by dividing the sales dollars (translated into U.S. dollars) by the units of active ingredient sold during the twelve (12) months (or the number of months sold in a partial calendar year) of the preceding Calendar Year for the respective Licensed Product, other product(s), or Combination Product. In the initial Calendar Year, a forecasted weighted average sale price will be used for the Licensed Product, other product(s), or Combination Product. Any over or under payment due to a difference between forecasted and actual weighted average sale prices will be paid or credited in the first royalty payment of the following Calendar Year.

1.32 "Party" or **"Parties"** shall have the meaning given to such term in the preamble to this Agreement.

1.33 "Phase I Clinical Trial" shall mean a clinical trial of a Licensed Product in human patients at single and multiple dose levels with the primary purpose of determining safety, metabolism, and pharmacokinetic and pharmacodynamic properties of such Licensed Product, and which is consistent with 21 U.S. CFR § 312.21(a). For the avoidance of doubt, a Phase I Clinical Trial may include studies of the Licensed Compounds with chemotherapy agents to determine combination doses thereof.

1.34 "Phase II Clinical Trial" shall mean a clinical trial of a Licensed Product in human patients, the principal purposes of which are to make a preliminary determination that the Licensed Product is safe for its intended use, to determine its optimal dose, and to obtain sufficient information about such Licensed Product's efficacy to permit the design of Phase III Trials, and which is consistent with 21 U.S. CFR § 312.21(b).

1.35 "Phase III Clinical Trial" shall mean a clinical trial of a Licensed Product in human patients, which trial is designed (a) to establish that the Licensed Product is safe and efficacious for its intended use, (b) to define warnings, precautions and adverse reactions that are associated with such Licensed

Product in the dosage range to be prescribed, (c) to be, either by itself or together with one or more other Clinical Trials having a comparable design and size, the final human Clinical Trial in support of Marketing Authorization of such Licensed Product, and (d) consistent with 21 U.S. CFR § 312.21(c). "Phase III Trial" shall not include a Phase IIIb Trial.

1.36 "Phase IIIb Clinical Trial" shall mean a clinical trial of a Licensed Product in human patients, which provides for product support (i.e., a clinical trial which is not required for receipt of initial Marketing Authorization but which may be useful in providing additional drug profile data or in seeking a label expansion) commenced before receipt of Marketing Authorization for the indication for which such trial is being conducted.

1.37 "Price Approval" shall mean the approval or determination by a Regulatory Authority for the pricing or pricing reimbursement for a pharmaceutical product.

1.38 "Proprietary Information" shall mean, as applicable, unpublished patent applications, Know-How and all other scientific, clinical, regulatory, marketing, financial and commercial information or data, whether communicated in writing, verbally or electronically, that is provided by one Party to the other Party in connection with this Agreement. All Know-How and other information disclosed by or on behalf of either Party pursuant to the Mutual Confidential Disclosure Agreement between Lilly and Licensee dated September 25, 2014 (the **"Confidentiality Agreement"**) shall be deemed to be Party's Proprietary Information disclosed hereunder. The Parties agree that, effective as of the Effective Date, the Confidentiality Agreement shall be terminated, and superseded by this Agreement in its entirety.

1.39 "Regulatory Authority" shall mean any United States federal, state, or local government, or any foreign government, or political subdivision thereof, or any multinational organization or authority or any authority, agency or commission entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power, any court or tribunal (or any department, bureau or division thereof), or any governmental arbitrator or arbitral body with responsibility for granting licenses or approvals, including Marketing Authorizations, necessary for the marketing and sale of the Licensed Product in any country.

1.40 "Related Party" shall mean each of Licensee, its Affiliates, and their respective sublicensees (which term does not include distributors), as applicable.

1.41 "Territory" shall mean the entire world.

1.42 "Third Party" shall mean an entity other than Lilly and its Affiliates and Licensee and its Related Parties.

1.43 "Valid Patent Claim" shall mean a claim of an issued and unexpired patent included within the Lilly Patent Rights, that has not been revoked or held unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and that has not been disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer.

ARTICLE II — LICENSE

2.01 License Grant. Subject to the terms and conditions of this Agreement, Lilly hereby grants to Licensee and its Affiliates an exclusive, even as to Lilly and its Affiliates, transferrable as provided herein, royalty bearing license in the Territory in the Field, with the right to grant sublicenses (through

multiple tiers) as provided herein, under the Lilly Patent Rights and the Lilly Know-How to research, develop, make, have made, use, import, offer for sale and sell the Licensed Compounds and Licensed Products in the Field in the Territory during the Term.

2.02 No Non-Permitted Use. Licensee hereby covenants that it shall not, nor shall it cause or authorize, provide material support to or encourage any Affiliate or sublicensee to knowingly use or practice, directly or indirectly, any Lilly Know-How or Lilly Patent Rights for any purposes other than those expressly permitted by this Agreement.

2.03 No Other Licenses. Neither Party grants to the other Party any rights or licenses in or to any intellectual property, whether by implication, estoppel, or otherwise, other than the license rights that are expressly granted under this Agreement.

2.04 Sublicenses. Beginning after **[**]** of the Effective Date, Licensee may sublicense its rights under *Section 2.01* to one or more Third Parties, to the extent necessary or useful to enable such Third Parties to research, develop, make, have made, use, import, offer for sale or sell Licensed Compound(s) or Licensed Product(s) in the Field in the Territory, and subject to the conditions of this *Section 2.04*.

(a) Licensee shall remain responsible for its sublicensees' performance under this Agreement.

(b) Licensee shall provide, in the Development Report required pursuant to *Section 3.03*, a list of any sublicensees granted a sublicense during the preceding twelve (12) months. At Lilly's request, Licensee shall provide to Lilly a copy of any sublicense agreement.

(c) Each and every sublicense granted by Licensee to a sublicensee must be in a written agreement, in English, executed by the sublicensee and giving its place of business. In addition, each and every such sublicense must be consistent with those terms of this Agreement which are applicable to that portion of the Field and/or Territory to which the sublicensee has been granted rights, including, without limitation, must require the sublicensee to abide by confidentiality and non-use obligations at least as stringent as those contained in Article IX of this Agreement.

(d) In the event that that this Agreement is terminated in its entirety by Licensee pursuant to *Section 12.02* or Lilly for any reason as permitted under the Agreement, each sublicense granted by Licensee will survive such termination (as a direct license from Lilly), subject to *Section 12.06*, provided that Lilly has agreed following such termination and/or in connection therewith that the sublicensee is acceptable to Lilly.

2.05 Exclusivity. For a period of **[**]** years following the Effective Date, Lilly shall not, and shall ensure that none of its Affiliates will, either by itself or through collaboration with a Third Party, conduct human clinical studies, manufacture or commercialize anywhere in the Territory any product containing or comprising a selective Kappa Opioid Receptor Antagonist (such product, a **"Competing Product"**). In the event that Lilly is acquired by or merges with a Third Party that is engaged in active development or commercialization of a Competing Product at the closing of such acquisition or merger, then Lilly shall not be deemed to be in breach of this *Section 2.05* with respect to any such Competing Product, and the terms of this *Section 2.05* will not apply in any way to limit or restrict, by or on behalf

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of a Party or its Affiliates, the development, use, manufacture, marketing, sale, promotion or commercialization of any such Competing Product that as of the date of closing of such acquisition or merger was controlled by such Third Party acquiror.

2.06 Third Party Licenses. During the Term, if Lilly obtains a license for any Patent rights or Know-how from a Third Party that would be included within the scope of the Lilly Patent Rights or Lilly Know-How for which payments would be due to such Third Party on account of such license, then Lilly, provided it has the legal right to do so, shall notify Licensee, identifying the relevant patent rights or Know-how. If Licensee provides Lilly with written notice in which (a) Licensee consents to including such patent rights or Know-how as Lilly Patent Rights or Lilly Know-How under this Agreement and (b) Licensee agrees to be responsible for (i) all royalty payments due on account of a Licensed Product and all other current and future payments specific to one or more License Products, and (ii) its pro rata share of current and future payments which are reasonably applicable to both Licensed Products and other products or services offered by Lilly or its licensees of such patents rights and/or Know-How, in each of (i) and (ii) due to such Third Party on account of the use of such patent rights or Know-how in connection with the use, sale, offer for sale, importation, and development, manufacture or commercialization of any Licensed Product in the Field (**"Third Party License Expenses"**), then, if legally permissible, such patent rights or Know-how, as applicable, will be deemed Lilly Patent Rights or Lilly Know-How hereunder, as applicable. Licensee shall have the discretion to terminate its license under the Third Party License at any time and upon thirty (30) days' written notice to Lilly provided that Licensee shall be responsible for all Third Party License Expenses due and owing prior to the effective date of such termination and shall be responsible for a proportional share of any subsequent liability to the extent directly resulting from such termination.

2.07 Section 365(n) of the Bankruptcy Code. All rights and licenses granted under or pursuant to any section of this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101(35A) of the Bankruptcy Code. Each Party shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code or equivalent legislation in any other jurisdiction. Upon the bankruptcy of either Party, the other Party shall further be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property, and such, if not already in its possession, shall be promptly delivered to such other Party, unless the Party in bankruptcy elects to continue, and continues, to perform all of its obligations under this Agreement.

ARTICLE III — DEVELOPMENT AND COMMERCIALIZATION

3.01 Overview. As of the Effective Date, Licensee shall be solely responsible for the Development and Commercialization, including all costs thereof, of the Licensed Product in the Field in the Territory. Licensee shall perform all of its Development activities consistent with the IND for the Licensed Product and in accordance with all applicable laws, rules and regulations.

3.02 Development and Commercialization Plans.

(a) Initial Development Plan. An initial Development plan for the Licensed Product in the Field in the Territory is attached hereto as *Attachment 3.02(a)* (as may be amended in accordance with this Agreement, the **"Development Plan"**).

(b) **Annual Development Plan**. Not later than sixty (60) days after December 31 of each Calendar Year, Licensee shall submit to Lilly an updated Development Plan for the pending Calendar Year. Such update shall take into account the anticipated Development activities, for the applicable development period, of Licensee or a Related Party for the Development of Licensed Product in the Field. Lilly shall have the right to comment on such annual plan, provided, however, that Licensee shall not be obligated to incorporate such Lilly comments and Licensee retains final decision making authority with respect to all such plans.

(c) **Performance**. Licensee shall perform, and shall ensure that its Affiliates, sublicensees, and Third Party contractors perform, the activities described in the Development Plan in a professional manner and in compliance with, to the extent applicable, Good Laboratory Practices, Good Clinical Practices and/or Good Manufacturing Practices and in compliance with all other applicable laws, rules, and regulations.

3.03 Development Reports. Licensee shall submit to Lilly, every twelve (12) months after the Effective Date until the First Commercial Sale, a written report in reasonably sufficient detail describing the research, development and manufacturing progress of Licensee or a Related Party for Licensed Compounds and/or Licensed Products during the previous twelve (12) month period, as well as a list of any sublicensees granted during the preceding twelve (12) months. All such reports shall be considered Proprietary Information of Licensee.

3.04 Commercialization. Licensee shall provide Lilly with the anticipated commercial launch of each Licensed Product in a country for which NDA (or foreign equivalent) and Marketing Authorization has been obtained.

3.05 Commercialization Reports. Licensee shall submit to Lilly, every twelve (12) months after First Commercial Sale of a Licensed Product, a written report in reasonably sufficient detail describing the general commercialization progress of Licensee or a Related Party for Licensed Compounds and/or Licensed Products during the previous twelve (12) month period, including a list all ongoing Commercialization Studies and the status of such studies in the United States, the Major European Countries and Japan.

3.06 [**]

3.07 Subcontracting. Consistent with the provisions of this Agreement, Licensee may perform any activities in support of its development and commercialization of Licensed Compounds and Licensed Products through subcontracting to its Affiliates or Third Parties, including Third Party subcontractors, contract service organizations, and academic or government collaborators.

ARTICLE IV — TRANSFER OF LILLY KNOW-HOW & EXISTING STUDIES

4.01 Materials and Regulatory Filings Transfer.

(a) Promptly following the Effective Date, but in any event, within **[**]** days thereof: (i) Lilly will provide Licensee with the Licensed Compounds listed in *Schedule 1.23* and Lilly Know-How listed in *Schedule 1.26*; and (ii) Lilly shall transfer to Licensee, in a mutually agreed manner,

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the quantities of available physical inventory of Licensed Compounds solely as listed in *Schedule 1.23* and shall inform Licensee in writing as to the quantities of such physical inventory that are in compliance with Good Manufacturing Practices; provided that the quantities listed are general guidance estimates only of the amounts currently anticipated to be available for shipping from Lilly. Such inventory shall only be used in preclinical work in accordance with the license grant in *Section 2.01* herein and to the extent that such inventory was not recertified by Lilly as compliant with Good Manufacturing Practices, shall not be used for clinical or commercial purposes. Lilly shall have no responsibility to recertify or re-test any physical inventory to be provided under the Agreement, including if it is beyond its dating period (i.e., the material may require additional stability data and/or analytical testing prior to use, given its age). Lilly shall provide the reports and data as described in *Schedule 1.26* in a single copy in electronic format if available otherwise in paper. Lilly shall be responsible for all costs associated with transfer of Lilly Know-How.

(b) Promptly following the Effective Date, but in any event, within **[**]** days thereof, Lilly shall transfer to Licensee the existing INDs and other drug approval applications covering the Licensed Product in electronic format if available, otherwise in paper. Lilly hereby assigns all right, title and interest in any to the foregoing INDs and drug approval applications to Licensee. All further submissions to any Regulatory Authorities relating to such drug approval applications and/or INDs shall be filed in the name of and owned by Licensee or its Affiliates. Licensee or its Affiliates shall own and/or hold all Marketing Authorizations for Licensed Product throughout the Territory. Licensee shall be responsible for ensuring the IND transfer is done properly.

(c) Promptly following the Effective Date, but in any event, within **[**]** days thereof, Lilly shall transfer to Licensee one (1) copy of the material documents and records that have been generated by or on behalf of Lilly with respect to any existing INDs and other drug approval applications covering the Licensed Product in the Territory, as well as any material correspondence between Lilly and Regulatory Authorities related to Licensed Product in electronic format if available.

(d) Licensee shall be responsible for overseeing, monitoring and coordinating all regulatory actions, communications and filings with, and submissions to, the FDA and other Regulatory Authorities in the Territory with respect to Licensed Product.

(e) Licensee shall be solely responsible for interfacing, corresponding and meeting with the FDA and other regulatory authorities throughout the Territory with respect to Licensed Product.

(f) Licensee shall provide to Lilly a table report on an annual basis that contains the status of Marketing Authorizations for the Licensed Product in the Territory.

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(g) In the event that any Regulatory Authority (a) threatens or initiates any action to remove a Licensed Product from the market in any country in the Field in the Territory or (b) requires Licensee, its Affiliates, or its sublicensees to distribute a "Dear Doctor" letter or its equivalent regarding use of Licensed Product in the Field, Licensee shall notify Lilly of such event within three (3) business day after Licensee becomes aware of the action, threat, or requirement (as applicable). Licensee shall keep Lilly reasonably informed with respect to any recall or withdrawal of Licensed Product in the U.S., Japan, or a Major European Country; provided, however, that the final decision as to whether to recall or withdraw a Licensed Product in the Territory shall be made by Licensee in its sole discretion. Licensee shall be responsible, at its sole expense, for conducting any recalls or taking such other necessary remedial action. Lilly shall, at the request and reasonable expense of Licensee, cooperate with Licensee (including providing assistance and support) on any recall or withdrawal of Licensed Product to the extent necessary to comply with applicable laws, rules and regulations or any requirements by the Regulatory Authority.

4.02 Pharmacovigilance and Product Complaints.

(a) Following the transfer of any INDs related to Licensed Product from Lilly to Licensee, Licensee shall be solely responsible for the collection, review, assessment, tracking and filing of information related to adverse events (**"AEs"**) associated with Licensed Product, in accordance with 21 CFR 312.32, 314.80 and comparable regulations, guidance, directives and the like governing AEs associated with Licensed Product that are applicable outside of the United States.

(b) Within **[**]** days of the Effective Date, Lilly will provide Licensee with all AEs reports, copies of all study reports of completed studies (including copies of the protocols), and copies of all available interim study analyses, as they may already exist, of all ongoing studies for Licensed Product (including copies of protocols) to the extent not previously provided to Licensee. In furtherance of the foregoing, Lilly shall transfer to Licensee any available relevant information, in a format mutually agreed by the Parties, regarding adverse events that have been observed during any clinical trials conducted with respect to Licensed Product prior to the Effective Date.

(c) Within a reasonable period of time following receipt of all such information described in this *Section 4.02*, and in no event later than forty-five (45) days after the receipt of such information, Licensee shall assume responsibility for maintaining a global safety database for Licensed Product consistent with industry practices.

(d) Licensee will be responsible to notify Lilly of any product complaints (non-AEs) associated with material supplied by Lilly. Lilly will be responsible to support the investigation of the product complaints as it relates to the activities conducted by Lilly and share the results of the investigation with Licensee.

4.03 Existing Studies. Without limiting Section 11.02, as between the Parties, Cerecor shall assume all responsibility going forward for studies by Third Parties that exist as of the Effective Date

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("Existing Studies"). Cerecor shall be responsible for all future conduct of the Existing Studies, including additional drug product supplies and drug product stability studies, and all requirements of Applicable Law, including regulatory requirements such as recording, investigating, summarizing, notifying, reporting and reviewing all AEs and other reportable occurrences and inquiries associated with Products in accordance with Applicable Laws and shall adhere to all requirements of Applicable Laws related to the reporting and investigation of AEs and other reportable occurrences and inquiries.

4.04 Reasonable Cooperation. From time to time during the Term, and without limiting Lilly's obligations hereunder, at Licensee's reasonable request, Lilly shall reasonably cooperate with Licensee and shall (a) furnish such further information in Lilly's possession not previously furnished, but otherwise required to be furnished by Lilly to Licensee pursuant to this Agreement, (b) execute and deliver, or cause to be executed and delivered, such other instruments of conveyance and transfer, certificates, deeds or other documents, (c) use reasonable efforts to deliver any additional materials deliverable under this Agreement not previously transferred to Licensee, (d) use reasonable efforts to require its agents and consultants to be reasonably available to Licensee (or its authorized attorneys, agents, or representatives) to the extent reasonably necessary to enable Licensee to help facilitate document transfer, and (e) take, or cause to be taken, all other reasonable actions as promptly as practicable as Licensee may reasonably request in order to comply with applicable Laws or to effectively consummate the transfer, assignment and grant of license as contemplated by this Agreement. Licensee shall compensate Lilly for reasonable expenses and costs, for any activities undertaken by Lilly at Licensee's request pursuant to this *Section 4.04*, unless such activities should have been taken as required under this Agreement.

ARTICLE V — DILIGENCE

5.01 Generally. Licensee shall use Commercially Reasonable Efforts to Develop and Commercialize (following Regulatory Approval) at least one Licensed Compound or Licensed Product in the Field in the United States, a Major European Country or Japan, whether alone or with or through one (1) or more Related Party.

5.02 Understanding Regarding Diligence. It is understood and agreed that the obligation of Licensee to use Commercially Reasonable Efforts with respect to the development of any specific Licensed Compound or Licensed Product under *Section 5.01* of this Agreement is expressly subject to the continuing absence of any materially adverse condition or event relating to the safety or efficacy of the Licensed Compound or Licensed Product, and the specific tasks that Licensee shall undertake to develop or market any such Licensed Compound or Licensed Product, in compliance with such Commercially Reasonable Efforts obligation, shall be modified or delayed as may be required in Licensee's reasonable opinion in order to address any such materially adverse condition or event so long as any such condition or event exists.

ARTICLE VI — MANUFACTURING

6.01 Manufacturing Responsibility. After the Effective Date, Licensee will be responsible for the manufacturing and any ongoing or future stability studies related to the Licensed Compound and Licensed Product for use by Licensee, its Affiliates and its sublicensees in the Field in the Territory.

6.02 Transfer of Know-How. Lilly shall, pursuant to *Section 4.01(a)*, transfer to Licensee, or a Third Party manufacturer designated by Licensee, all Lilly Know-How that is reasonably necessary or

useful to enable Licensee or its Third Party manufacturer to Manufacture the Licensed Compound or Licensed Product. In addition, as reasonably requested by Licensee, during a period of twelve (12) months following the Effective Date, Lilly shall make Lilly's personnel and/or consultants available to Licensee, at no additional cost or expense to Licensee, to provide reasonable technical support and assistance for up to **[**]** hours. After such transfer period, Lilly may provide, upon reasonable request by Licensee, technical consultation and Licensee shall reimburse Lilly for the cost of Lilly's out-of-pocket expenses and such time or hours at an FTE rate of **[**]** per hour for all Lilly personnel consultation hours. Lilly shall act reasonably in considering any request by Licensee for such consultation.

ARTICLE VII — PAYMENTS; ROYALTIES AND REPORTS

7.01 Consideration for License. In consideration for the license granted hereunder, Licensee shall pay to Lilly a non-refundable, non-creditable, upfront payment of one million U.S. dollars ($1,000,000.00), seven hundred fifty thousand U.S. dollars ($750,000.00) of which shall be due within thirty (30) days of the Effective Date of this Agreement, and the remaining balance of two hundred fifty thousand U.S. dollars ($250,000.00) payable within thirty (30) days of completion of the final study report for the 9-month chronic toxicology study to be conducted by Licensee in non-human primates.

7.02 Milestone Payments.

(a) Development and Commercialization Milestone Payments. Subject to the terms and conditions of this Agreement and in further consideration for the license granted herein, Licensee shall make each of the following one-time, non-refundable, non-creditable milestone payments to Lilly for the first Licensed Product to achieve such milestone:

Milestone Event	Amount Due
The earlier of: (i) filing and acceptance of an NDA or equivalent for a Licensed Product in the United States	$[**]
NDA approval for a Licensed Product in the United States	$[**]
NDA approval or equivalent for a Licensed Product by the European Medicines Agency or in any Major European Country	$[**]
NDA approval or equivalent for a Licensed Product in Japan	$[**]
First Commercial Sale of a Licensed Product in the United States	$[**]
First Commercial Sale of a Licensed Product in a Major European Country	$[**]
First Commercial Sale of a Licensed Product in Japan	$[**]

(b) Aggregate Net Sales Milestone Payments. Subject to the terms and conditions of this Agreement and in further consideration for the license granted herein, Licensee shall make each of the following one-time, non-refundable, non-creditable milestone payments to Lilly the first time the aggregate Net Sales of all Licensed Products meets or exceeds the following thresholds:

- **[**]** U.S. dollars ($**[**]**) at the end of the first calendar year in which aggregate Net Sales for Licensed Products in such calendar year exceeds $**[**]** million; and

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- **[**]** U.S. dollars ($**[**]**) at the end of the first calendar year in which aggregate Net Sales for Licensed Products in such calendar year exceeds $**[**]** billion.

(c) **Notice and Payment**. Licensee shall notify Lilly in writing within ten (10) business days after the achievement of each such milestone event by Licensee, its Affiliates or a sublicensee giving rise to a payment obligation under this *Section 7.02* and Licensee shall pay Lilly the indicated amount no later than forty-five (45) days after such notification to Lilly.

7.03 Royalties.

(a) **Royalty Rates**. Subject to the terms and conditions of this Agreement, Licensee shall pay to Lilly royalties on Net Sales made by Licensee, its Affiliates or sublicensees of any Licensed Product commencing upon the First Commercial Sale of a Licensed Product in a particular country in the Territory and will continue on a Licensed Product-by-Licensed Product and coun- try-by-country basis until the later of (i) the expiration of the last to expire Valid Patent Claim covering a Licensed Product in such country, or (ii) 11 (eleven) years from First Commercial Sale of the Licensed Product in such country, at tiered rates set forth for the U.S. and tiered rates set forth for the portion of ex- U.S. Net Sales as follows:

- For the first $**[**]** U.S. dollars of annual U.S. Net Sales for such Licensed Product: **[**]**; and

- For the portion of U.S. dollars of annual U.S. Net Sales for such Licensed Products greater than $**[**]** but less than or equal to $**[**]**, [**]; and

- For the portion of U.S. dollars of annual U.S. Net Sales for such Licensed Products greater than $**[**]**, **[**];** and

- For the first $**[**]** U.S. dollars of annual total ex-U.S. Net Sales for such Licensed Product: **[**]**., and

- For the portion of U.S. dollars of annual total ex-U.S. Net Sales greater than $**[**]** U.S. dollars but less than or equal to $**[**]**: **[**]**., and

- For the portion of U.S. dollars of annual total ex-U.S. Net Sales greater than $**[**]** U.S. dollars: **[**]**.

(b) **Third Party Licenses — Royalty Offset**. Should Licensee be required to enter into a third party license agreement for a patent that is necessary to Develop, manufacture and/or Commercialize Licensed Compounds and/or Licensed Products contemplated by this Agreement, Licensee may offset royalty payments due hereunder by fifty (50) percent of the amounts due under such third party license agreement, provided, that under no circumstance will the royalties due to Lilly be offset by more than fifty (50) percent of the royalties owed to Lilly.

(c) **Early Generic Product Entry**. For a given Licensed Product, if in a given country within the Territory entry of a Generic Product has occurred and subsequently the sales of the Licensed Product have declined by (i) twenty-five percent (25%) or more as compared to the two consecutive Calendar Quarters immediately prior to such Generic Product entry, then the royalty payments due to Lilly for such Licensed Product in such country shall be reduced by

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fifty percent (50%) and/or (ii) seventy-five percent (75%) or more compared to the two consecutive Calendar Quarters immediately prior to such Generic Product entry, then no further royalty payments shall be due to Lilly for such Licensed Product in such country. Such reduction shall be first applied with respect to such country starting with sales in the Calendar Quarter following the entry of such Generic Product.

7.04 Reports; Payment of Royalty; Payment Exchange Rate and Currency Conversions.

(a) **Royalties Paid Quarterly**. Licensee shall keep (and shall cause its affiliates and requires its sublicensees to keep) complete and accurate books and records that are necessary to ascertain and verify the payments owed hereunder. Within forty-five (45) calendar days following the end of each Calendar Quarter, following the First Commercial Sale of a Licensed Product, Licensee shall furnish to Lilly a written report for the Calendar Quarter showing the Net Sales by country of Licensed Product sold by Licensee and its Related Parties in the Territory during such Calendar Quarter and the royalties payable by country due on such Net Sales under this Agreement for such Calendar Quarter. Licensee shall provide Lilly with a sales forecast for the subsequent 8 quarters. Licensee will mail such reports to the attention of: Eli Lilly and Company, Lilly Royalty Administration in Finance, Drop Code 1064, Lilly Corporate Center, Indianapolis, Indiana, 46285. Simultaneously with the submission of the written report, Licensee shall pay to Lilly the royalty due for such Calendar Quarter calculated in accordance with this Agreement.

(b) **Method of Payment**. All payments to be made by Licensee to Lilly under this Agreement shall be paid by bank wire transfer in immediately available funds to such bank account as is designated in writing by Lilly from time to time. Royalty payments shall be made in United States dollars using the rate of exchange as defined in 1.31 Net Sales.

7.05 Maintenance of Records; Audits.

(a) **Record Keeping by Licensee**. Licensee shall keep complete and accurate records in sufficient detail to enable the royalties payable hereunder to be determined. Upon thirty (30) days prior written notice from Lilly, shall permit an independent certified public accounting firm of nationally recognized standing selected by Lilly and reasonably acceptable to Licensee, at Lilly's expense, to have access during normal business hours to examine the pertinent books and records of Licensee, its Affiliates and/or subs as may be reasonably necessary to verify the accuracy of the royalty reports hereunder. The examination shall be limited to the pertinent books and records for any year ending not more than thirty-six (36) months prior to the date of such request. An examination under this *Section 7.05(a)* shall not occur more than once in any Calendar Year. The independent certified public accountants shall keep confidential any information obtained during such inspection and shall report to Licensee and Lilly only the amounts of net sales and royalties due and payable. All such accounting firms shall sign a confidentiality agreement as to any of Licensee's, its Affiliates' and sublicensees' confidential information that such accounting firms are provided, or to which they have access, while conducting any audit pursuant to this Section *7.05(a)*.

(b) **Underpayments/Overpayments**. If such accounting firm correctly concludes that additional royalties were owed during such period, Licensee shall pay such additional royalties within thirty (30) days of the date Lilly delivers to Licensee such accounting firm's written report so correctly concluding. If such underpayment exceeds **[**]** percent (**[**]**%) of the sums correctly due Lilly then the reasonable fees charged by such accounting firm for the work associated with the underpayment audit shall be paid by Licensee. For clarity, in all other circumstances the fees charged by such accounting firm for the work associated with the underpayment audit shall be paid by Lilly. Any overpayments by Licensee will be credited against future royalty obligations or at Licensee's request, promptly refunded to Licensee.

(c) **Confidentiality.** Lilly shall treat all financial information subject to review under this Section 7.05, in accordance with the confidentiality provisions of Article IX of this Agreement.

(d) **Late Payments.** Any amount owed by Licensee to Lilly under this Agreement that is not paid within the applicable time period set forth herein shall accrue interest at the rate of the one (1) month London Inter-Bank Offering Rate (**"LIBOR"**) plus **[**]** percent (**[**]**%) as set by the British Bankers Association as of the due date, or whatever is the legal limit if lower.

7.06 Income Tax. If laws, rules, or regulations require the withholding of income tax or other taxes imposed upon payments set forth in this Article VII, Licensee will notify Lilly in writing of such payment or withholding requirements prior to making the payment and provide such assistance to Lilly, including the provision of such documentation as may be required by a tax authority, as may be reasonably necessary to claim an exemption from or reduction of such Taxes. In the event Licensee withholds taxes under this section and remits such taxes to the appropriate tax authority, Licensee will furnish Lilly with proof of payment of such taxes promptly following payment thereof. If taxes are paid to a tax authority, Licensee will provide Lilly all such assistance as is reasonably required to obtain a refund of taxes withheld, or obtain a credit with respect to Taxes paid.

ARTICLE VIII — PATENTS

8.01 Ownership of Inventions. As between the Parties, Licensee shall own the entire right, title and interest in and to any and all Know-How discovered, created, identified or made solely by it and its Related Parties and their respective employees, agents or independent contractors in the course of performing or exercising its rights under this Agreement, and all intellectual property rights in any of the foregoing. Inventorship shall be determined in accordance with U.S. patent laws.

8.02 Prosecution and Maintenance of Patents. Licensee shall have the first right, but not the obligation, at its expense, to prepare, file, prosecute and maintain Lilly Patent Rights in the Territory, on its own or through its Affiliate, or through outside counsel or Third Party contractor. Licensee will provide Lilly with copies of any substantive papers filed with or received by a patent office related to the maintenance of such patent filings. Licensee shall provide Lilly with drafts of any material filings in a reasonable amount of time in advance of the anticipated filing date and shall consider Lilly's reasonable comments thereto in good faith. The abandonment of any of the Lilly Patent Rights shall be

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governed by *Section 8.07*. Promptly following the Effective Date, Lilly shall transfer the existing, complete patent files for all applicable patents and patent applications to Licensee, shall file all documents necessary to transfer correspondence with the U.S. Patent and Trademark Office and other applicable patent authorities to Licensee and shall give Licensee's designated patent counsel power of attorney thereto. Lilly shall cooperate with Licensee in the transfer of all prosecution and maintenance responsibilities relating to the Lilly Patent Rights. For clarity, after such transfer, Lilly will cooperate, but will not be responsible for further maintenance and annuity payments.

8.03 Patent Term Restoration. Licensee shall have the first right, but not the obligation, with respect to election to obtain patent term restoration or supplemental protection certificates or their equivalents in any country in the Territory where applicable to Lilly Patent Rights. Lilly agrees to reasonably assist Licensee as needed with the filing and prosecuting of any such application for patent term restoration or supplemental protection certificates or their equivalents. To the extent Licensee has elected to seek such patent term restoration or supplemental protection certificates or equivalents, Licensee (a) shall pay all costs associated with the preparation, filing and prosecuting of any such application for patent term restoration or supplemental protection certificates or their equivalents hereunder, (b) agrees to consult with Lilly as to the preparation, filing, prosecution of such application for patent term restoration or supplemental protection certificates or their equivalents reasonably prior to any deadline or action, and (c) shall provide Lilly with drafts of any material filings in a reasonable amount of time in advance of the anticipated filing date and shall consider in good faith any comments of Lilly.

8.04 Interference, Derivation, Opposition, Reissue Reexamination and Post Grant Review Proceedings. Any Party shall, within ten (10) business days of learning of any request for, or filing or declaration of, any interference, derivation, opposition, reexamination, or post grant review (or similar administrative proceedings) relating to Lilly Patent Rights, inform the other Party of such event. Licensee shall have the first right, but not the obligation, to determine a course of action with respect to any such proceeding and to control such proceeding. Lilly shall have the right to review any submission to be made in connection with such proceeding. In connection with any such interference, derivation, opposition, reissue, reexamination, or post grant review proceeding (or similar administrative proceedings) or correction relating to Lilly Patent Rights, Lilly will cooperate fully and will provide Licensee with any information or assistance that Licensee may reasonably request. Licensee shall keep Lilly informed of developments in any such action or proceeding, including, to the extent permissible by law, consultation and approval of any settlement, the status of any settlement negotiations and the terms of any offer related thereto. To the extent Licensee has elected to control the foregoing, Licensee shall bear the expense of such proceeding or action with respect to the Lilly Patent Rights.

8.05 Enforcement and Defense. In the event that either Licensee or Lilly becomes aware of any alleged, threatened or actual commercially material infringement of a Lilly Patent Right in a country in the Territory, or judicial challenge to the validity of a Lilly Patent Right in a country in the Territory, it will notify the other Party in writing to that effect within a reasonable time period.

(a) First Right of Licensee; Right of Lilly to Assume. Licensee shall have the first right, but not the obligation, to bring a suit or otherwise take action against any person or entity directly infringing, contributorily infringing or inducing infringement of the Lilly Patent Rights. If Licensee fails to bring a suit or otherwise take action with respect to infringement of any Lilly Patent Rights within (i) thirty (30) days with respect to potential infringement in the context of a Paragraph IV certification, or (ii) sixty (60) days with respect to potential

infringement in some context other than a Paragraph IV certification, following receipt of notice of the alleged infringement, Lilly shall have the right to bring suit or otherwise take action with respect to such infringement at its own expense and by counsel of its own choice, and Licensee shall have the right, at its own expense, to be represented in any such suit by counsel of its own choice.

(b) **Expenses and Cooperation.** Each Party shall cooperate with and provide to the Party enforcing any such rights under this *Section 8.05* reasonable assistance in such enforcement, at such enforcing Party's request and expense. Lilly further agrees to join, at Licensee's expense, any such action brought by Licensee under this *Section 8.05* as a party plaintiff if required by applicable law to pursue such action. The enforcing Party under this *Section 8.05* shall keep the other Party regularly informed of the status and progress of such enforcement efforts, and shall reasonably consider the other Party's comments on any such efforts. In the event that Lilly is a party to such a legal action, no settlement, consent judgment or other voluntary final disposition of the suit may be entered into without the mutual consent of Licensee and Lilly, and such consent shall not be unreasonably withheld. In no event shall Licensee or Lilly settle any such action or proceeding in a manner which restricts the scope, or adversely affects the enforceability, of Lilly

Patent Rights or Licensee Patent Rights claiming or covering Licensed Compounds or Licensed Products without the prior written consent of Licensee and Lilly, such consent shall not be unreasonably withheld.

(c) **Recovery.** Any recovery obtained by either or both of the Parties in connection with or as a result of any action to enforce any Lilly Patent Rights, whether by settlement or otherwise, shall first be applied to reimburse the costs and expenses of the Party that brought and controlled such action and then to reimburse the costs and expenses of the other Party in connection with such action, and any amounts remaining after such reimbursement shall be retained by the Party that brought and controlled such action, except that if Licensee is the Party that brought and controlled such action, any remaining portion of such recovery that is attributable to lost sales with respect to Licensed Products shall be treated as Net Sales and subject to payment of royalties pursuant to *Section 7.03*.

8.06 Third Party Infringement Suit. In the event that a Third Party sues Licensee alleging that Licensee's, its Affiliates' or its sublicensees' making, having made, importing, exporting or using Licensed Compound or distributing, marketing, promoting, offering for sale or selling Licensed Product infringes or will infringe a claim of a Third Party patent that specifically covers the Licensed Compound or its manufacture, then Licensee may elect to defend such suit.

8.07 Abandonment. In the event that Licensee determines not to file, maintain or continue prosecution of any patent or patent application within the Lilly Patent Rights, Licensee shall provide Lilly written notice thereof at least thirty (30) days before the applicable deadline. Upon receipt of such notice, Lilly shall have the right, at its expense, to assume responsibility for filing, prosecuting, and maintaining such patents and patent applications. If Lilly decides to assume such responsibility, in its sole discretion, it shall so notify Licensee in writing.

ARTICLE IX — CONFIDENTIALITY AND PUBLICATION

9.01 Confidentiality.

(a) **Nondisclosure Obligation.** Each of Lilly and Licensee shall use any Proprietary Information received by it from the other Party only in accordance with this Agreement and shall not disclose to any Third Party any such Proprietary Information without the prior written consent of the other Party. The foregoing obligations shall survive the expiration or termination of this Agreement for a period of **[**]** (**[**]**) years. These obligations shall not apply to Proprietary Information that:

(i) is known by the receiving Party at the time of its receipt, and not through a prior disclosure by the disclosing Party, as documented by the receiving Party's written records;

(ii) is at the time of disclosure, or thereafter becomes, published or otherwise part of the public domain without breach of the obligations of confidentiality under this Agreement by the receiving Party;

(iii) is subsequently disclosed to the receiving Party by a Third Party who has the right to make such disclosure, as documented by the receiving Party's written records; or

(iv) is independently developed by the receiving Party or its Affiliates and without the aid, use or application of any of the disclosing Party's Proprietary Information, and such independent development can be documented by the receiving Party's written records.

(b) **Authorized Disclosure.** Each Party shall have the right to disclose Proprietary Information received by it from the other Party to the extent required to be disclosed by law, regulation, rule, act or order of any governmental authority or agency to be disclosed, provided that notice is promptly delivered to the other Party (to the extent permitted) in order to provide an opportunity to seek a protective order or other similar order with respect to such Proprietary Information and thereafter the receiving Party discloses to the requesting entity only the minimum information required to be disclosed in order to comply with the request, whether or not a protective order or other similar order is obtained by the other Party.

(c) **Permitted Disclosures.** Notwithstanding provisions of *Section 9.01(a)*, Licensee, its Affiliates or sublicensees shall have the right to disclose Proprietary Information received by it from Lilly:

(i) to any institutional review board of any entity conducting Clinical Trials with Licensed Product or to any governmental or other regulatory agencies in order to obtain patents or to gain approval to conduct Clinical Trials or to market Licensed Product, provided that such disclosure may be made only to the extent reasonably necessary to obtain such patents or authorizations; or

(ii) to any bonafide potential or actual investor, investment banker, acquirer, merger partner, or other potential or actual financial partner; provided that in connection with such

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disclosure, Licensee shall require each disclosee to enter into a confidentiality agreement with respect to such Proprietary Information.

(d) **Disclosure to Agents**. Notwithstanding the provisions of *Section 9.01(a)* and subject to the other terms of this Agreement, each of Licensee and Lilly shall have the right to disclose Proprietary Information to their respective sublicensees, agents, consultants, Affiliates or other Third Parties (collectively **"Agents"**) in accordance with this *Section 9.01(d)* . Such disclosure shall be limited only to those Agents directly involved in the development, manufacturing, marketing or promotion of Licensed Compound or Licensed Product (or for such Agents to determine their interest in performing such activities) in accordance with this Agreement. Any such Agents must agree in writing to be bound by confidentiality and non-use obligations no less restrictive than those contained in this Agreement.

(e) **Disclosure to Taxing Authorities.** Notwithstanding the provisions of Section 9.01(a), either Party shall be permitted and allowed to provide a copy of this Agreement to the United States Internal Revenue Service or other tax authorities, if requested, without advanced written notice or approval of the other Party.

9.02 Breach of Confidentiality. The Parties agree that the disclosure of the Disclosing Party's Proprietary Information in violation of this Agreement may cause the Disclosing Party irreparable harm and that any breach or threatened breach of this Agreement by the Receiving Party entitles disclosing Party to seek injunctive relief, in addition to any other legal or equitable remedies available to it, in any court of competent jurisdiction. For clarity, such disputes shall not be subject to *Article XIII*.

9.03 No Publicity. A Party may not use the name of the other Party in any publicity or advertising and may not issue a press release or otherwise publicize or disclose any information related to the existence of this Agreement or the terms or conditions herein, except (a) on the advice of its counsel as required by law (e.g., any Securities and Exchange Commission filings and disclosures) and provided the Party who will be disclosing such information has consulted with the other Party to the extent feasible prior to such disclosure with respect to the substance of the disclosure; or (b) as consented to in advance by the other Party in writing. Notwithstanding the foregoing, Licensee shall have the right without obtaining Lilly's consent to make public announcements concerning the Development or Commercialization of the Licensed Product in the Field in the Territory under this Agreement, such as announcing the commencement of any clinical trial for the Licensed Product, the publication of data and results, the filing of regulatory filings for the Licensed Product and the achievement of Marketing Authorization of the Licensed Product. The Parties have agreed on a form of initial press release that may be used by either Party on an ongoing basis to describe this Agreement that is attached hereto as *Attachment 9.03*. Licensee shall provide Lilly with reasonable advance written notice of any press release or other public disclosure of the results of any of its work on Licensed Compound or Licensed Product under this Agreement.

9.04 Scientific Publications. Each Party recognizes the mutual interest in obtaining valid patent protection and in protecting business interests and trade secret information. Consequently, except for disclosures permitted pursuant to *Section 9.01* and *Section 9.03* of this Agreement, in the event that a Party wishes to make a publication containing any Lilly Know-How or subject of Lilly Patent Rights, such Party shall deliver to the other Party a copy of the proposed written publication at least thirty (30) days prior to submission for publication. The Parties shall have the right to propose modifications to or delay of the publication for patent reasons or trade secrets. If a reviewing Party requests a delay

for patent reasons, the other Party shall delay submission for a period of up to forty-five (45) days to enable patent applications protecting each Party's rights in such information to be filed in accordance with *Article VIII* of this Agreement. Upon expiration of such delay, the Party seeking to publish shall be free to proceed with the publication. If a Party requests modifications to the publication, the Party seeking to publish shall edit such publication to prevent disclosure of trade secret or Proprietary Information prior to submission of the publication.

9.05 Terms of Agreement. Neither Party nor its Affiliates shall disclose any terms or conditions of this Agreement to any Third Party without the prior consent of the other Party, except as follows: a Party and its Affiliates may disclose the terms or conditions of this Agreement (but not any other Proprietary Information, which may be disclosed only as described elsewhere in this *Article IX*), (a) on a need-to-know basis to its legal and financial advisors to the extent such disclosure is reasonably necessary, provided that such advisors are subject to confidentiality with regard to such information under an agreement or ethical obligation; (b) to a Third Party or Related Party in connection with (i) a financing (or proposed financing) or an equity investment (or proposed investment) in such Party or its Affiliates, including to its shareholders and prospective shareholders, (ii) the granting of a sublicense pursuant to *Section 2.04* or entry into any agreement with respect to the development, manufacture or commercialization of a Licensed Product, (iii) a merger, consolidation or similar transaction by such Party or its Affiliates, (iv) the sale of all or substantially all of the assets of such Party or its Affiliates to which this Agreement relates, or (v) in connection with a securitization, provided that such Third Party executes a non-use and non-disclosure agreement with confidentiality and non-use obligations similar to those contained in this Agreement; (c) to the United States Securities and Exchange Commission or any other securities exchange or governmental entity, including as required to make an initial or subsequent public offering, or (d) as otherwise required by law or regulation, provided that in the case of (c) and (d) the disclosing Party shall (x) if practicable, provide the other Party with reasonable advance notice of and an opportunity to comment on any such required disclosure, (y) if requested by such other Party, seek, or cooperate with such Party's efforts to obtain, confidential treatment or a protective order with respect to any such disclosure to the extent available at such other Party's expense, and (z) use good faith efforts to incorporate the comments of such other Party in any such disclosure or request for confidential treatment or protective order.

ARTICLE X — REPRESENTATIONS AND WARRANTIES

10.01 Representations and Warranties of Each Party. Each of Lilly and Licensee hereby represents, warrants and covenants to the other Party hereto as follows:

(a) it is a corporation duly organized and validly existing under the laws of the state or other jurisdiction of its incorporation;

(b) the execution, delivery and performance of this Agreement by such Party has been duly authorized by all requisite corporate action;

(c) it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder;

(d) the execution, delivery and performance by such Party of this Agreement and its compliance with the terms and provisions herein does not and will not conflict with or result in a breach of any of the terms and provisions of or constitute a default under (i) a loan agreement,

guaranty, financing agreement, agreement affecting a product or other agreement or instrument binding or affecting it or its property; (ii) the provisions of its corporate charter or other operative documents or bylaws; or (iii) any order, writ, injunction or decree of any court or governmental authority entered against it or by which any of its property is bound;

(e) except for the governmental and Marketing Authorizations required to market the Licensed Product in the Territory, the execution, delivery and performance of this Agreement by such Party does not require the consent, approval or authorization of, or notice, declaration, filing or registration with, any governmental or Regulatory Authority and the execution, delivery or performance of this Agreement will not violate any law, rule or regulation applicable to such Party;

(f) this Agreement has been duly authorized, executed and delivered and constitutes such Party's legal, valid and binding obligation enforceable against it in accordance with its terms subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting creditors' rights and to the availability of particular remedies under general equity principles; and

(g) it shall comply with all applicable laws and regulations relating to its activities under this Agreement.

10.02 Lilly's Representations. Lilly hereby represents, warrants and covenants to Licensee that as of the Effective Date:

(a) *Schedule 1.27* accurately identifies all patents and patent applications owned or controlled by Lilly as of the Effective Date that are necessary or useful for the, and/or in absence of a license, would prevent Licensee to, research, Develop, Manufacture, use and/or Commercialize Licensed Compounds and Licensed Products as contemplated by this Agreement;

(b) Lilly is the sole owner of the entire right, title and interest in and to all patents, patent applications and other intellectual property rights within the Lilly Patent Rights and Lilly Know-How. Lilly has the full and legal rights and authority to license to Licensee the Lilly Patent Rights and Lilly Know-How, and (i) it has not previously transferred, assigned, conveyed or otherwise encumbered its right, title and interest in and to the Licensed Compound or Licensed Product to any Third Party, and (ii) no Third Party has any license, option or other rights or interest in or to the Lilly Patent Rights and Lilly Know-How or any part thereof, in each case with respect to any Licensed Compound or Licensed Product. Lilly has not received, nor is it aware of, any claims or allegations that a Third Party has any right or interest in or to any patent or patent application in the Lilly Patent Rights or in or to the Lilly Know-How with respect to any Licensed Compound or Licensed Product, or any claims or allegations by a Third Party that any patents or patent applications within the Lilly Patent Rights are invalid or unenforceable, except for the EPO Opposition;

(c) To the best of its knowledge, no intellectual property rights of any Third Party were infringed or misappropriated during the creation of the Lilly Patent Rights or Lilly Know-How;

(d) All issued patents within the Lilly Patent Rights are in good standing with the applicable patent office and all maintenance fees have been timely paid;

(e) To the best of its knowledge and belief, Lilly has provided Licensee with all relevant information reasonably required for Licensee to properly evaluate and conduct due diligence on the Lilly Patent Rights, including all information relating to the EPO Opposition and complete copies of all Existing Agreements, and all such information are true and accurate.

(f) *Schedule 10.02(f)* sets forth the true and complete list of all material transfer agreements [and clinical study agreements] [NTD: TBD.] relating to the Licensed Compound and/or Licensed Product, which agreements were entered into by Lilly and any Third Party prior to the Effective Date (collectively, **"Existing Agreements"**); and

(g) All physical inventory of the Licensed Compound designated LY2456302 that is transferred to Licensee pursuant to *Section 4.01(a)* and that has been recertified prior to the Effective Date by Lilly as in compliance with Good Manufacturing Practices (i) were manufactured, stored and transported in accordance with Good Manufacturing Practices and any applicable federal, state and local laws, rules and regulations and (ii) complies at the time of delivery with the specifications established by Lilly for administration to humans.

10.03 Licensee's Representations. Licensee hereby represents and warrants as of the Effective Date, and covenants during the Term, to Lilly that, it will not knowingly use in any capacity, in connection with any services to be performed under this Agreement, any individual who has been debarred pursuant to the United States Food, Drug and Cosmetic Act. Licensee represents and warrants that there are no pending or, to Licensee's knowledge, threatened judicial, administrative or arbitral actions, claims, suits or proceedings pending as of the date hereof against Licensee which, to Licensee's knowledge, either individually or together with any other, would have a material adverse effect on the ability of Licensee to perform its obligations under this Agreement or any agreement or instrument contemplated hereby.

10.04 No Inconsistent Agreements. Neither Party has in effect, and after the Effective Date neither Party shall enter into, any oral or written agreement or arrangement that would be inconsistent with its obligations under this Agreement.

10.05 Representation by Legal Counsel. Each Party hereto represents that it has been represented by legal counsel in connection with this Agreement and acknowledges that it has participated in the drafting of this Agreement. In interpreting and applying the terms and provisions of this Agreement, the Parties agree that no presumption shall exist or be implied against the Party that drafted such terms and provisions.

10.06 Disclaimer. EXCEPT AS EXPRESSLY SET FORTH IN THIS *ARTICLE X*, THE LICENSED COMPOUND, LICENSED PRODUCT, LILLY PATENT RIGHTS, LILLY KNOW-HOW, LICENSEE PATENT RIGHTS AND LICENSEE KNOW-HOW ARE PROVIDED "AS IS" AND WITHOUT ANY REPRESENTATION OR WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY WARRANTY THAT THE USE OF THE MATERIALS WILL NOT INFRINGE OR VIOLATE ANY PATENT OR OTHER PROPRIETARY RIGHTS OF ANY THIRD PARTY.

ARTICLE XI — INDEMNIFICATION AND LIMITATION ON LIABILITY

11.01 Indemnification by Licensee. Licensee shall indemnify, defend and hold harmless Lilly and its Affiliates, and each of its and their respective employees, officers, directors and agents (each, a **"Lilly Indemnified Party"**) from and against any and all liability, loss, damage, cost, and expense (including reasonable attorneys' fees), (collectively, a **"Liability"**) that a Lilly Indemnified Party may incur, suffer or be required to pay resulting from or arising out of a suit or action brought by a Third Party with respect to (i) the Development, Manufacture, Commercialization, promotion, distribution, use, marketing, sale or other disposition of the Licensed Compound or Licensed Product by Licensee, its Affiliates or sublicensees, (ii) any breach by Licensee of any of its representations, warranties and covenants contained in *Article X* herein or any material breach of its obligations under this Agreement, and (iii) the negligence and/or willful misconduct of Licensee, its Affiliates or sublicensees with respect to its obligations under this Agreement. Notwithstanding the foregoing, Licensee shall have no obligation under this Agreement to indemnify, defend or hold harmless any Lilly Indemnified Party with respect to any Liabilities to the extent that they result from the negligence or willful misconduct of Lilly, Lilly Indemnified Party or any of their respective employees, officers, directors or agents or that result from Lilly's breach of its obligations under this Agreement.

11.02 Indemnification by Lilly. Lilly shall indemnify, defend and hold harmless Licensee and its Affiliates, and each of its and their respective employees, officers, directors and agents (each, a **"Licensee Indemnified Party"**) from and against any Liability that a Licensee Indemnified Party may incur, suffer or be required to pay resulting from or arising in connection with a suit or action brought by a Third Party with respect to (i) any breach by Lilly of any of its representations, warranties and covenants contained in *Sections 10.01, 10.02 and 10.04* herein or any material breach of its obligations (ii) the negligence and/or willful misconduct of Lilly, and (iii) the Development, Manufacture, use or other disposition of the Licensed Compound or Licensed Product by Lilly or its Affiliates prior to the Effective Date, including, with respect to the Existing Studies. Notwithstanding the foregoing, Lilly shall have no obligation under this Agreement to indemnify, defend or hold harmless any Licensee Indemnified Party with respect to any Liabilities to the extent that they result from the negligence or willful misconduct of Licensee, Licensee Indemnified Party or any of their respective employees, officers, directors or agents or that result from Licensee's breach of its obligations under this Agreement.

11.03 Conditions to Indemnification. The obligations of the indemnifying Party under *Sections 11.01 and 11.02* are conditioned upon the delivery of written notice to the indemnifying Party of any potential Liability promptly after the indemnified Party becomes aware of such potential Liability. The indemnifying Party shall have the right to assume the defense of any suit or claim related to the Liability if it has assumed responsibility for the suit or claim in writing; however, if in the reasonable judgment of the indemnified Party, such suit or claim involves an issue or matter that could have a materially adverse effect on the business operations or assets of the indemnified Party, the indemnified Party may retain control of the defense or settlement thereof by providing written notice of such effect to the indemnifying Party, but in no event shall such action or notice be construed as a waiver of any indemnification rights that the indemnified Party may have at law or in equity. If the indemnifying Party defends the suit or claim, the indemnified Party may participate in (but not control) the defense thereof at its sole cost and expense. The foregoing notwithstanding, the Parties acknowledge and agree that failure of the indemnified Party to promptly notify the indemnifying Party of a potential Liability shall

not constitute a waiver of, or result in the loss of, such Party's right to indemnification under *Section 11.01 or 11.02*, as appropriate, except to the extent that the indemnifying Party's rights, and/or its ability to defend against such Liability, are materially prejudiced by such failure to notify.

11.04 Settlements. Neither Party may settle a claim or action related to a Liability without the consent of the other Party, and such consent shall not be unreasonably withheld, if such settlement would impose any monetary obligation on the other Party or require the other Party to submit to an injunction or otherwise limit the other Party's rights under this Agreement. Any payment made by a Party to settle any such claim or action shall be at its own cost and expense.

11.05 Limitation of Liability. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, INCIDENTAL, PUNITIVE, CONSEQUENTIAL OR INDIRECT DAMAGES OR LOSS OF PROFITS ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 11.05 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY UNDER SECTION 11.01 OR 11.02, OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF CONFIDENTIALITY OBLIGATIONS IN ARTICLE IX OR EXCLUSIVITY OBLIGATIONS IN SECTION 2.05.

11.06 Insurance. Licensee shall procure and maintain insurance, including product liability insurance, adequate to cover its obligations hereunder and which are consistent with normal business practices of prudent companies similarly situated at all times during which any Licensed Product is being clinically tested in human subjects or commercially distributed or sold by or on behalf of Licensee. It is understood that such insurance shall not be construed to create a limit of Licensee's liability with respect to its indemnification obligations under this Article 11. Licensee shall provide Lilly with written evidence of such insurance upon request. Licensee shall provide Lilly with written notice at least thirty (30) days prior to the cancellation, non renewal or material change in such insurance or self insurance which materially adversely affects the rights of Lilly hereunder.

ARTICLE XII — TERM AND TERMINATION

12.01 Term and Expiration. This Agreement shall be effective as of the Effective Date and unless terminated earlier by mutual written agreement of the Parties or pursuant to *Sections 12.02* or *12.03* below, the term of this Agreement shall continue in effect on a country-by-country and product-by-product basis until the expiration of Licensee's obligation to pay royalties under *Article VII* herein (the **"Term"**). Upon expiration of this Agreement in its entirety, Licensee's license pursuant to *Section 2.01* shall become a fully paid-up, royalty-free, irrevocable, perpetual non-exclusive license.

12.02 Termination by Licensee. Notwithstanding anything contained herein to the contrary, Licensee shall have the unilateral right to terminate this Agreement in its entirety without cause at any time by giving ninety (90) days advance written notice to Lilly. In the event of such termination, the rights and obligations hereunder shall terminate; provided, however, that any payment obligations due and owing as of the termination date shall continue.

12.03 Termination for Cause.

(a) Termination for Cause. This Agreement may be terminated, in its entirety by written notice by either Party at any time during the Term of this Agreement:

(i) upon or after the breach of any material provision of this Agreement if the breaching Party has not cured such breach within (A) sixty (60) days (other than breaches subject to (B)) and (B) one-hundred twenty (120) days with respect to any material breach of Licensee's diligence obligations, in each case following receipt of written notice from the non-breaching Party requesting cure of the breach or, if such breach is not susceptible of cure within such sixty (60) day or one-hundred twenty (120) day period, as applicable, the breaching Party has not taken appropriate steps to commence such cure during such sixty (60)-day period or one-hundred twenty (120) day period, as applicable and continued to diligently pursue such cure in a manner reasonably assuring such cure within a reasonable period of time thereafter (not to exceed one hundred eighty (180) days). The Parties acknowledge and agree that one example of how appropriate steps may be satisfied by Licensee, is by Licensee providing Lilly with a reasonable plan, which Lilly agrees is reasonable, for curing such material breach, and using commercially reasonable efforts to implement such plan in accordance therewith. Any right to terminate under this *Section 12.03(a)* shall be stayed and the cure period tolled in the event that, during any cure period, the Party alleged to have been in material breach shall have initiated dispute resolution in accordance with *Article XIII* with respect to the alleged breach, which stay and tolling shall last so long as the allegedly breaching Party diligently and in good faith cooperates in the prompt resolution of such dispute resolution proceedings. In the event that Lilly exercises it right to terminate this Agreement pursuant to this Section 12.03(a) for Licensee's material breach of its diligence obligation under Article V, then such termination shall be solely with respect to the Licensed Product concerned and the remainder of the Agreement (other than with respect to such terminated Licensed Product) shall continue in full force and effect; or

(ii) upon the filing or institution of bankruptcy, reorganization, liquidation or receivership proceedings by or against the other Party, or upon an assignment of a substantial portion of the assets for the benefit of creditors by the other Party, or in the event a receiver or custodian is appointed for such Party's business, or if a substantial portion of such Party's business is subject to attachment or similar process; provided, however, that in the case of any involuntary bankruptcy proceeding, such right to terminate shall only become effective if the proceeding is not dismissed within one hundred eighty (180) days after the filing thereof.

12.04 Effect of Termination on License. In the event this Agreement is terminated in accordance with this Agreement, the rights and license granted to Licensee and its Affiliates under *Section 2.01* of this Agreement shall terminate and all rights to the Licensed Compound and Licensed Product granted under this Agreement shall revert to Lilly, provided that all sublicenses granted under *Section 2.05* shall survive to the extent so provided herein.

12.05 Effect of Termination Generally; Survival. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination, and the

provisions of [*Article 1* (Definitions), *Article IX* (Confidentiality), *Article XI* (Indemnification and Limitation on Liability), *Article XIII* (Dispute Resolution), *Article XIV* (Miscellaneous) and Section 8.01, Section 10.06, Section 10.07, Section 12.01, Section 12.02(b), Section 12.03(b), Section 12.04, Section 12.05 and Section 12.06][NTD: To be finalized prior to execution.] shall survive the expiration or termination of this Agreement. Any expiration or early termination of this Agreement shall be without prejudice to the rights of either Party against the other accrued or accruing under this Agreement prior to termination, including the obligation to pay royalties for Licensed Product sold prior to such termination.

12.06 Licensed Product Reversion. Upon termination of this Agreement in its entirety by Lilly for any reason or by Licensee pursuant to *Section 12.02*, at Lilly's option and upon Lilly's written request, and at Licensee's expense, the following provisions shall apply:

(a) Subject to *Section 12.06(b)*, Licensee shall, at its sole expense, transfer to Lilly (or its nominee) all physical inventories of Licensed Compound and Licensed Product, and all INDs, Marketing Authorizations, drug approval applications for Marketing Authorizations, and all supporting documentation for such filings and applications (to the extent assignable and not cancelled) assigned to Licensee by Lilly hereunder to the extent relating to Licensed Product then being Commercialized or in Development.

(b) For a period of sixty (60) days after the effective date of termination, the Parties shall negotiate in good faith the financial terms (including, without limitation, royalties, mile- stones and upfronts) and conditions for (i) the transfer of all regulatory filings and documentation, and all physical inventories of Licensed Compound and Licensed Product pursuant to *Section 12.06(a)* and any other transition assistance required, (ii) the grant of a royalty-bearing license to Lilly under Licensee Know-How and/or Licensee Patent Rights existing as of such effective date of termination with respect to the Licensed Product then being developed as of the date of such termination, and (iii) the transition to Lilly of all clinical trials conducted by Licensee under Licensee's IND for Licensed Product that are ongoing as of the date of termination. Such sixty (60) day period may be extended by mutual written agreement of the Parties for an additional thirty (30) days. In the event that the Parties are unable to mutually agree upon the commercially reasonable compensation and terms with respect to the foregoing within such period, the matter shall be referred to a mutually agreed upon third party expert in the valuation of life sciences assets, each Party shall provide to such third party all information in its control necessary for such third party to resolve such matter, and the costs for such expert shall be borne equally by the Parties.

(c) Upon the request of Lilly, Licensee shall use reasonable efforts to assign to Lilly any sublicenses previously granted by Licensee related to Licensed Product.

12.07 Termination in Part. In the event that this Agreement is terminated in part with respect to an individual Licensed Product, the terms of Sections 12.04 through 12.06 shall apply accordingly to such terminated Licensed Product, as opposed to termination of the Agreement as a whole.

12.08 Return of Proprietary Information. Not later than thirty days (30) days after the termination of this Agreement in its entirety, each receiving Party shall, at the disclosing Party's discretion, either destroy or return or cause to be returned to the disclosing Party, all Proprietary Information of the disclosing Party in tangible form received from the disclosing Party and any other documents containing the disclosing Party's Proprietary Information, and all copies thereof, including those in the possession of the receiving Party's Agents pursuant to *Section 9.01(d)*, except that the receiving Party may

retain one (1) copy of the disclosing Party's Proprietary Information in its confidential files in a secure location solely for the purposes of (i) determining its obligations hereunder, (ii) complying with any applicable regulatory requirements, or (iii) defending against any product liability claim.

ARTICLE XIII — DISPUTE RESOLUTION

13.01 Informal Discussions. Except as otherwise provided herein, in the event of any controversy or claim arising out of or relating to this Agreement, or the rights or obligations of the Parties hereunder, or the relationship between the Parties with respect to the Licensed Compound or Licensed Product, the Parties shall first try to settle their differences amicably between themselves. Either Party may initiate such informal dispute resolution by sending written notice of the dispute to the other Party, and within thirty (30) days after such notice appropriate representatives of the Parties shall meet for attempted resolution by good faith negotiations. If such representatives are unable to resolve promptly such disputed matter within the said thirty (30) days, either Party may refer the matter by written notice to the other under *Section 14.07* to the **[**]**, or designee, and the Chief Executive Officer of Licensee, or designee, for discussion and resolution. If such individuals or their designees are unable to resolve such dispute within sixty (60) days of such written notice, either Party may initiate arbitration proceedings in accordance with the provisions of this *Article XIII*.

13.02 Arbitration. All disputes arising out of or relating to this Agreement, or the rights or obligations of the Parties hereunder, or relating in any way to the relationship between the Parties with respect to the Licensed Compound or Licensed Product, shall be finally and exclusively settled by arbitration by a panel of three (3) arbitrators, provided such dispute is not an "Excluded Claim". As used in this *Section 13.02*, the phrase **"Excluded Claim"** shall mean a dispute, controversy or claim that concerns (a) the validity or infringement of a patent, trademark or copyright; (b) misappropriation of trade secrets; or (c) any antitrust, anti-monopoly or competition law or regulation, whether or not statutory.

(a) The arbitration proceeding shall be conducted under the Commercial Arbitration Rules of the American Arbitration Association (**"AAA"**) with such proceedings to be held in Newark, New Jersey, United States. In all cases, the arbitration proceedings shall be conducted in the English language, and all documents that are submitted in the proceeding shall be in the English language. Judgment upon the award rendered by arbitration may be issued and enforced by any court having competent jurisdiction.

(b) If a Party intends to begin an arbitration to resolve a dispute, such Party shall provide written notice to the other Party, informing the other Party of such intention and any statement of claim required under the applicable arbitration rules (as determined in accordance with *Section 13.02(a)*). Within twenty (20) business days after its receipt of such notice, the other Party shall, by written notice to the Party initiating arbitration, add any additional issues to be resolved that would be considered mandatory counterclaims under Delaware law. For clarity, the resolution of any disputes regarding such counterclaims shall be conducted in the same proceedings as the initial claims.

** CERTAIN INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND WILL BE FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A CONFIDENTIAL TREATMENT REQUEST.

(c) Within forty-five (45) days following the receipt of the notice of arbitration, the Party referring the matter to arbitration shall appoint an arbitrator and promptly notify the other Party of such appointment. The other Party shall, upon receiving such notice, appoint a second arbitrator within twenty one (21) days, and the two (2) arbitrators shall, within fifteen (15) days of the appointment of the second arbitrator, agree on the appointment of a third arbitrator who will act with them and be the chairperson of the arbitration panel. In the event that either Party shall fail to appoint an arbitrator within thirty (30) days after the commencement of the arbitration proceeding, the arbitrator shall be appointed by the AAA. In the event of the failure of the two (2) arbitrators to agree within sixty (60) days after the commencement of the arbitration proceeding to appoint the chairperson, the chairperson shall also be appointed by the AAA.

(i) All of the arbitrators shall have significant legal or business experience in pharmaceutical licensing matters. The arbitrators shall not be employees, directors or shareholders of either Party or any of their Affiliates.

(ii) Each Party shall have the right to be represented by counsel throughout the arbitration proceedings.

(iii) To the extent possible, the arbitration hearings and award will be maintained in confidence.

(iv) In any arbitration pursuant to this Agreement, the award or decision shall be rendered by a majority of the members of the panel provided for herein, with each member having one (1) vote. The arbitrators shall render a written decision with their resolution of the dispute that shall set forth in reasonable detail the facts of the dispute and the reasons for their decision. The decision of the arbitrators shall be final and non-appealable and binding on the Parties.

13.03 Injunctive Relief. By agreeing to arbitration, the Parties do not intend to deprive any competent court of such court's jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment or other order in aid of the arbitration proceedings and the enforcement of any award or judgment. Without prejudice to such provisional remedies in aid of arbitration as may be available under the jurisdiction of a national court, the court of arbitration shall have full authority to grant provisional remedies and to award damages for failure of any Party to respect the court of arbitration's order to that effect.

13.04 Expenses of Arbitration and Expert Determination. Each Party shall bear its own attorneys' fees, costs, and disbursements arising out of the arbitration, and shall pay an equal share of the fees and costs of the arbitrators; *provided, however*, that the arbitrators shall be authorized to determine whether a Party is the prevailing Party, and if so, to award to that prevailing Party reimbursement for its reasonable attorneys' fees, costs and disbursements (including, for example, expert witness fees and expenses, photocopy charges and travel expenses). Absent the filing of an application to correct or vacate the arbitration award as permitted by applicable law, each Party shall fully perform and satisfy the arbitration award within fifteen (15) days of the service of the award.

ARTICLE XIV — MISCELLANEOUS

14.01 Assignment/Change of Control.

(a) Except as provided in this *Section 14.01*, this Agreement may not be assigned or otherwise transferred, nor may any right or obligation hereunder be assigned or transferred, by either Party without the consent of the other Party; provided, however, that Lilly may, without such consent, assign the Agreement and its rights and obligations hereunder to an Affiliate or in connection with a Change of Control. Licensee may, without Lilly's consent, assign this Agreement and its rights and obligations hereunder to an Affiliate or in connection with a Licensee Change of Control.

(b) Any permitted assignee shall assume all assigned obligations of its assignor under the Agreement. The terms and conditions of this Agreement shall be binding upon and shall inure to the benefit of the Parties and their respective successors and permitted assigns. This Agreement shall be binding upon, and inure to the benefit of, each Party, its Affiliates, and its permitted successors and assigns. Each Party shall be responsible for the compliance by its Affiliates with the terms and conditions of this Agreement.

(c) The Licensed Patent Rights and Know-How, in the case of Lilly as assignor or transferor, or the Licensee Patent Rights and Licensee Know-How, in the case of Licensee as assignor or transferor, shall exclude any Patent Rights and Know-How controlled by any acquirer (or any Affiliate thereof, excluding the Party hereto that becomes an Affiliate of the acquirer as a result of such transaction) either (i) prior to the Change of Control or (ii) developed outside of any activities under this Agreement.

(d) Any attempted assignment not in accordance with *Section 14.01* shall be null and void.

14.02 Governing Law. This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of Delaware, United States of America without giving effect to its conflict of law principles, and the national patent laws relevant to the patent at issue. Subject to the terms of this Agreement, all disputes under this Agreement shall be governed by binding arbitration pursuant to the mechanism set forth in *Article XIII* herein, provided, however, that notwithstanding anything to the contrary in this Agreement, nothing herein shall prohibit a Party from bringing a dispute involving a an actual or alleged breach of confidentiality or an actual or alleged misappropriation or infringement of its intellectual property rights in a court of competent jurisdiction.

14.03 Waiver. Any delay or failure in enforcing a Party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such Party's rights to the future enforcement of its rights under this Agreement, nor operate to bar the exercise or enforcement thereof at any time or times thereafter, excepting only as to an express written and signed waiver as to a particular matter for a particular period of time.

14.04 Independent Relationship. Nothing herein contained shall be deemed to create an employment, agency, joint venture or partnership relationship between the Parties hereto or any of their agents or employees, or any other legal arrangement that would impose liability upon one Party for the act or failure to act of the other Party. Neither Party shall have any power to enter into any contracts or commitments or to incur any liabilities in the name of, or on behalf of, the other Party, or to bind the other Party in any respect whatsoever.

14.05 Export Control. This Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America that may be imposed upon or related to Lilly or Licensee from time to time by the government of the United States of America. Furthermore, Licensee agrees that it will not export, directly or indirectly, any technical information acquired from Lilly under this Agreement or any Licensed Products using such technical information to any country for which the United States government or any agency thereof at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so from the Department of Commerce or other agency of the United States government when required by an applicable statute or regulation.

14.06 Entire Agreement; Amendment. This Agreement, including the Schedules hereto and thereto, sets forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto and supersedes and terminates all prior agreements and understandings between the Parties with regard to the subject matter of this Agreement in the Territory, including the Confidentiality Agreement. There are no other covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as are set forth herein and therein. No subsequent alteration, amendment, change, waiver or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party.

14.07 Notices. All notices which are required or permitted hereunder shall be in writing and sufficient if delivered personally, sent by facsimile or a PDF document sent by electronic mail (and promptly confirmed by personal delivery, registered or certified mail or overnight courier), sent by nationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

if to Licensee, to:	Cerecor Inc. 400 East Pratt Street Baltimore, MD 21202 Attn : [**] [**]
With copy to (which copy shall not constitute notice):	[**], Esq. Cooley LLP One Freedom Square Reston Town Center 11951 Freedom Drive Reston, VA 20190-5656 Ph. [**] [**]
if to Lilly, to:	Eli Lilly and Company Lilly Corporate Center Indianapolis, Indiana 46285 Attention: [**] Fax: [**]

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Any such notice shall be deemed to have been received on the earlier of the date actually received or the date five (5) days after the same was posted or sent. Either Party may change its address or its facsimile number by giving the other Party written notice, delivered in accordance with this *Section 14.07*.

14.08 Force Majeure. Failure of any Party to perform its obligations under this Agreement (except the obligation to make payments when properly due) shall not subject such Party to any liability or place them in breach of any term or condition of this Agreement to the other Party if such failure is due to any cause beyond the reasonable control of such non-performing Party (**"Force Majeure"**), unless conclusive evidence to the contrary is provided. Causes of non-performance constituting Force Majeure shall include, without limitation, acts of God, fire, explosion, flood, drought, war, riot, sabotage, embargo, strikes or other labor trouble, failure in whole or in part of suppliers to deliver on schedule materials, equipment or machinery, interruption of or delay in transportation, a national health emergency or compliance with any order or regulation of any government entity acting with color of right. The Party affected shall promptly notify the other Party of the condition constituting Force Majeure as defined herein and shall exert reasonable efforts to eliminate, cure and overcome any such causes and to resume performance of its obligations with all possible speed; provided that nothing herein shall obligate a Party to settle on terms unsatisfactory to such Party any strike, lockout or other labor difficulty, any investigation or other proceeding by any public authority or any litigation by any Third Party. If a condition constituting Force Majeure as defined herein exists for more than ninety (90) consecutive days, the Parties shall meet to negotiate a mutually satisfactory resolution to the problem, if practicable. If the Parties cannot in good faith reach a satisfactory resolution to the problem within sixty (60) days of meeting, the matter shall be handled pursuant to the dispute resolution provisions of *Article XIII* herein.

14.09 Severability. If any provision of this Agreement is declared illegal, invalid or unenforceable by a court having competent jurisdiction, it is mutually agreed that this Agreement shall continue in accordance with its terms except for the part declared invalid or unenforceable by order of such court, provided, however, that in the event that the terms and conditions of this Agreement are materially altered, the Parties will, in good faith, renegotiate the terms and conditions of this Agreement to reasonably substitute such invalid or unenforceable provisions in light of the intent of this Agreement.

14.10 Extension to Affiliates. In each case where an Affiliate of Licensee has an obligation pursuant to this Agreement or performs an obligation pursuant to this Agreement, Licensee shall cause and compel such Affiliate to perform such obligation and comply with the terms of this Agreement. For the purposes of this Agreement, the Licensee shall be responsible for the contractual obligations of Affiliates. Licensee shall remain fully liable for any acts or omissions of its Affiliates.

14.11 Counterpart. This Agreement shall become binding when any one or more counterparts of it, individually or taken together, shall bear the signatures of each of the Parties hereto. This Agreement may be executed in any number of counterparts, each of which shall be an original as against either Party whose signature appears thereon, but all of which taken together shall constitute but one and the same instrument.

14.12 Captions. The captions of this Agreement are solely for the convenience of reference and shall not affect its interpretation.

14.13 Further Actions. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

14.14 Signatures. For purposes of this Agreement, signatures sent by facsimile or PDF shall also constitute originals.

[Signature Page Follows.]

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

IN WITNESS WHEREOF, this Agreement has been executed by the duly authorized representatives of the Parties.

ELI LILLY AND COMPANY		**CERECOR INC.**	
By:	/s/ JAN M. LUNDBERG	By:	/s/ BLAKE PATERSON
Title:	*Executive VP, Science & Technology* *President, Lilly Research Laboratories*	Title:	*President + CFO*
Date:	2/6/15	Date:	2/17/15

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Schedule 1.23

Licensed Compound (LY2456302)

Material Transfer

API
(GMP)

Lot#	DOM	Re-Test	Quantity (g)
GM018P09 (355093)	[**]	[**]	[**]
GM018P09 (355104)	[**]	[**]	[**]
GM018P09	[**]	[**]	[**]
PT-C07082103-A08001-IND	[**]	[**]	[**]
PT-C07082103-AF08002-IND	[**]	[**]	[**]

NDP Bulk

(5 mg)	Lot #	DOM	Expiry (when pkgd)	Quantity (caps)
	CT567262	[**]	[**]	[**]
	CT568785	[**]	[**]	[**]
	CT573009	[**]	[**]	[**]

Placebo

Batch#	DOM	Expiry	Quantity (caps)
CT554194	[**]	[**]	[**]

Ref Std

Batch#	Type	Expiry	Quantity (g)
RS0554	Quantitative	[**]	[**]
RS0615	For ID Only	[**]	[**]
RS0715	Quantitative	[**]	[**]
RS0722	Quantitative	[**]	[**]

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Schedule 1.26

Lilly Know-How(*)

In addition to all files currently located in Lilly's dataroom:

- Table of content of all documents included in the Product Data Package
- Preclinical reports (ADME/PK, Pharmacology)
  - **[**]**
  - **[**]**
  - **[**]**
- Toxicology reports
- Global regulatory documents (some may be in paper), e.g.,
  - **[**]**
  - **[**]**
  - **[**]**
- Clinical
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
- CMC
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**
  - **[**]**

** CERTAIN INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND WILL BE FILED SEPARATELY WITH THE

- **[**]**
- **[**]**
- **[**]**
- **[**]**

- List of Publications
  - **[**]**
  - **[**]**

- Presentations and associated files in powerpoint
  - **[**]**
  - **[**]**

- Intellectual Property Materials
  - **[**]**
  - **[**]**

- Marketing
  - **[**]**

(*) Note: Lilly has not confirmed that all items listed in this Schedule 1.26 exist as of the Effective Date. Upon request by Cerecor, Lilly will make a reasonable search for any additional items listed above and not previously provided to Cerecor.

** CERTAIN INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND WILL BE FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A CONFIDENTIAL TREATMENT REQUEST.

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Schedule 1.27

Lilly Patent Rights

Lilly Reference	Country	Application Number	Application Date	Patent Number	Grant Date	Status	Sub Status	Publication Number	Publication Date	Expiration Date
X17934	Algeria	100459	13-Jan-09	7295	15-Dec-11	Granted	Granted			13-Jan-29
X17934	Argentina	P090100098	13-Jan-09			Filed	Published	AR070158A1	17-Mar-10	
X17934	Australia	2009206653	13-Jan-09	2009206653	31-Oct-13	Granted	Granted			13-Jan-29
X17934	Austria	09703808.7	13-Jan-09	E562999	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Belgium	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Brazil	PI0907382-5	13-Jan-09			Filed	Filed			
X17934	Bulgaria	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Canada	2713025	13-Jan-09	2713025	04-Dec-12	Granted	Granted			13-Jan-29
X17934	Chile	50-2009	13-Jan-09			Filed	Filed			
X17934OP	Chile	50-2009	13-Jan-09			Filed	Opposition			
X17934	China P.R.	200980102650.4	13-Jan-09	ZL200980102650.4	06-Feb-13	Granted	Granted			12-Jan-29
X17934	Colombia	10-099.271	13-Jan-09	2216	13-Dec-13	Granted	Granted	629	20-Jun-11	13-Jan-29
X17934	Costa Rica	11559	13-Jan-09			Filed	Published		12-Oct-10	
X17934	Croatia	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Cyprus	09703808.7	13-Jan-09	CY1113071	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Czech Republic	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Denmark	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Dominican Republic	P2010-0222	13-Jan-09			Filed	Published		31-Aug-10	
X17934	Ecuador	SP-10-10365-PCT	13-Jan-09			Inactive	Abandoned			
X17934	Egypt	PCT 1072/2010	13-Jan-09			Filed	Filed			
X17934	El Salvador	E-3632-2010	13-Jan-09			Filed	Published	388	20-Sep-10	
X17934	Estonia	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Eurasian Patent Convention	201070877	13-Jan-09	017484	28-Dec-12	Granted	Granted	201070877	30-Dec-10	13-Jan-29
X17934	European Patent Convention	09703808.7	13-Jan-09	2252581	20-Jun-12	Inactive	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Finland	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	France	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Germany	09703808.7	13-Jan-09	602009007707.4	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Lilly Reference	Country	Application Number	Application Date	Patent Number	Grant Date	Status	Sub Status	Publication Number	Publication Date	Expiration Date
X17934	Great Britain	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Greece	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	14-Jan-29
X17934	Guatemala	A2010.000212	13-Jan-09	5776	14-Jul-14	Granted	Granted			13-Jan-29
X17934	Gulf Cooperation Council	GCC/P/2009/12657	13-Jan-09			Filed	Filed			
X17934	Honduras	2010-1319	13-Jan-09	5455	25-Oct-13	Granted	Granted			13-Jan-29
X17934	Hong Kong	11100691.9	24-Jan-11	HK1146822	26-Oct-12	Granted	Granted	1146822A	15-Jul-11	13-Jan-29
X17934	Hungary	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Iceland	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	India	1222/MUMNP/2010	13-Jan-09			Filed	Filed			
X17934	Indonesia	W-00 2010 02459	13-Jan-09			Filed	Filed			
X17934	Ireland	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Israel	206038	13-Jan-09	206038	01-Mar-14	Granted	Granted	11/2013	28-Nov-13	13-Jan-29
X17934	Italy	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Japan	2010-543182	13-Jan-09	5345637	23-Aug-13	Granted	Granted	2011-524850	08-Sep-11	13-Jan-29
X17934	Jordan	15/2009	13-Jan-09	2797	22-Jun-14	Granted	Granted	530	15-Mar-14	13-Jan-29
X17934	Korea South	10-2010-7016401	13-Jan-09	10-1172170	01-Aug-12	Granted	Granted			13-Jan-29
X17934	Latvia	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Lebanon	8509	13-Jan-09	8509	15-Oct-10	Granted	Granted			13-Jan-29
X17934	Liechtenstein	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Lithuania	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Luxembourg	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	14-Jan-29
X17934	Macao	J/001050	09-Apr-13	J/001050	16-Jul-13	Granted	Granted			03-Jan-29
X17934	Macedonia	MK/P2012/249	13-Jan-09	904423	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Malaysia	P12010003437	13-Jan-09			Filed	Filed			
X17934	Malta	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Mexico	MX/a/20 10/007849	13-Jan-09	293961	16-Dec-11	Granted	Granted			13-Jan-29
X17934	Monaco	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Morocco	PV/33041	13-Jan-09			Filed	Filed			
X17934	Netherlands	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29

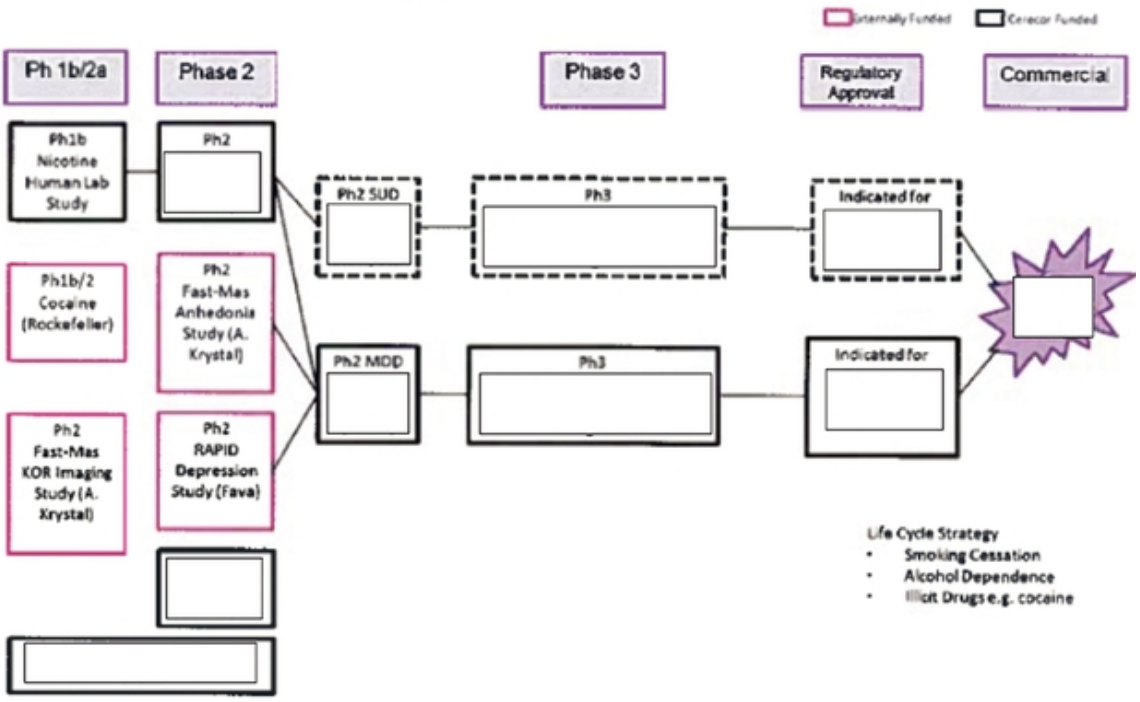
Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Lilly Reference	Country	Application Number	Application Date	Patent Number	Grant Date	Status	Sub Status	Publication Number	Publication Date	Expiration Date
X17934	New Zealand	586225	13-Jan-09	586225	03-Sep-12	Granted	Granted	1595	25-May-12	13-Jan-29
X17934	Nigeria	NG/C/2010/421	13-Jan-09	NG/C/2010/421	07-Jun-11	Granted	Granted			13-Jan-29
X17934	Norway	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Pakistan	33/2009	13-Jan-09	140737	12-Sep-l1	Granted	Granted			22-Jan-28
X17934	Patent Cooperation Treaty	PCT/US2009/030811	13-Jan-09			Inactive	National	WO 2009/094260	2009/094260	30-Jul-09
X17934	Peru	36-2009	13-Jan-09	6814	30-Apr-13	Granted	Granted	13172009	03-Sep-09	13-Jan-29
X17934	Philippines	1-2010-501647	13-Jan-09			Filed	Filed		30-Jul-09	
X17934	Poland	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Portugal	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Romania	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Russian Federation	201070877	13-Jan-09	017484	28-Dec-12	Granted	Granted	201070877	30-Dec-10	13-Jan-29
X17934	Singapore	201005057-3	13-Jan-09	163142	31-Jan-13	Granted	Granted			13-Jan-29
X17934	Slovak Republic	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Slovenia	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	South Africa	2010/03908	13-Jan-09	2010/03908	30-Nov-11	Granted	Granted		30-Nov-11	13-Jan-29
X17934	Spain	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2388708	24-Nov-10	13-Jan-29
X17934	Sweden	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Switzerland	09703808.7	13-Jan-09	2252581	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Taiwan	09810183	13-Jan-09	I422369	11-Jan-14	Granted	Granted	I422369	11-Jan-14	12-Jan-29
X17934	Thailand	0901000108	13-Jan-09			Filed	Published	104143	23-Sep-10	
X17934	Trinidad & Tobago	TT/A/2010/00153	13-Jan-09			Filed	Filed			
X17934	Tunisia	TN2010/0306	13-Jan-09			Filed	Filed			
X17934	Turkey	09703808.7	13-Jan-09	TR201208827T4	20-Jun-12	Granted	Granted	2252581	24-Nov-10	13-Jan-29
X17934	Ukraine	2010 08931	13-Jan-09	100715	25-Jan-13	Granted	Granted			13-Jan-29
X17934	United States	12/352869	13-Jan-09	7709522	04-May-10	Granted	Granted	20090186873	23-Ju1-09	13-Jan-29
X17934A	United States	12/757451	09-Apr-10	8173695	08-May-12	Granted	Granted	20100197669	05-Aug-10	13-Jan-29
X17934	Uzbekistan	IAP 2010 0403	13-Jan-09	IAP 04707	28-Jun-13	Granted	Granted		28-Jun-13	13-Jan-29
X17934	Venezuela	2009-000054	13-Jan-09			Filed	Published	521	01-Aug-11	
X17934	Vietnam	1-2010-01876	13-Jan-09	10913	11-Dec-12	Granted	Granted			13-Jan-29

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Attachment 3.02(a)

Initial Development Plan



Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Development Path for 2015

Technology Transfer

- **[**]**
- **[**]**

Clinical

- Finalize Clin501-201 Clinical Study Protocol for Nicotine Human Lab Study by 3Q2015
    - Title: A Randomized, Double-Blind, Placebo-Controlled, Crossover Design Study of LY2456302 on Craving for Tobacco in Cigarette Smokers Seeking Treatment
    - Primary endpoint: To evaluate the effect of two dose levels of CERC-501 on tobacco reinstatement in subjects who have previously failed abstinence and experienced dysphoria and / or anxiety during quitting attempts
- Anticipated study start-up and first subject randomized by 4Q2015

CMC

- **[**]**
- **[**]**
- **[**]**
- **[**]**
- **[**]**

Regulatory

- Meeting/communication with FDA regarding planned study by 3Q2015

Non-Clinical

- **[**]**

Intellectual Property

- **[**]**

** CERTAIN INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND WILL BE FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A CONFIDENTIAL TREATMENT REQUEST.

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Attachment 9.03

Initial Press Release

Cerecor Bolsters Clinical Pipeline with Acquisition of Phase 2-ready Kappa Opioid Receptor Antagonist from Eli Lilly and Company

BALTIMORE, February xx, 2015 — Cerecor Inc, a clinical-stage biopharmaceutical company developing treatments to make a difference in the lives of patients with neurological and psychiatric disorders, today announced that it has acquired exclusive, worldwide rights from Eli Lilly and Company ("Lilly") to develop and commercialize LY2456302 (which will be designated as CERC-501), a Phase 2-ready, potent and selective kappa opioid receptor (KOR) antagonist. KORs are believed to play a key role in modulating stress, mood and addictive disorders. Research also suggests that selective KOR antagonists can block both the physical and emotional symptoms of nicotine withdrawal.

CERC-501 was discovered and developed by Lilly for the treatment of co-occurring disorders, defined as a patient having one or more disorders relating to substance abuse combined with one or more mental health disorders. In Phase 1 clinical studies, CERC-501 was well tolerated, penetrated the blood-brain barrier and demonstrated target engagement, as shown through PET (positron emission tomography) imaging.

"Evidence of human kappa receptor binding coupled with unique competitive positioning and broad development potential make CERC-501 a key addition to Cerecor's pipeline, strengthening our position in the development of novel neuroscience compounds for underserved neurological and psychiatric disorders," said Dr. Blake Paterson, Cerecor's co-founder and CEO. "Clinicians, patients and families who struggle with mood and addictive disorders will recognize the need for more effective treatments, and we plan to initially develop CERC-501 to address nicotine dependence."

"CERC-501 is a potential first-in-class, best-in-class, oral medication to treat depression and co-occurring substance use disorders, such as alcohol, nicotine and/or illicit drug addiction," added Dr. Reza Mazhari, Cerecor's Vice President of Drug Discovery and Development. "A planned clinical trial in nicotine dependence will afford us the opportunity to rapidly evaluate the effect of CERC-50I on tobacco reinstatement, and assess subject's craving, mood and anxiety during abstinence periods. If successful, this initial study could open the doors to additional indications for CERC-501 going forward."

Under the terms of the agreement, Cerecor will immediately assume full development and commercialization responsibilities of CERC-501. License consideration includes undisclosed milestone payments and royalties. Cerecor anticipates completing the technology transfer activities by mid-2015 and initiating clinical trials in the second-half of the year.

About Cerecor

Cerecor Inc ("Cerecor") is a Baltimore-based biopharmaceutical company developing proprietary treatments to make a difference in the lives of patients with neurological and psychiatric diseases by addressing the unmet medical needs of underserved patient segments. We are committed to the development of drugs that improve lives by applying our extensive knowledge and experience in central nervous system disorders. www.cerecor.com

Media Contact: Michelle Avery, MacDougall Biomedical Communications, 781-235-3060

Confidential treatment requested under 17 C.F.R. §§ 200.80(b)(4) and 240.24b-2. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions will be filed separately with the Securities and Exchange Commission pursuant to a confidential treatment request.

Schedule 10.02(f)

Existing Agreements

Research Agreements:

- **[**]**
- **[**]**
- **[**]**
- **[**]**

EXIST Agreements:

- **[**]**
- **[**]**
- **[**]**

** CERTAIN INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND WILL BE FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO A CONFIDENTIAL TREATMENT REQUEST.

QuickLinks

Exhibit 10.9

LOAN AND SECURITY AGREEMENT

THIS LOAN AND SECURITY AGREEMENT is made and dated as of August 19, 2014 and is entered into by and between CERECOR INC., a Delaware corporation, and each of its Domestic Subsidiaries (hereinafter collectively referred to as the "Borrower"), the several banks and other financial institutions or entities from time to time parties to this Agreement (collectively, referred to as "Lender") and HERCULES TECHNOLOGY GROWTH CAPITAL, INC., a Maryland corporation, in its capacity as administrative agent for itself and the Lender (in such capacity, the "Agent").

RECITALS

A. Borrower has requested Lender to make available to Borrower a term loan in an aggregate principal amount of up to Seven Million Five Hundred Thousand Dollars ($7,500,000.00) (the "Term Loan"); and

B. Lender is willing to make the Term Loan on the terms and conditions set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, Borrower, Agent and Lender agree as follows:

SECTION 1. *DEFINITIONS AND RULES OF CONSTRUCTION*

1.1 Unless otherwise defined herein, the following capitalized terms shall have the following meanings:

"Account Control Agreement(s)" means any agreement entered into by and among the Agent, Borrower and a third party Bank or other institution (including a Securities Intermediary) in which Borrower maintains a Deposit Account or an account holding Investment Property and which perfects Agent's security interest in the subject account or accounts.

"ACH Authorization" means the ACH Debit Authorization Agreement in substantially the form of Exhibit H.

"Advance(s)" means a Term Loan Advance.

"Advance Date" means the funding date of any Advance.

"Advance Request" means a request for an Advance submitted by Borrower to Agent in substantially the form of Exhibit A.

"Agent" has the meaning given to it in the preamble to this Agreement.

"Agreement" means this Loan and Security Agreement, as amended from time to time.

"Amortization Date" means June 1, 2015; provided however, if the Interest Only Extension Conditions are satisfied, then March 1, 2016.

"Assignee" has the meaning given to it in Section 11.13.

"Borrower Products" means all products, software, service offerings, technical data or technology currently being designed, manufactured or sold by Borrower or which Borrower intends to sell, license, or distribute in the future including any products or service offerings under development, collectively, together with all products, software, service offerings, technical data or technology that have been sold, licensed or distributed by Borrower since its incorporation.

"Business Day" means any day other than Saturday, Sunday and any other day on which banking institutions in the State of California are closed for business.

"Cash" means all cash and liquid funds.

"Change in Control" means any (i) reorganization, recapitalization, consolidation or merger (or similar transaction or series of related transactions) of Borrower or any Subsidiary, sale or exchange of outstanding shares (or similar transaction or series of related transactions) of Borrower or any Subsidiary in which the holders of Borrower or Subsidiary's outstanding shares immediately before consummation of such transaction or series of related transactions do not, immediately after consummation of such transaction or series of related transactions, retain shares representing more than fifty percent (50%) of the voting power of the surviving entity of such transaction or series of related transactions (or the parent of such surviving entity if such surviving entity is wholly owned by such parent), in each case without regard to whether Borrower or Subsidiary is the surviving entity, or (ii) sale or issuance by Borrower of new shares of Preferred Stock of Borrower to investors, none of whom are current investors in Borrower, and such new shares of Preferred Stock are senior to all existing Preferred Stock and Common Stock with respect to liquidation preferences, and the aggregate liquidation preference of the new shares of Preferred Stock is more than fifty percent (50%) of the aggregate liquidation preference of all shares of Preferred Stock of Borrower; provided, however, an Initial Public Offering shall not constitute a Change in Control.

"Claims" has the meaning given to it in Section 11.10.

"Closing Date" means the date of this Agreement.

"Collateral" means the property described in Section 3.

"Commitment Fee" means $35,000, which fee has been received by Lender, and shall be deemed fully earned on the Closing Date regardless of the early termination of this Agreement.

"Confidential Information" has the meaning given to it in Section 11.12.

"Contingent Obligation" means, as applied to any Person, any direct or indirect liability, contingent or otherwise, of that Person with respect to (i) any Indebtedness, lease, dividend, letter of credit or other obligation of another, including any such obligation directly or indirectly guaranteed, endorsed, co-made or discounted or sold with recourse by that Person, or in respect of which that Person is otherwise directly or indirectly liable; (ii) any obligations with respect to undrawn letters of credit, corporate credit cards or merchant services issued for the account of that Person; and (iii) all obligations arising under any interest rate, currency or commodity swap agreement, interest rate cap agreement, interest rate collar agreement, or other agreement or arrangement designated to protect a Person against fluctuation in interest rates, currency exchange rates or commodity prices; provided, however, that the term "Contingent Obligation" shall not include endorsements for collection or deposit in the ordinary course of business. The amount of any Contingent Obligation shall be deemed to be an amount equal to the stated or determined amount of the primary obligation in respect of which such Contingent Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by such Person in good faith; provided, however, that such amount shall not in any event exceed the maximum amount of the obligations under the guarantee or other support arrangement.

"Copyright License" means any written agreement granting any right to use any Copyright or Copyright registration, now owned or hereafter acquired by Borrower or in which Borrower now holds or hereafter acquires any interest.

"Copyrights" means all copyrights, whether registered or unregistered, held pursuant to the laws of the United States, any State thereof, or of any other country.

"Deposit Accounts" means any "deposit accounts," as such term is defined in the UCC, and includes any checking account, savings account, or certificate of deposit.

"Domestic Subsidiary" means any Subsidiary that is not a Foreign Subsidiary.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended, and the regulations promulgated thereunder.

"Excluded Property" means any property, right or asset held by the Borrower to the extent that a grant of a security interest therein constitutes a breach or default under or results in the termination of or requires any consent not obtained under, any contract, license, agreement, instrument or other document evidencing or giving rise to such property, except to the extent that the term in such contract, license, agreement, instrument or other document providing for such prohibition, breach, default or termination or requiring such consent is ineffective under Section 9406, 9407, 9408 or 9409 of the UCC (or any successor provision or provisions) of any relevant jurisdiction or any other applicable law (including the U.S. Bankruptcy Code) or principles of equity; provided, however, that such security interest shall attach immediately at such time as such prohibition, breach, default or termination is no longer applicable or is waived, and to the extent severable, shall attach immediately to any portion of the Collateral that does not result in such consequences.

"Event of Default" has the meaning given to it in Section 9.

"Facility Charge" means $75,000, representing one percent (1.0%) of Maximum Term Loan Amount.

"Financial Statements" has the meaning given to it in Section 7.1.

"Foreign Subsidiary" means any Subsidiary other than a Subsidiary organized under the laws of any state or other jurisdiction within the United States.

"GAAP" means generally accepted accounting principles in the United States of America, as in effect from time to time.

"Indebtedness" means indebtedness of any kind, including (a) all indebtedness for borrowed money or the deferred purchase price of property or services (excluding trade credit entered into in the ordinary course of business due within sixty (60) days), including reimbursement and other obligations with respect to surety bonds and letters of credit, (b) all obligations evidenced by notes, bonds, debentures or similar instruments, (c) all capital lease obligations, and (d) all Contingent Obligations.

"Initial Public Offering" means the initial firm commitment underwritten offering of Borrower's common stock pursuant to a registration statement under the Securities Act of 1933, as amended, filed with and declared effective by the Securities and Exchange Commission.

"Insolvency Proceeding" is any proceeding by or against any Person under the United States Bankruptcy Code, or any other bankruptcy or insolvency law, including assignments for the benefit of creditors, compositions, extensions generally with its creditors, or proceedings seeking reorganization, arrangement, or other similar relief.

"Intellectual Property" means all of Borrower's Copyrights; Trademarks; Patents; Licenses; trade secrets and inventions; mask works; Borrower's applications therefor and reissues, extensions, or renewals thereof; and Borrower's goodwill associated with any of the foregoing, together with Borrower's rights to sue for past, present and future infringement of Intellectual Property and the goodwill associated therewith.

"Interest Only Extension Conditions" shall mean satisfaction of each of the following events: (a) no default or Event of Default shall have occurred; and (b) Borrower shall have received the second tranche of Borrower's Preferred Series B equity financing in an amount of at least $15,000,000 funded on at least the same terms and conditions as the closing of the initial tranche of Borrower's Preferred Series B equity financing, or received minimum net proceeds of at least $15,000,000 from an Initial Public Offering.

"Investment" means any beneficial ownership (including stock, partnership or limited liability company interests) of or in any Person, or any loan, advance or capital contribution to any Person or the acquisition of all, or substantially all, of the assets of another Person.

"Joinder Agreements" means for each Subsidiary other than a Foreign Subsidiary, a completed and executed Joinder Agreement in substantially the form attached hereto as Exhibit G.

"Lender" has the meaning given to it in the preamble to this Agreement.

"License" means any Copyright License, Patent License, Trademark License or other license of rights or interests.

"Lien" means any mortgage, deed of trust, pledge, hypothecation, assignment for security, security interest, encumbrance, levy, lien or charge of any kind, whether voluntarily incurred or arising by operation of law or otherwise, against any property, any conditional sale or other title retention agreement, and any lease in the nature of a security interest.

"Loan" means the Advances made under this Agreement.

"Loan Documents" means this Agreement, the Notes (if any), the ACH Authorization, the Account Control Agreements, the Joinder Agreements, all UCC Financing Statements, the Warrant, the Subordination Agreement (if any), and any other documents executed in connection with the Secured Obligations or the transactions contemplated hereby, as the same may from time to time be amended, modified, supplemented or restated.

"Material Adverse Effect" means a material adverse effect upon: (i) the business, operations, properties, assets or financial condition of Borrower; or (ii) the ability of Borrower to perform the Secured Obligations in accordance with the terms of the Loan Documents, or the ability of Agent or Lender to enforce any of its rights or remedies with respect to the Secured Obligations; or (iii) the Collateral or Agent's Liens on the Collateral or the priority of such Liens.

"Maximum Term Loan Amount" means Seven Million Five Hundred Thousand and No/100 Dollars ($7,500,000).

"Maximum Rate" shall have the meaning assigned to such term in Section 2.3.

"Note(s)" means a Term Note.

"Patent License" means any written agreement granting any right with respect to any invention on which a Patent is in existence or a Patent application is pending, in which agreement Borrower now holds or hereafter acquires any interest.

"Patents" means all letters patent of, or rights corresponding thereto, in the United States or in any other country, all registrations and recordings thereof, and all applications for letters patent of, or rights corresponding thereto, in the United States or any other country.

"Permitted Indebtedness" means: (i) Indebtedness of Borrower in favor of Lender or Agent arising under this Agreement or any other Loan Document; (ii) Indebtedness existing on the Closing Date which is disclosed in Schedule 1A; (iii) Indebtedness of up to $250,000 outstanding at any time secured by a Lien described in clause (vii) of the defined term "Permitted Liens," provided such Indebtedness does not exceed the lesser of the cost or fair market value of the Equipment financed with such Indebtedness; (iv) Indebtedness to trade creditors incurred in the ordinary course of business, including Indebtedness incurred in the ordinary course of business with corporate credit cards; (v) Indebtedness that also constitutes a Permitted Investment; (vi) Subordinated Indebtedness; (vii) reimbursement obligations in connection with letters of credit that are secured by cash or cash equivalents and issued on behalf of the Borrower or a Subsidiary thereof in an amount not to exceed $250,000 at any time outstanding, (viii) Indebtedness secured by a Lien described in clause (xi) of the defined term Permitted Liens; (ix) other Indebtedness in an amount not to exceed $250,000 at any time outstanding, and

(x) extensions, refinancings and renewals of any items of Permitted Indebtedness, provided that the principal amount is not increased or the terms modified to impose materially more burdensome terms upon Borrower or its Subsidiary, as the case may be.

"Permitted Investment" means: (i) Investments existing on the Closing Date which are disclosed in Schedule 1B; (ii) (a) marketable direct obligations issued or unconditionally guaranteed by the United States of America or any agency or any State thereof maturing within one year from the date of acquisition thereof, (b) commercial paper maturing no more than one year from the date of creation thereof and currently having a rating of at least A-2 or P-2 from either Standard & Poor's Corporation or Moody's Investors Service, (c) certificates of deposit issued by any bank with assets of at least $500,000,000 maturing no more than one year from the date of investment therein, and (d) money market accounts; (iii) Investments consisting of the endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business ; (iv) repurchases of stock from former employees, directors, or consultants of Borrower under the terms of applicable repurchase agreements at the original issuance price of such securities in an aggregate amount not to exceed $250,000 in any fiscal year, provided that no Event of Default has occurred, is continuing or would exist after giving effect to the repurchases; (v) Investments accepted in connection with Permitted Transfers; (vi) Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of Borrower's business; (vii) Investments consisting of notes receivable of, or prepaid royalties and other credit extensions, to customers and suppliers who are not affiliates, in the ordinary course of business, provided that this subparagraph (vii) shall not apply to Investments of Borrower in any Subsidiary; (viii) Investments consisting of loans not involving the net transfer on a substantially contemporaneous basis of cash proceeds to employees, officers or directors relating to the purchase of capital stock of Borrower pursuant to employee stock purchase plans or other similar agreements approved by Borrower's Board of Directors; (ix) Investments consisting of relocation loans not to exceed $250,000 in the aggregate outstanding at any time and travel advances in the ordinary course of business; (x) Investments in newly-formed Domestic Subsidiaries, provided that each such Domestic Subsidiary enters into a Joinder Agreement promptly after its formation by Borrower and execute such other documents as shall be reasonably requested by Agent; (xi) Investments in Foreign Subsidiaries approved in advance in writing by Agent; (xii) joint ventures or strategic alliances in the ordinary course of Borrower's business consisting of the nonexclusive licensing of technology, the development of technology or the providing of technical support, provided that any cash Investments by Borrower do not exceed $250,000 in the aggregate in any fiscal year; (xiii) Investments consisting of deposit accounts or securities accounts subject to compliance with Section 7.12; and (xiv) additional Investments that do not exceed $250,000 in the aggregate.

"Permitted Liens" means any and all of the following: (i) Liens in favor of Agent or Lender; (ii) Liens existing on the Closing Date which are disclosed in Schedule 1C; (iii) Liens for taxes, fees, assessments or other governmental charges or levies, either not delinquent or being contested in good faith by appropriate proceedings; provided, that Borrower maintains adequate reserves therefor in accordance with GAAP; (iv) Liens securing claims or demands of materialmen, artisans, mechanics, carriers, warehousemen, landlords and other like Persons arising in the ordinary course of Borrower's business and imposed without action of such parties; provided, that the payment thereof is not yet required; (v) Liens arising from judgments, decrees or attachments in circumstances which do not constitute an Event of Default hereunder; (vi) the following deposits, to the extent made in the ordinary course of business: deposits under worker's compensation, unemployment insurance, social security and other similar laws, or to secure the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure indemnity, performance or other similar bonds for the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure statutory obligations (other than Liens arising under ERISA or environmental Liens) or surety or appeal bonds, or to secure indemnity, performance or other similar bonds; (vii) Liens on Equipment or software or other intellectual property constituting purchase money Liens and Liens in connection with capital leases

securing Indebtedness permitted in clause (iii) of "Permitted Indebtedness"; (viii) Liens incurred in connection with Subordinated Indebtedness; (ix) leasehold interests in leases or subleases and licenses granted by Borrower or any of its Subsidiaries in the ordinary course of business and not interfering in any material respect with the business of the licensor; (x) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of custom duties that are promptly paid on or before the date they become due; (xi) Liens securing the payment of financed insurance premiums that are promptly paid on or before the date they become due, provided that such Liens extend only to the insurance policies so financed and all money due Borrower thereunder (including the return of premiums and dividends) to the extent of any unpaid policy premiums or financing and not to any other property or assets; (xii) statutory and common law rights of set-off and other similar rights as to deposits of cash and securities in favor of banks, other depository institutions and brokerage firms; (xiii) easements, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business so long as they do not materially impair the value or marketability of the related property; (xiv) Liens on cash or cash equivalents securing obligations permitted under clause (vii) of the definition of Permitted Indebtedness; and (xv) Liens incurred in connection with the extension, renewal or refinancing of the Indebtedness secured by Liens of the type described in clauses (i) through (xiv) above; provided, that any extension, renewal or replacement Lien shall be limited to the property encumbered by the existing Lien and the principal amount of the Indebtedness being extended, renewed or refinanced (as may have been reduced by any payment thereon) does not increase.

"Permitted Transfers" means (i) sales of Inventory in the ordinary course of business, (ii) licenses and similar arrangements for the use of Intellectual Property that could not result in a legal transfer of title of the licensed property but that may be exclusive in respects other than territory and that may be exclusive as to territory only as to discrete geographical areas outside of the United States, in each case in the ordinary course of business, (iii) dispositions of worn-out, obsolete or surplus Equipment at fair market value in the ordinary course of business, (iv) Permitted Liens and Permitted Investments, and (v) other Transfers of assets having a fair market value of not more than $250,000 in the aggregate in any fiscal year.

"Person" means any individual, sole proprietorship, partnership, joint venture, trust, unincorporated organization, association, corporation, limited liability company, institution, other entity or government.

"Preferred Stock" means at any given time any equity security issued by Borrower that has any rights, preferences or privileges senior to Borrower's common stock.

"Prepayment Charge" shall have the meaning assigned to such term in Section 2.5.

"Receivables" means (i) all of Borrower's Accounts, Instruments, Documents, Chattel Paper, Supporting Obligations, letters of credit, proceeds of any letter of credit, and Letter of Credit Rights, and (ii) all customer lists, software, and business records related thereto.

"Required Lenders" means at any time, the holders of more than 50% of the aggregate unpaid principal amount of the Term Loans then outstanding.

"Secured Obligations" means Borrower's obligations under this Agreement and any Loan Document (but excluding the Warrant), including any obligation to pay any amount now owing or later arising.

"Subordinated Indebtedness" means Indebtedness subordinated to the Secured Obligations in amounts and on terms and conditions satisfactory to Agent in its sole discretion.

"Subordination Agreement" means any written subordination agreement among Borrower, Agent and the subordinating creditor thereunder regarding specific Subordinated Indebtedness, as applicable.

"Subsequent Financing" means the closing of any Borrower financing, including without limitation a second tranche of Preferred Series B equity or Initial Public Offering, which becomes effective after the Closing Date and results in aggregate proceeds to Borrower of at least $15,000,000.

"Subsidiary" means an entity, whether corporate, partnership, limited liability company, joint venture or otherwise, in which Borrower owns or controls 50% or more of the outstanding voting securities, including each entity listed on Schedule 1 hereto.

"Term Commitment" means as to any Lender, the obligation of such Lender, if any, to make a Term Loan Advance to the Borrower in a principal amount not to exceed the amount set forth under the heading "Term Commitment" opposite such Lender's name on Schedule 1.1.

"Term Loan Advance" means any Term Loan funds advanced under this Agreement.

"Term Loan Interest Rate" means for any day a floating per annum rate of interest equal to the greater of either (i) 7.95% plus the prime rate as reported in The Wall Street Journal minus 3.25%, and (ii) 7.95%.

"Term Loan Maturity Date" means August 1, 2017, but if the Interest Only Conditions are satisfied, then May 1, 2018.

"Term Note" means a Promissory Note in substantially the form of Exhibit B.

"Trademark License" means any written agreement granting any right to use any Trademark or Trademark registration, now owned or hereafter acquired by Borrower or in which Borrower now holds or hereafter acquires any interest.

"Trademarks" means all trademarks (registered, common law or otherwise) and any applications in connection therewith, including registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof.

"UCC" means the Uniform Commercial Code as the same is, from time to time, in effect in the State of California; provided, that in the event that, by reason of mandatory provisions of law, any or all of the attachment, perfection or priority of, or remedies with respect to, Agent's Lien on any Collateral is governed by the Uniform Commercial Code as the same is, from time to time, in effect in a jurisdiction other than the State of California, then the term "UCC" shall mean the Uniform Commercial Code as in effect, from time to time, in such other jurisdiction solely for purposes of the provisions thereof relating to such attachment, perfection, priority or remedies and for purposes of definitions related to such provisions.

"Warrant" means any warrant entered into in connection with the Loan, as may be amended, restated or modified from time to time.

Unless otherwise specified, all references in this Agreement or any Annex or Schedule hereto to a "Section," "subsection," "Exhibit," "Annex," or "Schedule" shall refer to the corresponding Section, subsection, Exhibit, Annex, or Schedule in or to this Agreement. Unless otherwise specifically provided herein, any accounting term used in this Agreement or the other Loan Documents shall have the meaning customarily given such term in accordance with GAAP, and all financial computations hereunder shall be computed in accordance with GAAP, consistently applied. Unless otherwise defined herein or in the other Loan Documents, terms that are used herein or in the other Loan Documents and defined in the UCC shall have the meanings given to them in the UCC.

SECTION 2. ***THE LOAN***

2.1 [Intentionally Omitted.]

2.2 Term Loan.

(a) Advances. Subject to the terms and conditions of this Agreement, Lender will severally (and not jointly) make in an amount not to exceed its respective Term Commitment, and Borrower agrees to draw, a Term Loan Advance of $7,500,000 on the Closing Date. The aggregate outstanding Term Loan Advances shall not exceed the Maximum Term Loan Amount.

(b) Advance Request. To obtain a Term Loan Advance, Borrower shall complete, sign and deliver an Advance Request (at least five (5) Business Days before the Advance Date) to Agent. Lender shall fund the Term Loan Advance in the manner requested by the Advance Request provided that each of the conditions precedent to such Term Loan Advance is satisfied as of the requested Advance Date.

(c) Interest. The principal balance of each Term Loan Advance shall bear interest thereon from such Advance Date at the Term Loan Interest Rate based on a year consisting of 360 days, with interest computed daily based on the actual number of days elapsed. The Term Loan Interest Rate will float and change on the day the Prime Rate changes from time to time.

(d) Payment. Borrower will pay interest on each Term Loan Advance on the first (1st) Business Day of each month, beginning the month after the Advance Date. Borrower shall repay the aggregate principal balance of the Term Loan Advances that is outstanding on the day immediately preceding the Amortization Date, in equal monthly installments of principal and interest (mortgage style) beginning on the Amortization Date and continuing on the first (1st) Business Day of each month thereafter until the Secured Obligations are repaid. After any change in the effective rate hereunder, Agent shall recalculate future payments of principal and interest to fully amortize the outstanding principal amount over the remaining scheduled monthly payments hereunder prior to the Term Loan Maturity Date. The entire principal balance of the Term Loan Advance and all accrued but unpaid interest hereunder, shall be due and payable on Term Loan Maturity Date. Borrower shall make all payments under this Agreement without setoff, recoupment or deduction and regardless of any counterclaim or defense. Lender will initiate debit entries to the Borrower's account as authorized on the ACH Authorization on each payment date of all periodic obligations payable to Lender under each Term Loan Advance.

2.3 Maximum Interest. Notwithstanding any provision in this Agreement or any other Loan Document, it is the parties' intent not to contract for, charge or receive interest at a rate that is greater than the maximum rate permissible by law that a court of competent jurisdiction shall deem applicable hereto (which under the laws of the State of California shall be deemed to be the laws relating to permissible rates of interest on commercial loans) (the "Maximum Rate"). If a court of competent jurisdiction shall finally determine that Borrower has actually paid to Lender an amount of interest in excess of the amount that would have been payable if all of the Secured Obligations had at all times borne interest at the Maximum Rate, then such excess interest actually paid by Borrower shall be applied as follows: first, to the payment of the Secured Obligations consisting of the outstanding principal amount of the Term Loan Advances; second, after all principal is repaid, to the payment of Lender's accrued interest, costs, expenses, professional fees and any other Secured Obligations; and third, after all Secured Obligations are repaid, the excess (if any) shall be refunded to Borrower.

2.4 Default Interest. In the event any payment is not paid on the scheduled payment date, an amount equal to three percent (3%) of the past due amount shall be payable on demand. In addition, upon the occurrence and during the continuation of an Event of Default hereunder, all Secured Obligations, including principal, interest, compounded interest, and professional fees, shall bear interest at a rate per annum equal to the rate set forth in 2.2(c), plus three percent (3%) per annum. In the event any

interest is not paid when due hereunder, delinquent interest shall be added to principal and shall bear interest on interest, compounded at the rate set forth in Section 2.2(c) or Section 2.4, as applicable.

2.5 Prepayment. At its option upon at least seven (7) Business Days prior notice to Agent, Borrower may prepay all, but not less than all, of the outstanding Advances by paying the entire principal balance, all accrued and unpaid interest thereon, together with a prepayment charge equal to the following percentage of the Advance amount being prepaid: if such Advance amounts are prepaid in any of the first twelve (12) months following the Closing Date, 2.0%; after twelve (12) months but prior to twenty four (24) months, 1.0% (each, a "Prepayment Charge"); and none thereafter. Borrower agrees that the Prepayment Charge is a reasonable calculation of Lender's lost profits in view of the difficulties and impracticality of determining actual damages resulting from an early repayment of the Advances. Borrower shall prepay the outstanding amount of all principal and accrued interest through the prepayment date and the Prepayment Charge upon the occurrence of a Change in Control.

2.6 End of Term Charge. On the earliest to occur of (i) the Term Loan Maturity Date, (ii) the date that Borrower prepays the outstanding Secured Obligations, or (iii) the date that the Secured Obligations become due and payable, Borrower shall pay Lender a charge of $187,500. Notwithstanding the required payment date of such charge, it shall be deemed earned by Lender as of the Closing Date.

2.7 Notes. If so requested by Lender by written notice to Borrower, then Borrower shall execute and deliver to Lender (and/or, if applicable and if so specified in such notice, to any Person who is an assignee of Lender pursuant to Section 11.13) (promptly after the Borrower's receipt of such notice) a Note or Notes to evidence Lender's Loans.

2.8 Pro Rata Treatment. Each payment (including prepayment) on account of any fee and any reduction of the Loans shall be made pro rata according to the Term Commitments of the relevant Lender.

SECTION 3. *SECURITY INTEREST*

3.1 As security for the prompt, complete and indefeasible payment when due (whether on the payment dates or otherwise) of all the Secured Obligations, Borrower grants to Agent a security interest in all of Borrower's right, title, and interest in and to the following personal property whether now owned or hereafter acquired (collectively, the "Collateral"): (a) Receivables; (b) Equipment; (c) Fixtures; (d) General Intangibles (other than Intellectual Property); (e) Inventory; (f) Investment Property; (g) Deposit Accounts; (h) Cash; (i) Goods; and all other tangible and intangible personal property of Borrower whether now or hereafter owned or existing, leased, consigned by or to, or acquired by, Borrower and wherever located, and any of Borrower's property in the possession or under the control of Agent; and, to the extent not otherwise included, all Proceeds of each of the foregoing and all accessions to, substitutions and replacements for, and rents, profits and products of each of the foregoing**;** *provided*, however, that the Collateral shall include all Accounts and General Intangibles that consist of rights to payment and proceeds from the sale, licensing or disposition of all or any part, or rights in, the Intellectual Property (the "Rights to Payment"). Notwithstanding the foregoing, if a judicial authority (including a U.S. Bankruptcy Court) holds that a security interest in the underlying Intellectual Property is necessary to have a security interest in the Rights to Payment, then the Collateral shall automatically, and effective as of the date of this Agreement, include the Intellectual Property to the extent necessary to permit perfection of Agent's security interest in the Rights to Payment. Upon payment in full of the Secured Obligations (other than inchoate indemnity obligations), Agent's Lien on and security interest in the Collateral shall terminate and be automatically released and all rights therein shall revert to Borrower.

3.2 Notwithstanding the broad grant of the security interest set forth in Section 3.1, above, the Collateral shall not include (i) any Excluded Property or (ii) more than 65% of the presently existing and hereafter arising issued and outstanding shares of capital stock owned by Borrower of any Foreign Subsidiary which shares entitle the holder thereof to vote for directors or any other matter.

SECTION 4. *CONDITIONS PRECEDENT TO LOAN*

The obligations of Lender to make the Term Loan Advances hereunder are subject to the satisfaction by Borrower of the following conditions:

4.1 Initial Advance. On or prior to the Closing Date, Borrower shall have delivered to Agent the following:

(a) executed originals of the Loan Documents, Account Control Agreements, and all other documents and instruments reasonably required by Agent to effectuate the transactions contemplated hereby or to create and perfect the Liens of Agent with respect to all Collateral, in all cases in form and substance reasonably acceptable to Agent;

(b) certified copy of resolutions of Borrower's board of directors evidencing approval of (i) the Loan and other transactions evidenced by the Loan Documents; and (ii) the Warrant and transactions evidenced thereby;

(c) certified copies of the Certificate of Incorporation and the Bylaws, as amended through the Closing Date, of Borrower;

(d) a certificate of good standing for Borrower from its state of incorporation and similar certificates from all other jurisdictions in which it does business and where the failure to be qualified would have a Material Adverse Effect;

(e) payment of the Facility Charge and reimbursement of Agent's and Lender's current expenses reimbursable pursuant to this Agreement, which amounts may be deducted from the initial Advance; and

(f) such other documents as Agent may reasonably request.

4.2 All Advances. On each Advance Date:

(a) Agent shall have received (i) an Advance Request for the relevant Advance as required by 2.2(b), each duly executed by Borrower's Chief Executive Officer or Chief Financial Officer, and (ii) any other documents Agent may reasonably request.

(b) The representations and warranties set forth in Section 5 of this Agreement and in the Warrant shall be true and correct in all material respects on and as of the Advance Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date.

(c) Borrower shall be in compliance with all the terms and provisions set forth herein and in each other Loan Document on its part to be observed or performed, and at the time of and immediately after such Advance no Event of Default shall have occurred and be continuing.

(d) Each Advance Request shall be deemed to constitute a representation and warranty by Borrower on the relevant Advance Date as to the matters specified in paragraphs (b) and (c) of this Section 4.2 and as to the matters set forth in the Advance Request.

4.3 No Default. As of the Closing Date and each Advance Date, (i) no fact or condition exists that would (or would, with the passage of time, the giving of notice, or both) constitute an Event of Default and (ii) no event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing.

SECTION 5. *REPRESENTATIONS AND WARRANTIES OF BORROWER*

Borrower represents and warrants that:

5.1 Corporate Status. Borrower is a corporation duly organized, legally existing and in good standing under the laws of the State of Delaware, and is duly qualified as a foreign corporation in all

jurisdictions in which the nature of its business or location of its properties require such qualifications and where the failure to be qualified could reasonably be expected to have a Material Adverse Effect. Borrower's present name, former names (if any), locations, place of formation, tax identification number, organizational identification number and other information are correctly set forth in Exhibit C, as may be updated by Borrower in a written notice (including any Compliance Certificate) provided to Agent after the Closing Date.

5.2 Collateral. Borrower owns the Collateral and the Intellectual Property, free of all Liens, except for Permitted Liens. Borrower has the power and authority to grant to Agent a Lien in the Collateral as security for the Secured Obligations.

5.3 Consents. Borrower's execution, delivery and performance of this Agreement and all other Loan Documents, and Borrower's execution of the Warrant, (i) have been duly authorized by all necessary corporate action of Borrower, (ii) will not result in the creation or imposition of any Lien upon the Collateral, other than Permitted Liens and the Liens created by this Agreement and the other Loan Documents, (iii) do not violate any provisions of Borrower's Certificate or Articles of Incorporation (as applicable), bylaws, or any, law, regulation, order, injunction, judgment, decree or writ to which Borrower is subject and (iv) except as described on Schedule 5.3, do not violate any contract or agreement or require the consent or approval of any other Person which has not already been obtained. The individual or individuals executing the Loan Documents and the Warrant are duly authorized to do so.

5.4 Material Adverse Effect. No event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing. Borrower is not aware of any event likely to occur that is reasonably expected to result in a Material Adverse Effect.

5.5 Actions Before Governmental Authorities. Except as described on Schedule 5.5, there are no actions, suits or proceedings at law or in equity or by or before any governmental authority now pending or, to the knowledge of Borrower, threatened against or affecting Borrower or its property.

5.6 Laws. Borrower is not in violation of any law, rule or regulation, or in default with respect to any judgment, writ, injunction or decree of any governmental authority, where such violation or default is reasonably expected to result in a Material Adverse Effect. Borrower is not in default in any manner under any provision of any agreement or instrument evidencing Indebtedness, or any other material agreement to which it is a party or by which it is bound.

5.7 Information Correct and Current. No information, report, Advance Request, financial statement, exhibit or schedule furnished, by or on behalf of Borrower to Agent in connection with any Loan Document or included therein or delivered pursuant thereto contained, contains or will contain any material misstatement of fact or omitted, omits or will omit to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were, are or will be made, not misleading at the time such statement was made or deemed made. Additionally, any and all financial or business projections provided by Borrower to Agent, whether prior to or after the Closing Date, shall be (i) provided in good faith and based on the most current data and information available to Borrower, and (ii) the most current of such projections provided to Borrower's Board of Directors.

5.8 Tax Matters. Except as described on Schedule 5.8, (a) Borrower has filed all federal, state and local tax returns that it is required to file, (b) Borrower has duly paid or fully reserved for all taxes or installments thereof (including any interest or penalties) as and when due, which have or may become due pursuant to such returns, and (c) Borrower has paid or fully reserved for any tax assessment received by Borrower for the three (3) years preceding the Closing Date, if any (including any taxes being contested in good faith and by appropriate proceedings).

5.9 Intellectual Property Claims. Borrower is the sole owner of, or otherwise has the right to use, the Intellectual Property. Except as described on Schedule 5.9, (i) each of the material Copyrights, Trademarks and Patents is valid and enforceable, (ii) no material part of the Intellectual Property has been judged invalid or unenforceable, in whole or in part, and (iii) no claim has been made to Borrower

that any material part of the Intellectual Property violates the rights of any third party. Exhibit D is a true, correct and complete list of each of Borrower's Patents, registered Trademarks, registered Copyrights, and material agreements under which Borrower licenses Intellectual Property from third parties (other than shrink-wrap software licenses), together with application or registration numbers, as applicable, owned by Borrower or any Subsidiary, in each case as of the Closing Date. Borrower is not in material breach of, nor has Borrower failed to perform any material obligations under, any of the foregoing contracts, licenses or agreements and, to Borrower's knowledge, no third party to any such contract, license or agreement is in material breach thereof or has failed to perform any material obligations thereunder.

5.10 Intellectual Property. Except as described on Schedule 5.10, Borrower has, or in the case of any proposed business, will have, all material rights with respect to Intellectual Property necessary in the operation or conduct of Borrower's business as currently conducted and proposed to be conducted by Borrower. Without limiting the generality of the foregoing, and in the case of Licenses, except for restrictions that are unenforceable under Division 9 of the UCC and restrictions that may be enforceable under foreign law, Borrower has the right, to the extent required to operate Borrower's business, to freely transfer, license or assign Intellectual Property without condition, restriction or payment of any kind (other than license payments in the ordinary course of business) to any third party, and Borrower owns or has the right to use, pursuant to valid licenses, all software development tools, library functions, compilers and all other third-party software and other items that are used in the design, development, promotion, sale, license, manufacture, import, export, use or distribution of Borrower Products.

5.11 Borrower Products. Except as described on Schedule 5.11, no Intellectual Property owned by Borrower or Borrower Product has been or is subject to any actual or, to the knowledge of Borrower, threatened litigation, proceeding (including any proceeding in the United States Patent and Trademark Office or any corresponding foreign office or agency) or outstanding decree, order, judgment, settlement agreement or stipulation that restricts in any manner Borrower's use, transfer or licensing thereof or that may affect the validity, use or enforceability thereof. There is no decree, order, judgment, agreement, stipulation, arbitral award or other provision entered into in connection with any litigation or proceeding that obligates Borrower to grant licenses or ownership interest in any future Intellectual Property related to the operation or conduct of the business of Borrower or Borrower Products. Borrower has not received any written notice or claim, or, to the knowledge of Borrower, oral notice or claim, challenging or questioning Borrower's ownership in any Intellectual Property (or written notice of any claim challenging or questioning the ownership in any licensed Intellectual Property of the owner thereof) or suggesting that any third party has any claim of legal or beneficial ownership with respect thereto nor, to Borrower's knowledge, is there a reasonable basis for any such claim. Neither Borrower's use of its Intellectual Property nor the production and sale of Borrower Products infringes the Intellectual Property or other rights of others.

5.12 Financial Accounts. Exhibit E, as may be updated by the Borrower in a written notice provided to Agent after the Closing Date, is a true, correct and complete list of (a) all banks and other financial institutions at which Borrower or any Subsidiary maintains Deposit Accounts and (b) all institutions at which Borrower or any Subsidiary maintains an account holding Investment Property, and such exhibit correctly identifies the name, address and telephone number of each bank or other institution, the name in which the account is held, a description of the purpose of the account, and the complete account number therefor.

5.13 Employee Loans. Except for Permitted Investments of the type described in clause (viii) or (ix) of the definition thereof, Borrower has no outstanding loans to any employee, officer or director of the Borrower nor has Borrower guaranteed the payment of any loan made to an employee, officer or director of the Borrower by a third party.

5.14 Capitalization and Subsidiaries. Borrower's capitalization as of the Closing Date is set forth on Schedule 5.14 annexed hereto. Borrower does not own any stock, partnership interest or other securities of any Person, except for Permitted Investments. Attached as Schedule 5.14, as may be updated by Borrower in a written notice provided after the Closing Date, is a true, correct and complete list of each Subsidiary.

5.15 JOBS Act. Borrower has confidentially submitted a registration statement to the Securities and Exchange Commission under the JOBS Act for confidential, nonpublic review.

SECTION 6. *INSURANCE; INDEMNIFICATION*

6.1 Coverage. Borrower shall cause to be carried and maintained commercial general liability insurance, on an occurrence form, against risks customarily insured against in Borrower's line of business. Such risks shall include the risks of bodily injury, including death, property damage, personal injury, advertising injury, and contractual liability per the terms of the indemnification agreement found in Section 6.3. Borrower must maintain a minimum of $2,000,000 of commercial general liability insurance for each occurrence. Borrower has and agrees to maintain a minimum of $2,000,000 of directors' and officers' insurance for each occurrence and $5,000,000 in the aggregate. So long as there are any Secured Obligations (other than inchoate indemnity obligations) outstanding, Borrower shall also maintain a key man life insurance policy for the Chief Executive Officer in form and substance reasonably satisfactory to Agent, naming Agent as designated payee. So long as there are any Secured Obligations outstanding, Borrower shall also cause to be carried and maintained insurance upon the Collateral, insuring against all risks of physical loss or damage howsoever caused, in an amount not less than the full replacement cost of the Collateral, provided that such insurance may be subject to standard exceptions and deductibles.

6.2 Certificates. Borrower shall deliver to Agent certificates of insurance that evidence Borrower's compliance with its insurance obligations in Section 6.1 and the obligations contained in this Section 6.2. Borrower's insurance certificate shall state Agent is an additional insured for commercial general liability, a designated payee for the key man life insurance policy, a loss payee for all risk property damage insurance, subject to the insurer's approval, and a loss payee for property insurance and additional insured for liability insurance for any future insurance that Borrower may acquire from such insurer. Attached to the certificates of insurance will be additional insured endorsements for liability and lender's loss payable endorsements for all risk property damage insurance. All certificates of insurance will provide for a minimum of thirty (30) days (ten (10) days for non-payment of premium) advance written notice to Agent of cancellation or any other change adverse to Agent's interests. Any failure of Agent to scrutinize such insurance certificates for compliance is not a waiver of any of Agent's rights, all of which are reserved.

6.3 Indemnity. Borrower agrees to indemnify and hold Agent, Lender and their officers, directors, employees, agents, in-house attorneys, representatives and shareholders (each, an "Indemnified Person") harmless from and against any and all claims, costs, expenses, damages and liabilities (including such claims, costs, expenses, damages and liabilities based on liability in tort, including strict liability in tort), including reasonable attorneys' fees and disbursements and other costs of investigation or defense (including those incurred upon any appeal) (collectively, "Liabilities"), that may be instituted or asserted against or incurred by such Indemnified Person as the result of credit having been extended, suspended or terminated under this Agreement and the other Loan Documents or the administration of such credit, or in connection with or arising out of the transactions contemplated hereunder and thereunder, or any actions or failures to act in connection therewith, or arising out of the disposition or utilization of the Collateral, excluding in all cases Liabilities to the extent resulting solely from any Indemnified Person's gross negligence or willful misconduct. Borrower agrees to pay, and to save Agent and Lender harmless from, any and all liabilities with respect to, or resulting from any delay in paying, any and all excise, sales or other similar taxes (excluding taxes imposed on or measured by the net income of Agent or Lender) that may be payable or determined to be payable with respect to any of the

Collateral or this Agreement. In no event shall any Indemnified Person be liable on any theory of liability for any special, indirect, consequential or punitive damages (including any loss of profits, business or anticipated savings).

SECTION 7. *COVENANTS OF BORROWER*

Borrower agrees as follows:

7.1 Financial Reports. Borrower shall furnish to Agent the financial statements and reports listed hereinafter (the "Financial Statements"):

(a) as soon as practicable (and in any event within 30 days) after the end of each month, unaudited interim and year-to-date financial statements as of the end of such month (prepared on a consolidated and consolidating basis, if applicable), including balance sheet and related statements of income and cash flows accompanied by a report detailing any material contingencies (including the commencement of any material litigation by or against Borrower) or any other occurrence that would reasonably be expected to have a Material Adverse Effect, all certified by Borrower's Chief Executive Officer or Chief Financial Officer to the effect that they have been prepared in accordance with GAAP, except (i) for the absence of footnotes, (ii) that they are subject to normal year end adjustments, and (iii) they do not contain certain non-cash items that are customarily included in quarterly and annual financial statements;

(b) as soon as practicable (and in any event within 45 days) after the end of each calendar quarter, unaudited interim and year-to-date financial statements as of the end of such calendar quarter (prepared on a consolidated and consolidating basis, if applicable), including balance sheet and related statements of income and cash flows accompanied by a report detailing any material contingencies (including the commencement of any material litigation by or against Borrower) or any other occurrence that would reasonably be expected to have a Material Adverse Effect, certified by Borrower's Chief Executive Officer or Chief Financial Officer to the effect that they have been prepared in accordance with GAAP, except (i) for the absence of footnotes, and (ii) that they are subject to normal year end adjustments; as well as the most recent capitalization table for Borrower if there were any changes from the last capitalization table provided, including the weighted average exercise price of employee stock options;

(c) as soon as practicable (and in any event within one hundred eighty (180) days) after the end of each fiscal year, unqualified audited financial statements as of the end of such year (prepared on a consolidated basis, if applicable), including balance sheet and related statements of income and cash flows, and setting forth in comparative form the corresponding figures for the preceding fiscal year, certified by a firm of independent certified public accountants selected by Borrower and reasonably acceptable to Agent, accompanied by any management report from such accountants;

(d) as soon as practicable (and in any event within 30 days) after the end of each month, a Compliance Certificate in the form of Exhibit F;

(e) as soon as practicable (and in any event within 14 Business Days) after the end of each month, a report showing agings of accounts receivable and accounts payable;

(f) promptly after the sending or filing thereof, as the case may be, copies of any proxy statements, financial statements or reports that Borrower has made available to holders of its Preferred Stock and copies of any regular, periodic and special reports or registration statements that Borrower files with the Securities and Exchange Commission or any governmental authority that may be substituted therefor, or any national securities exchange;

(g) at the same time and in the same manner as it gives to its directors, copies of all notices, minutes, consents and other materials that Borrower provides to its directors in connection

with meetings of the Board of Directors, and within 30 days after each such meeting, minutes of such meeting, provided that in all cases Borrower may exclude confidential compensation information, attorney/client privileged communications, matters that present a direct conflict of interest to Agent or any Lender, such as a take-out financing proposal, and executive session materials; and

(h) financial and business projections promptly following their approval by Borrower's Board of Directors, and in any event, within 30 days after the commencement of Borrower's fiscal year, as well as budgets, operating plans and other financial information reasonably requested by Agent.

Borrower shall not (without the consent of Agent, such consent not to be unreasonably withheld or delayed), make any change in its (a) accounting policies or reporting practices, except as required by GAAP or (b) fiscal years or fiscal quarters. The fiscal year of Borrower shall end on December 31.

The executed Compliance Certificate may be sent via facsimile to Agent at (650) 473-9194 or via e-mail to pedwards@herculestech.com. All Financial Statements required to be delivered pursuant to clauses (a), (b) and (c) shall be sent via e-mail to financialstatements@herculestech.com with a copy to pedwards@herculestech.com provided, that if e-mail is not available or sending such Financial Statements via e-mail is not possible, they shall be sent via facsimile to Agent at: (866) 468-8916, attention Chief Credit Officer.

7.2 Management Rights. Borrower shall permit any representative that Agent or Lender authorizes, including its attorneys and accountants, to inspect the Collateral and examine and make copies and abstracts of the books of account and records of Borrower at reasonable times and upon reasonable notice during normal business hours; provided that, such inspection and examination shall be conducted no more often than twice every twelve (12) months unless an Event of Default has occurred. In addition, any such representative shall have the right to meet with management and officers of Borrower to discuss such books of account and records. In addition, Agent or Lender shall be entitled at reasonable times and intervals to consult with and advise the management and officers of Borrower concerning significant business issues affecting Borrower. Such consultations shall not unreasonably interfere with Borrower's business operations. The parties intend that the rights granted Agent and Lender shall constitute "management rights" within the meaning of 29 C.F.R Section 2510.3-101(d)(3)(ii), but that any advice, recommendations or participation by Agent or Lender with respect to any business issues shall not be deemed to give Agent or Lender, nor be deemed an exercise by Agent or Lender of, control over Borrower's management or policies.

7.3 Further Assurances. Borrower shall from time to time execute, deliver and file, alone or with Agent, any financing statements, security agreements, collateral assignments, notices, control agreements, or other documents to perfect or give the highest priority to Agent's Lien on the Collateral. Borrower shall from time to time procure any instruments or documents as may be reasonably requested by Agent, and take all further action that may be necessary or desirable, or that Agent may reasonably request, to perfect and protect the Liens granted hereby and thereby. In addition, and for such purposes only, Borrower hereby authorizes Agent to execute and deliver on behalf of Borrower and to file such financing statements, collateral assignments, notices, control agreements, security agreements and other documents without the signature of Borrower either in Agent's name or in the name of Agent as agent and attorney-in-fact for Borrower. Borrower shall protect and defend Borrower's title to the Collateral and Agent's Lien thereon against all Persons claiming any interest adverse to Borrower or Agent other than Permitted Liens.

7.4 Indebtedness. Borrower shall not create, incur, assume, guarantee or be or remain liable with respect to any Indebtedness, or permit any Subsidiary so to do, other than Permitted Indebtedness, or prepay any Indebtedness or take any actions which impose on Borrower an obligation to prepay any Indebtedness, except for the Secured Obligations, the conversion of Indebtedness into equity securities and the payment of cash in lieu of fractional shares in connection with such conversion.

7.5 Collateral. Borrower shall at all times keep the Collateral, the Intellectual Property and all other property and assets used in Borrower's business or in which Borrower now or hereafter holds any interest free and clear from any legal process or Liens whatsoever (except for Permitted Liens), and shall give Agent prompt written notice of any legal process affecting the Collateral, the Intellectual Property, such other property and assets, or any Liens thereon, provided however, that the Collateral and such other property and assets may be subject to Permitted Liens except that there shall be no Liens whatsoever on Intellectual Property, except for Permitted Liens described in clause (ix) of the definition thereof. Borrower shall cause its Subsidiaries to protect and defend such Subsidiary's title to its assets from and against all Persons claiming any interest adverse to such Subsidiary, and Borrower shall cause its Subsidiaries at all times to keep such Subsidiary's property and assets free and clear from any legal process or Liens whatsoever (except for Permitted Liens, provided however, that there shall be no Liens whatsoever on Intellectual Property, except for Permitted Liens described in clause (ix) of the definition thereof), and shall give Agent prompt written notice of any legal process affecting such Subsidiary's assets. Borrower shall not agree with any Person other than Agent or Lender not to encumber its property.

7.6 Investments. Borrower shall not directly or indirectly acquire or own, or make any Investment in or to any Person, or permit any of its Subsidiaries so to do, other than Permitted Investments.

7.7 Distributions. Borrower shall not, and shall not allow any Subsidiary to, (a) repurchase or redeem any class of stock or other equity interest other than (i) pursuant to employee, director or consultant stock purchase or repurchase plans or other similar agreements, provided, however, in each case the repurchase or redemption price does not exceed the original consideration paid for such stock or equity interest, and (ii) the conversion of any of its convertible securities into equity securities pursuant to the terms of such convertible securities or otherwise in exchange therefor, or (b) declare or pay any cash dividend or make a cash distribution on any class of stock or other equity interest, except that a Subsidiary may pay dividends or make distributions to Borrower and Borrower may pay dividends solely in common stock, or (c) lend money to any employees, officers or directors or guarantee the payment of any such loans granted by a third party in excess of $250,000 in the aggregate or (d) waive, release or forgive any Indebtedness owed by any employees, officers or directors in excess of $100,000 in the aggregate.

7.8 Transfers. Except for Permitted Transfers, Borrower shall not voluntarily or involuntarily transfer, sell, lease, license, lend or in any other manner convey any equitable, beneficial or legal interest in any material portion of its assets.

7.9 Mergers or Acquisitions. Borrower shall not merge or consolidate, or permit any of its Subsidiaries to merge or consolidate, with or into any other business organization (other than mergers or consolidations of (a) a Subsidiary which is not a Borrower into another Subsidiary or into Borrower or (b) a Borrower into another Borrower), or acquire, or permit any of its Subsidiaries to acquire, all or substantially all of the capital stock or property of another Person.

7.10 Taxes. Borrower and its Subsidiaries shall pay when due all taxes, fees or other charges of any nature whatsoever (together with any related interest or penalties) now or hereafter imposed or assessed against Borrower, Agent, Lender (to the extent assessed in connection with the making of the Loan hereunder but excluding taxes on Agent's or Lender's net income) or the Collateral or upon Borrower's ownership, possession, use, operation or disposition thereof or upon Borrower's rents, receipts or earnings arising therefrom. Borrower shall file on or before the due date therefor all personal property tax returns in respect of the Collateral. Notwithstanding the foregoing, Borrower may contest, in good faith and by appropriate proceedings, taxes for which Borrower maintains adequate reserves therefor in accordance with GAAP.

7.11 Corporate Changes. Neither Borrower nor any Subsidiary shall change its corporate name, legal form or jurisdiction of formation without twenty (20) days' prior written notice to Agent. Neither Borrower nor any Subsidiary of Borrower shall suffer a Change in Control; provided, however, that

Borrower or any Subsidiary of the Borrower may suffer a Change in Control so long as in connection with such Change in Control the Secured Obligations (other than inchoate indemnity obligations) are paid in full. Neither Borrower nor any Domestic Subsidiary shall relocate its chief executive office or its principal place of business unless: (i) it has provided prior written notice to Agent; and (ii) such relocation shall be within the continental United States. Neither Borrower nor any Domestic Subsidiary shall relocate any item of Collateral (other than (w) worn-out, obsolete or surplus Equipment, (x) sales of Inventory in the ordinary course of business, (y) relocations of Equipment having an aggregate value of up to $250,000 in any fiscal year, and (z) relocations of Collateral from a location described on Exhibit C to another location described on Exhibit C) unless (i) it has provided prompt written notice to Agent, (ii) such relocation is within the continental United States and, (iii) if such relocation is to a third party bailee, it has delivered a bailee agreement in form and substance reasonably acceptable to Agent.

7.12 Deposit Accounts. Neither Borrower nor any Domestic Subsidiary shall maintain any Deposit Accounts, or accounts holding Investment Property, except with respect to which Agent has an Account Control Agreement; provided that, upon any Borrower's opening of a new Deposit Account that is subject to an Account Control Agreement in favor of Agent, Agent hereby agrees to permit such Borrower to close any other account that has been replaced by such new Deposit Account upon written request from such Borrower and immediately following all funds in such former account have been transferred to a Deposit Account that is subject to an Account Control Agreement in favor of Agent.

7.13 Borrower shall notify Agent of each Subsidiary formed subsequent to the Closing Date and, within 15 days of formation, shall cause any such Domestic Subsidiary to execute and deliver to Agent a Joinder Agreement.

7.14 Notification of Event of Default. Borrower shall notify Agent immediately of the occurrence of any Event of Default, such notice to be sent via facsimile to Agent.

7.15 [Intentionally Omitted.]

7.16 Post-Closing Items. Borrower shall use its commercially reasonable efforts to deliver or cause to be delivered the documents listed on Schedule 7.16 on or before the corresponding dates set forth on Schedule 7.16.

SECTION 8. *RIGHT TO INVEST*

8.1 Lender or its assignee or nominee shall have the right, in its discretion, to participate (a) in the first tranche of Borrower's Series B financing in an amount of up to $1,000,000 to be funded on the Closing Date, and (b) in the second tranche of Borrower's Series B financing in an amount of up to $1,000,000, on the same terms, conditions and pricing afforded to others participating in the applicable financing.

SECTION 9. *EVENTS OF DEFAULT*

The occurrence of any one or more of the following events shall be an Event of Default:

9.1 Payments. Borrower fails to pay any amount due under this Agreement or any of the other Loan Documents on the due date; provided, however, that an Event of Default shall not occur on account of a failure to pay due solely to an administrative or operational error of Agent or any Lender if Borrower had the funds to make the payment when due and makes the payment within three (3) Business Days following Borrower's knowledge of such failure to pay; or

9.2 Covenants. Borrower breaches or defaults in the performance of any covenant or Secured Obligation under this Agreement, or any of the other Loan Documents or any other agreement among Borrower, Agent and Lender, and (a) with respect to a default under any covenant under this Agreement (other than under Sections 6, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9 and 7.14), any other Loan Document or any other agreement among Borrower, Agent and Lender, such default continues for more than ten (10) days after the earlier of the date on which (i) Agent or Lender has given notice of such default to Borrower and (ii) Borrower has actual knowledge of such default or (b) with respect to a default under any of Sections 6, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9 and 7.14, the occurrence of such default; or

9.3 Material Adverse Effect. A circumstance has occurred that has a Material Adverse Effect; notwithstanding the foregoing, the occurrence of any of the following, in and of itself, shall not constitute a "Material Adverse Effect" for purposes of this Section 9.3: (a) adverse results or delays in any nonclinical or clinical trial, including without limitation, the failure to demonstrate the desired safety or efficacy or any implant or drug; (b) the denial, delay or limitation of approval of, or taking of any other regulatory action by, the United States Food and Drug Administration or any other governmental entity with respect to any implant or drug; or (c) a change in or discontinuation of a strategic partnership or other collaboration or license arrangement; or

9.4 Representations. Any representation or warranty made by Borrower in any Loan Document or in the Warrant shall have been false or misleading in any material respect when made or deemed made; or

9.5 Insolvency. (A) Borrower (i) shall make an assignment for the benefit of creditors; or (ii) shall be unable to pay its debts as they become due, or be unable to pay or perform under the Loan Documents, or shall become insolvent; or (iii) shall file a voluntary petition in bankruptcy; or (iv) shall file any petition, answer, or document seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation pertinent to such circumstances; or (v) shall seek or consent to or acquiesce in the appointment of any trustee, receiver, or liquidator of Borrower or of all or any substantial part (i.e., $33^{1}/_{3}\%$ or more) of the assets or property of Borrower; or (vi) shall cease operations of its business as its business has normally been conducted, or terminate substantially all of its employees; or (vii) Borrower or its directors or majority shareholders shall take any action initiating any of the foregoing actions described in clauses (i) through (vi); or (B) either (i) thirty (30) days shall have expired after the commencement of an involuntary action against Borrower seeking reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation, without such action being dismissed or all orders or proceedings thereunder affecting the operations or the business of Borrower being stayed; or (ii) a stay of any such order or proceedings shall thereafter be set aside and the action setting it aside shall not be timely appealed; or (iii) Borrower shall file any answer admitting or not contesting the material allegations of a petition filed against Borrower in any such proceedings; or (iv) the court in which such proceedings are pending shall enter a decree or order granting the relief sought in any such proceedings; or (v) thirty (30) days shall have expired after the appointment, without the consent or acquiescence of Borrower, of any trustee, receiver or liquidator of Borrower or of all or any substantial part of the properties of Borrower without such appointment being vacated; or

9.6 Attachments; Judgments. Any portion of Borrower's assets is attached or seized, or a levy is filed against any such assets, or a judgment or judgments is/are entered for the payment of money, individually or in the aggregate, of at least $500,000 (not covered by independent third party insurance as to which such liability has been accepted by such insurance carrier as of the date of such attachment, seizure, levy or entry of judgment and such judgment remains unsatisfied, unvacated or unstayed for a period of ten (10) days after the entry thereof), or Borrower is enjoined or in any way prevented by court order from conducting any part of its business; or

9.7 Other Obligations. The occurrence of any default under any agreement or obligation of Borrower involving any Indebtedness in excess of $250,000, or the occurrence of any default under any agreement or obligation of Borrower that could reasonably be expected to have a Material Adverse Effect.

SECTION 10. *REMEDIES*

10.1 General. Upon and during the continuance of any one or more Events of Default, (i) Agent may, at its option, accelerate and demand payment of all or any part of the Secured Obligations together with a Prepayment Charge and declare them to be immediately due and payable (provided, that upon the occurrence of an Event of Default of the type described in Section 9.5, all of the Secured Obligations shall automatically be accelerated and made due and payable, in each case without any further notice or act), (ii) Agent may, at its option, sign and file in Borrower's name any and all collateral assignments, notices, control agreements, security agreements and other documents it deems necessary or appropriate to perfect or protect the repayment of the Secured Obligations, and in furtherance thereof, Borrower hereby grants Agent an irrevocable power of attorney coupled with an interest, and (iii) Agent may notify any of Borrower's account debtors to make payment directly to Agent, compromise the amount of any such account on Borrower's behalf and endorse Agent's name without recourse on any such payment for deposit directly to Agent's account. Agent may exercise all rights and remedies with respect to the Collateral under the Loan Documents or otherwise available to it under the UCC and other applicable law, including the right to release, hold, sell, lease, liquidate, collect, realize upon, or otherwise dispose of all or any part of the Collateral and the right to occupy, utilize, process and commingle the Collateral. All Agent's rights and remedies shall be cumulative and not exclusive.

10.2 Collection; Foreclosure. Upon the occurrence and during the continuance of any Event of Default, Agent may, at any time or from time to time, apply, collect, liquidate, sell in one or more sales, lease or otherwise dispose of, any or all of the Collateral, in its then condition or following any commercially reasonable preparation or processing, in such order as Agent may elect. Any such sale may be made either at public or private sale at its place of business or elsewhere. Borrower agrees that any such public or private sale may occur upon ten (10) calendar days' prior written notice to Borrower. Agent may require Borrower to assemble the Collateral and make it available to Agent at a place designated by Agent that is reasonably convenient to Agent and Borrower. The proceeds of any sale, disposition or other realization upon all or any part of the Collateral shall be applied by Agent in the following order of priorities:

First, to Agent and Lender in an amount sufficient to pay in full Agent's and Lender's costs and professionals' and advisors' fees and expenses as described in Section 11.11;

Second, to Lender in an amount equal to the then unpaid amount of the Secured Obligations (including principal, interest, and the Default Rate interest), in such order and priority as Agent may choose in its sole discretion; and

Finally, after the full, final, and indefeasible payment in Cash of all of the Secured Obligations, to any creditor holding a junior Lien on the Collateral, or to Borrower or its representatives or as a court of competent jurisdiction may direct.

Agent shall be deemed to have acted reasonably in the custody, preservation and disposition of any of the Collateral if it complies with the obligations of a secured party under the UCC.

10.3 No Waiver. Agent shall be under no obligation to marshal any of the Collateral for the benefit of Borrower or any other Person, and Borrower expressly waives all rights, if any, to require Agent to marshal any Collateral.

10.4 Cumulative Remedies. The rights, powers and remedies of Agent hereunder shall be in addition to all rights, powers and remedies given by statute or rule of law and are cumulative. The

exercise of any one or more of the rights, powers and remedies provided herein shall not be construed as a waiver of or election of remedies with respect to any other rights, powers and remedies of Agent.

SECTION 11. *MISCELLANEOUS*

11.1 Severability. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement shall be prohibited by or invalid under such law, such provision shall be ineffective only to the extent and duration of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

11.2 Notice. Except as otherwise provided herein, any notice, demand, request, consent, approval, declaration, service of process or other communication (including the delivery of Financial Statements) that is required, contemplated, or permitted under the Loan Documents or with respect to the subject matter hereof shall be in writing, and shall be deemed to have been validly served, given, delivered, and received upon the earlier of: (i) the day of transmission by facsimile or hand delivery or delivery by an overnight express service or overnight mail delivery service; or (ii) the third calendar day after deposit in the United States mails, with proper first class postage prepaid, in each case addressed to the party to be notified as follows:

(a) If to Agent:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.

Legal Department
Attention: Chief Legal Officer and Paul Edwards
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301
Facsimile: 650-473-9194
Telephone: 650-289-3060

(b) If to Lender:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.
Legal Department
Attention: Chief Legal Officer and Paul Edwards
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301
Facsimile: 650-473-9194
Telephone: 650-289-3060

(c) If to Borrower:

CERECOR INC.

Attention: Chief Financial Officer
400 E. Pratt Street, Suite 606
Baltimore, MD 21202
Facsimile: 443-708-0451
Telephone: 443-304-8002

or to such other address as each party may designate for itself by like notice.

11.3 Entire Agreement; Amendments.

(a) This Agreement and the other Loan Documents constitute the entire agreement and understanding of the parties hereto in respect of the subject matter hereof and thereof, and supersede and replace in their entirety any prior proposals, term sheets, non-disclosure or confidentiality agreements, letters, negotiations or other documents or agreements, whether written or oral, with

respect to the subject matter hereof or thereof (including Agent's proposal letter dated June 13, 2014 and accepted by Borrower on June 18, 2014).

(b) Neither this Agreement, any other Loan Document, nor any terms hereof or thereof may be amended, supplemented or modified except in accordance with the provisions of this Section 11.3(b). The Required Lenders and Borrower party to the relevant Loan Document may, or, with the written consent of the Required Lenders, the Agent and the Borrower party to the relevant Loan Document may, from time to time, (i) enter into written amendments, supplements or modifications hereto and to the other Loan Documents for the purpose of adding any provisions to this Agreement or the other Loan Documents or changing in any manner the rights of the Lenders or of the Borrower hereunder or thereunder or (ii) waive, on such terms and conditions as the Required Lenders or the Agent, as the case may be, may specify in such instrument, any of the requirements of this Agreement or the other Loan Documents or any default or Event of Default and its consequences; provided, however, that no such waiver and no such amendment, supplement or modification shall (A) forgive the principal amount or extend the final scheduled date of maturity of any Loan, extend the scheduled date of any amortization payment in respect of any Term Loan Advance, reduce the stated rate of any interest or fee payable hereunder) or extend the scheduled date of any payment thereof, in each case without the written consent of each Lender directly affected thereby; (B) eliminate or reduce the voting rights of any Lender under this Section 11.3(b) without the written consent of such Lender; (C) reduce any percentage specified in the definition of Required Lenders, consent to the assignment or transfer by the Borrower of any of its rights and obligations under this Agreement and the other Loan Documents, release all or substantially all of the Collateral or release a Borrower from its obligations under the Loan Documents, in each case without the written consent of all Lenders; or (D) amend, modify or waive any provision of Section 11.17 without the written consent of the Agent. Any such waiver and any such amendment, supplement or modification shall apply equally to each Lender and shall be binding upon Borrower, the Lender, the Agent and all future holders of the Loans.

11.4 No Strict Construction. The parties hereto have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Agreement.

11.5 No Waiver. The powers conferred upon Agent and Lender by this Agreement are solely to protect its rights hereunder and under the other Loan Documents and its interest in the Collateral and shall not impose any duty upon Agent or Lender to exercise any such powers. No omission or delay by Agent or Lender at any time to enforce any right or remedy reserved to it, or to require performance of any of the terms, covenants or provisions hereof by Borrower at any time designated, shall be a waiver of any such right or remedy to which Agent or Lender is entitled, nor shall it in any way affect the right of Agent or Lender to enforce such provisions thereafter.

11.6 Survival. All agreements, representations and warranties contained in this Agreement and the other Loan Documents or in any document delivered pursuant hereto or thereto shall be for the benefit of Agent and Lender and shall survive the execution and delivery of this Agreement. The indemnity obligations of Borrower in Section 6.3 shall survive until the statute of limitations with respect to such claim or cause of action shall have run.

11.7 Successors and Assigns. The provisions of this Agreement and the other Loan Documents shall inure to the benefit of and be binding on Borrower and its permitted assigns (if any). Borrower shall not assign its obligations under this Agreement or any of the other Loan Documents without Agent's express prior written consent, and any such attempted assignment shall be void and of no effect. Agent and Lender may assign, transfer, or endorse its rights hereunder and under the other Loan

Documents without prior notice to Borrower, and all of such rights shall inure to the benefit of Agent's and Lender's successors and assigns.

11.8 Governing Law. This Agreement and the other Loan Documents have been negotiated and delivered to Agent and Lender in the State of California, and shall have been accepted by Agent and Lender in the State of California. Payment to Agent and Lender by Borrower of the Secured Obligations is due in the State of California. This Agreement and the other Loan Documents shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

11.9 Consent to Jurisdiction and Venue. All judicial proceedings (to the extent that the reference requirement of Section 11.10 is not applicable) arising in or under or related to this Agreement or any of the other Loan Documents may be brought in any state or federal court located in the State of California. By execution and delivery of this Agreement, each party hereto generally and unconditionally: (a) consents to nonexclusive personal jurisdiction in Santa Clara County, State of California; (b) waives any objection as to jurisdiction or venue in Santa Clara County, State of California; (c) agrees not to assert any defense based on lack of jurisdiction or venue in the aforesaid courts; and (d) irrevocably agrees to be bound by any judgment rendered thereby in connection with this Agreement or the other Loan Documents. Service of process on any party hereto in any action arising out of or relating to this Agreement shall be effective if given in accordance with the requirements for notice set forth in Section 11.2, and shall be deemed effective and received as set forth in Section 11.2. Nothing herein shall affect the right to serve process in any other manner permitted by law or shall limit the right of either party to bring proceedings in the courts of any other jurisdiction.

11.10 Mutual Waiver of Jury Trial / Judicial Reference.

(a) Because disputes arising in connection with complex financial transactions are most quickly and economically resolved by an experienced and expert Person and the parties wish applicable state and federal laws to apply (rather than arbitration rules), the parties desire that their disputes be resolved by a judge applying such applicable laws. EACH OF BORROWER, AGENT AND LENDER SPECIFICALLY WAIVES ANY RIGHT IT MAY HAVE TO TRIAL BY JURY OF ANY CAUSE OF ACTION, CLAIM, CROSS-CLAIM, COUNTERCLAIM, THIRD PARTY CLAIM OR ANY OTHER CLAIM (COLLECTIVELY, "CLAIMS") ASSERTED BY BORROWER AGAINST AGENT, LENDER OR THEIR RESPECTIVE ASSIGNEE OR BY AGENT, LENDER OR THEIR RESPECTIVE ASSIGNEE AGAINST BORROWER. This waiver extends to all such Claims, including Claims that involve Persons other than Agent, Borrower and Lender; Claims that arise out of or are in any way connected to the relationship among Borrower, Agent and Lender; and any Claims for damages, breach of contract, tort, specific performance, or any equitable or legal relief of any kind, arising out of this Agreement, any other Loan Document.

(b) If the waiver of jury trial set forth in Section 11.10(a) is ineffective or unenforceable, the parties agree that all Claims shall be resolved by reference to a private judge sitting without a jury, pursuant to Code of Civil Procedure Section 638, before a mutually acceptable referee or, if the parties cannot agree, a referee selected by the Presiding Judge of Santa Clara County, California. Such proceeding shall be conducted in Santa Clara County, California, with California rules of evidence and discovery applicable to such proceeding.

(c) In the event Claims are to be resolved by judicial reference, either party may seek from a court identified in Section 11.9, any prejudgment order, writ or other relief and have such prejudgment order, writ or other relief enforced to the fullest extent permitted by law notwithstanding that all Claims are otherwise subject to resolution by judicial reference.

11.11 Professional Fees. Borrower promises to pay Agent's and Lender's fees and expenses necessary to finalize the loan documentation, including but not limited to reasonable attorneys fees, UCC searches, filing costs, and other miscellaneous expenses, provided, however, that Agent and Lender shall use their best efforts to keep such fees and expenses below $35,000. In addition, Borrower promises to pay any and all reasonable attorneys' and other professionals' fees and expenses (including fees and expenses of in-house counsel) incurred by Agent and Lender after the Closing Date in connection with or related to: (a) the Loan; (b) the administration, collection, or enforcement of the Loan; (c) the amendment or modification of the Loan Documents; (d) any waiver, consent, release, or termination under the Loan Documents; (e) the protection, preservation, audit, field exam, sale, lease, liquidation, or disposition of Collateral or the exercise of remedies with respect to the Collateral; (f) any legal, litigation, administrative, arbitration, or out of court proceeding in connection with or related to Borrower or the Collateral, and any appeal or review thereof; and (g) any bankruptcy, restructuring, reorganization, assignment for the benefit of creditors, workout, foreclosure, or other action related to Borrower, the Collateral, the Loan Documents, including representing Agent or Lender in any adversary proceeding or contested matter commenced or continued by or on behalf of Borrower's estate, and any appeal or review thereof.

11.12 Confidentiality. Agent and Lender acknowledge that certain items of Collateral and information provided to Agent and Lender by Borrower are confidential and proprietary information of Borrower, if and to the extent such information either (x) is marked as confidential by Borrower at the time of disclosure, or (y) should reasonably be understood to be confidential (the "Confidential Information"). Accordingly, Agent and Lender agree that any Confidential Information it may obtain in the course of acquiring, administering, or perfecting Agent's security interest in the Collateral or otherwise shall not be disclosed to any other Person or entity in any manner whatsoever, in whole or in part, without the prior written consent of Borrower, except that Agent and Lender may disclose any such information: (a) to its own directors, officers, employees, accountants, counsel and other professional advisors and to its affiliates if Agent or Lender in their sole discretion determines that any such party should have access to such information in connection with such party's responsibilities in connection with the Loan or this Agreement and, provided that such recipient of such Confidential Information either (i) agrees to be bound by the confidentiality provisions of this paragraph or (ii) is otherwise subject to confidentiality restrictions that reasonably protect against the disclosure of Confidential Information; (b) if such information is generally available to the public at the time of disclosure by Agent or Lender; (c) if required or appropriate in any report, statement or testimony submitted to any governmental authority having or claiming to have jurisdiction over Agent or Lender; (d) if required or appropriate in response to any summons or subpoena or in connection with any litigation, to the extent permitted or deemed advisable by Agent's or Lender's counsel; (e) to comply with any legal requirement or law applicable to Agent or Lender; (f) to the extent reasonably necessary in connection with the exercise of any right or remedy under any Loan Document, including Agent's sale, lease, or other disposition of Collateral after default; (g) to any participant or assignee of Agent or Lender or any prospective participant or assignee; provided, that such participant or assignee or prospective participant or assignee agrees in writing to be bound by this Section prior to disclosure; or (h) otherwise with the prior consent of Borrower; provided, that any disclosure made in violation of this Agreement shall not affect the obligations of Borrower or any of its affiliates or any guarantor under this Agreement or the other Loan Documents.

11.13 Assignment of Rights. Borrower acknowledges and understands that Agent or Lender may sell and assign all or part of its interest hereunder and under the Loan Documents to any Person or entity (an "Assignee"). After such assignment the term "Agent" or "Lender" as used in the Loan Documents shall mean and include such Assignee, and such Assignee shall be vested with all rights, powers and remedies of Agent and Lender hereunder with respect to the interest so assigned; but with respect to any such interest not so transferred, Agent and Lender shall retain all rights, powers and remedies hereby given. No such assignment by Agent or Lender shall relieve Borrower of any of its obligations hereunder. Lender agrees that in the event of any transfer by it of the Note(s)(if any), it will endorse

thereon a notation as to the portion of the principal of the Note(s), which shall have been paid at the time of such transfer and as to the date to which interest shall have been last paid thereon.

11.14 Revival of Secured Obligations. This Agreement and the Loan Documents shall remain in full force and effect and continue to be effective if any petition is filed by or against Borrower for liquidation or reorganization, if Borrower becomes insolvent or makes an assignment for the benefit of creditors, if a receiver or trustee is appointed for all or any significant part of Borrower's assets, or if any payment or transfer of Collateral is recovered from Agent or Lender. The Loan Documents and the Secured Obligations and Collateral security shall continue to be effective, or shall be revived or reinstated, as the case may be, if at any time payment and performance of the Secured Obligations or any transfer of Collateral to Agent, or any part thereof is rescinded, avoided or avoidable, reduced in amount, or must otherwise be restored or returned by, or is recovered from, Agent, Lender or by any obligee of the Secured Obligations, whether as a "voidable preference," "fraudulent conveyance," or otherwise, all as though such payment, performance, or transfer of Collateral had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, avoided, avoidable, restored, returned, or recovered, the Loan Documents and the Secured Obligations shall be deemed, without any further action or documentation, to have been revived and reinstated except to the extent of the full, final, and indefeasible payment to Agent or Lender in Cash.

11.15 Counterparts. This Agreement and any amendments, waivers, consents or supplements hereto may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument.

11.16 No Third Party Beneficiaries. No provisions of the Loan Documents are intended, nor will be interpreted, to provide or create any third-party beneficiary rights or any other rights of any kind in any Person other than Agent, Lender and Borrower unless specifically provided otherwise herein, and, except as otherwise so provided, all provisions of the Loan Documents will be personal and solely among Agent, the Lender and the Borrower.

11.17 Agency.

(a) Lender hereby irrevocably appoints Hercules Technology Growth Capital, Inc. to act on its behalf as the Agent hereunder and under the other Loan Documents and authorizes the Agent to take such actions on its behalf and to exercise such powers as are delegated to the Agent by the terms hereof or thereof, together with such actions and powers as are reasonably incidental thereto.

(b) Lender agrees to indemnify the Agent in its capacity as such (to the extent not reimbursed by Borrower and without limiting the obligation of Borrower to do so), according to its respective Term Commitment percentages (based upon the total outstanding Term Commitments) in effect on the date on which indemnification is sought under this Section 11.7, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind whatsoever that may at any time be imposed on, incurred by or asserted against the Agent in any way relating to or arising out of, this Agreement, any of the other Loan Documents or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or any action taken or omitted by the Agent under or in connection with any of the foregoing; The agreements in this Section shall survive the payment of the Loans and all other amounts payable hereunder.

(c) Agent in Its Individual Capacity. The Person serving as the Agent hereunder shall have the same rights and powers in its capacity as a Lender as any other Lender and may exercise the same as though it were not the Agent and the term "Lender" shall, unless otherwise expressly indicated or unless the context otherwise requires, include each such Person serving as Agent hereunder in its individual capacity.

(d) Exculpatory Provisions. The Agent shall have no duties or obligations except those expressly set forth herein and in the other Loan Documents. Without limiting the generality of the foregoing, the Agent shall not:

(i) be subject to any fiduciary or other implied duties, regardless of whether any default or any Event of Default has occurred and is continuing;

(ii) have any duty to take any discretionary action or exercise any discretionary powers, except discretionary rights and powers expressly contemplated hereby or by the other Loan Documents that the Agent is required to exercise as directed in writing by the Lender, provided that the Agent shall not be required to take any action that, in its opinion or the opinion of its counsel, may expose the Agent to liability or that is contrary to any Loan Document or applicable law; and

(iii) except as expressly set forth herein and in the other Loan Documents, have any duty to disclose, and the Agent shall not be liable for the failure to disclose, any information relating to the Borrower or any of its affiliates that is communicated to or obtained by any Person serving as the Agent or any of its affiliates in any capacity.

(e) The Agent shall not be liable for any action taken or not taken by it (i) with the consent or at the request of the Lender or as the Agent shall believe in good faith shall be necessary, under the circumstances or (ii) in the absence of its own gross negligence or willful misconduct.

(f) The Agent shall not be responsible for or have any duty to ascertain or inquire into (i) any statement, warranty or representation made in or in connection with this Agreement or any other Loan Document, (ii) the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, (iii) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any default or Event of Default, (iv) the validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, instrument or document or (v) the satisfaction of any condition set forth in Section 4 or elsewhere herein, other than to confirm receipt of items expressly required to be delivered to the Agent.

(g) Reliance by Agent. Agent may rely, and shall be fully protected in acting, or refraining to act, upon, any resolution, statement, certificate, instrument, opinion, report, notice, request, consent, order, bond or other paper or document that it has no reason to believe to be other than genuine and to have been signed or presented by the proper party or parties or, in the case of cables, telecopies and telexes, to have been sent by the proper party or parties. In the absence of its gross negligence or willful misconduct, Agent may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to Agent and conforming to the requirements of the Loan Agreement or any of the other Loan Documents. Agent may consult with counsel, and any opinion or legal advice of such counsel shall be full and complete authorization and protection in respect of any action taken, not taken or suffered by Agent hereunder or under any Loan Documents in accordance therewith. Agent shall have the right at any time to seek instructions concerning the administration of the Collateral from any court of competent jurisdiction. Agent shall not be under any obligation to exercise any of the rights or powers granted to Agent by this Agreement, the Loan Agreement and the other Loan Documents at the request or direction of Lenders unless Agent shall have been provided by Lender with adequate security and indemnity against the costs, expenses and liabilities that may be incurred by it in compliance with such request or direction.

11.18 Publicity. (a) Borrower consents to the publication and use by Agent or Lender and any of its member businesses and affiliates of (i) Borrower's name (including a brief description of the relationship among Borrower, Agent and Lender) and logo and a hyperlink to Borrower's web site, separately or

together, in written and oral presentations, advertising, promotional and marketing materials, client lists, public relations materials or on its web site (together, the "Lender Publicity Materials"); (ii) the names of officers of Borrower in the Lender Publicity Materials; and (iii) Borrower's name, trademarks or servicemarks in any news release concerning Agent or Lender.

(b) Neither Borrower nor any of its member businesses and affiliates shall, without Agent's and Lender's consent, publicize or use (i) Agent's or Lender's name (including a brief description of the relationship among Borrower, Agent and Lender), logo or hyperlink to Agent's or Lender's web site, separately or together, in written and oral presentations, advertising, promotional and marketing materials, client lists, public relations materials or on its web site (together, the "Borrower Publicity Materials"); (ii) the names of officers of Agent or Lender in the Borrower Publicity Materials; and (iii) Agent's or Lender's name, trademarks, servicemarks in any news release concerning Borrower.

(SIGNATURES TO FOLLOW)

IN WITNESS WHEREOF, Borrower, Agent and Lender have duly executed and delivered this Loan and Security Agreement as of the day and year first above written.

BORROWER:

CERECOR INC.

Signature: _____

Print Name: Blake M. Paterson
Title: *President & CEO*

Accepted in Palo Alto, California:

AGENT:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.

By: _____

Ben Bang, *Senior Counsel*

LENDER:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.

By: _____

Ben Bang, *Senior Counsel*

Table of Exhibits and Schedules

EXHIBIT A

ADVANCE REQUEST

To: Agent: Date: August , 2014

Hercules Technology Growth Capital, Inc. (the "Agent")
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301
Facsimile: 650-473-9194
Attn:

Cerecor Inc. ("Borrower") hereby requests from Hercules Technology Growth Capital, Inc. ("Lender") an Advance in the amount of Dollars ($) on , (the "Advance Date") pursuant to the Loan and Security Agreement among Borrower, Agent and Lender (the "Agreement"). Capitalized words and other terms used but not otherwise defined herein are used with the same meanings as defined in the Agreement.

Please:

(a) Issue a check payable to Borrower

or

(b) Wire Funds to Borrower's account

Bank:

Address:

ABA Number:

Account Number:

Account Name:

Borrower represents that the conditions precedent to the Advance set forth in the Agreement are satisfied and shall be satisfied upon the making of such Advance, including but not limited to: (i) that no event that has had or could reasonably be expected to have a Material Adverse Effect has occurred and is continuing; (ii) that the representations and warranties set forth in the Agreement and in the Warrant are and shall be true and correct in all material respects on and as of the Advance Date with the same effect as though made on and as of such date, except to the extent such representations and warranties expressly relate to an earlier date; (iii) that Borrower is in compliance with all the terms and provisions set forth in each Loan Document on its part to be observed or performed; and (iv) that as of the Advance Date, no fact or condition exists that would (or would, with the passage of time, the giving of notice, or both) constitute an Event of Default under the Loan Documents. Borrower understands and acknowledges that Agent has the right to review the financial information supporting this representation and, based upon such review in its reasonable business judgment, Lender may decline to fund the requested Advance.

Borrower hereby represents that Borrower's corporate status and locations have not changed since the date of the Agreement or, if the Attachment to this Advance Request is completed, are as set forth in the Attachment to this Advance Request.

Borrower agrees to notify Agent promptly before the funding of the Loan if any of the matters which have been represented above shall not be true and correct on the Advance Date and if Agent has received no such notice before the Advance Date then the statements set forth above shall be deemed to have been made and shall be deemed to be true and correct as of the Advance Date.

Executed as of August , 2014.

BORROWER: CERECOR INC.

SIGNATURE:

TITLE:
PRINT NAME:

ATTACHMENT TO ADVANCE REQUEST

Dated:

Borrower hereby represents and warrants to Agent that Borrower's current name and organizational status is as follows:

Name:	Cerecor Inc.
Type of organization:	Corporation
State of organization:	Delaware
Organization file number:	

Borrower hereby represents and warrants to Agent that the street addresses, cities, states and postal codes of its current locations are as follows:

EXHIBIT B

SECURED TERM PROMISSORY NOTE

$[ ],000,000 Advance Date: , 20[ ]

Maturity Date: , 20[ ]

FOR VALUE RECEIVED, CERECOR INC., a Delaware corporation, for itself and each of its Domestic Subsidiaries (the "Borrower") hereby promises to pay to the order of Hercules Technology Growth Capital, Inc., a Maryland corporation or the holder of this Note (the "Lender") at 400 Hamilton Avenue, Suite 310, Palo Alto, CA 94301 or such other place of payment as the holder of this Secured Term Promissory Note (this "Promissory Note") may specify from time to time in writing, in lawful money of the United States of America, the principal amount of [ ] Million Dollars ($[ ],000,000) or such other principal amount as Lender has advanced to Borrower, together with interest at the Term Loan Interest Rate as such term is defined in that that certain Loan and Security Agreement dated August 19, 2014, by and among Borrower, Hercules Technology Growth Capital, Inc., a Maryland corporation (the "Agent") and the several banks and other financial institutions or entities from time to time party thereto as lender (as the same may from time to time be amended, modified or supplemented in accordance with its terms, the "Loan Agreement").

This Promissory Note is the Term Note referred to in, and is executed and delivered in connection with, the Loan Agreement, and is entitled to the benefit and security of the Loan Agreement and the other Loan Documents (as defined in the Loan Agreement), to which reference is made for a statement of all of the terms and conditions thereof. All payments shall be made in accordance with the Loan Agreement. All terms defined in the Loan Agreement shall have the same definitions when used herein, unless otherwise defined herein. An Event of Default under the Loan Agreement shall constitute a default under this Promissory Note.

Borrower waives presentment and demand for payment, notice of dishonor, protest and notice of protest under the UCC or any applicable law. Borrower agrees to make all payments under this Promissory Note without setoff, recoupment or deduction and regardless of any counterclaim or defense. This Promissory Note has been negotiated and delivered to Lender and is payable in the State of California. This Promissory Note shall be governed by and construed and enforced in accordance with, the laws of the State of California, excluding any conflicts of law rules or principles that would cause the application of the laws of any other jurisdiction.

BORROWER FOR ITSELF AND
ON BEHALF OF ITS DOMESTIC
SUBSIDIARIES: CERECOR INC.

By: _____

Title:

EXHIBIT C

NAME, LOCATIONS, AND OTHER INFORMATION FOR BORROWER

1. Borrower represents and warrants to Agent that Borrower's current name and organizational status as of the Closing Date is as follows:

Name:	Cerecor Inc.
Type of organization:	Corporation
State of organization:	Delaware
Organization file number:	140942445

2. Borrower represents and warrants to Agent that for five (5) years prior to the Closing Date, Borrower did not do business under any other name or organization or form except the following:

Name: Ceregen Corporation
Used during dates of: January 31, 2011 through March 17, 2011
Type of Organization:
State of organization:
Organization file Number:

Borrower's fiscal year ends on December 31
Borrower's federal employer tax identification number is: 45-0705648

3. Borrower represents and warrants to Agent that its chief executive office is located at 400 E. Pratt Street, Suite 606, Baltimore, MD 21202.

EXHIBIT D

BORROWER'S PATENTS, TRADEMARKS, COPYRIGHTS AND LICENSES

The following are license agreements with respect to the proprietary rights of the Company:

- Exclusive License Agreement, dated March 28, 2011, by and between Fells Laboratories, LLC and Johns Hopkins University, as amended by the First Amendment dated March 21, 2014, by and between the Company and Johns Hopkins University.
- Exclusive Patent and Know-How License Agreement for COMT Inhibitor Compound, dated March 19, 2013, by and between the Company and Essex Chemie AG.
- Exclusive Patent and Know-How License Agreement for NR2B Inhibitor Compound known as MK-0657, dated March 19, 2013, by and between the Company and Essex Chemie AG.
- Patent License Agreement, dated February 5, 2014, by and between the Company and RCT Logic, LLC.

The following is a list of the current patent applications related to the Company's product pipeline:

FP01

1. US Patent Serial No. 8501816, titled "Antitussive Compositions Comprising Memantine", issued August 6, 2013;
2. US Non-provisional Patent Application Serial No. 13/933,666 titled "Antitussive Compositions Comprising Memantine", filed July 2, 2013
3. PCT Patent Application Serial No. PCT/US2013/035748, titled "Compositions and Methods for Treating Cough", filed April 9, 2013;
4. US Non-provisional Patent Application Serial No. 13/827,936 titled "Compositions and Methods for Treating Cough", filed March 14, 2013;
5. U.S. Nonprovisional Patent Application Serial # 13/272,031, titled "Antitussive Compositions Comprising Memantine," filed October 12, 2011; and
6. International applications based on PCT Patent Application Serial No. PCT/US2011/056004 titled "Antitussive Compositions Comprising Memantine," filed October 12, 2011; Canada Application No. 2,814,194; Mexico Application No. MX/a/2013/004123. [only for US, Canada and Mexico]

NR2B

1. US Patent Serial No. 7053089, titled "N-substituted Nonaryl-heterocyclic NMDA/NR2B Antagonists", issued April 25, 2006 (and European issued patents in France, United Kingdom, and Germany); and

Country Code	Status	Patent No. (Appl. No.)	Grant Date (Filing Date)	Expiration Date
US	Granted	7,053,089	**05/30/2006**	02/20/2022
				+103 days
		(10/079,452)	(02/20/2002)	
				+ any PTE
US	Lapsed	7,217,716	05/15/2007	—
		(10/470,561)	(02/20/2002)	
DE		1379520	04/25/2006	02/20/2022 + SPC
FR	Granted,	(2721105.1)	(02/20/2002)	
GB	Opposed			

2. US Patent Serial No. 7592360, titled "3-Fluoro-piperidines as NMDA/NR2B Antagonists", issued September 22, 2007 (and European issued patents in France, United Kingdom, and Germany; also Australia, Canada, Japan, Switzerland).

Country Code	Status	Patent No. (Appl. No.)	Grant Date (Filing Date)	Expiration Date
US	Granted	**7,592,360**	**09/22/2009**	05/28/2024
		(10/559,153)	(05/28/2004)	+825 days
				+ any PTE
AU	Granted	2004245522	10/29/2009	05-28-2024 + any
				PTE
		(2004245522)	(05/28/2004)	
CA	Granted	2527093	10/20/2009	05/28/2024
		2527093	(05/28/2004)	
CH	Granted	164882	08/06/2008	05/28/2024 + any
				SPC
DE		4753896.2	(05/28/2004)	
FR				
GB				
JP	Granted	2006-515051	03/09/2007	05/28/2024 + any
				PTE
		3927228	(05/28/2004)	

COMT—The following tables comprise the comprehensive list of countries and corresponding application numbers for Merck COMT Patents:

- Patent Family 1, PCT/US2011/026399, filed February 28, 201, WO/2011/109254, Inhibitors of Catechol O-Methyl Transferase and Their Use in the Treatment of Psychotic Disorders, Wolkenberg et al.

Country	Application No.	Merck Ref.
Australia	2011223969	MRL-NOP-00089-AU-PCT
Brazil	BR112012021652-0	MRL-NOP-00089-BR-PCT
Canada	2789471	MRL-NOP-00089-CA-PCT
China	201180012426.3	MRL-NOP-00089-CN-PCT
EPC	11751121.2	MRL-NOP-00089-EP-PCT
India	6908/CHENP/2012	MRL-NOP-00089-IN-PCT
Japan	2012-556121	MRL-NOP-00089-JP-PCT
Korea	10-2012-7023048	MRL-NOP-00089-KR-PCT
Mexico	MX/A/2012/010187	MRL-NOP-00089-MX-PCT
Russia	2012142194	MRL-NOP-00089-RU-PCT
U.S.	13/582,601	MRL-NOP-00089-US-PCT

- Patent Family 2, PCT/US2011/026424, filed February 28, 2011, WO/2011/109267, Inhibitors of Catechol O-Methyl Transferase and Their Use in the Treatment of Psychotic Disorders, Wolkenberg et al.

Country	Application No.	Merck Ref.
Australia	2011223888	MRL-NOP-00091-AU-PCT
Brazil	BR112012021656-2	MRL-NOP-00091-BR-PCT
Canada	2789475	MRL-NOP-00091-CA-PCT
China	201180012339.8	MRL-NOP-00091-CN-PCT
EPC	11751129.5	MRL-NOP-00091-EP-PCT
India	6907/CHENP/2012	MRL-NOP-00091-IN-PCT
Japan	2012-556126	MRL-NOP-00091-JP-PCT
Korea	10-2012-7023050	MRL-NOP-00091-KR-PCT
Mexico	MX/A/2012/010189	MRL-NOP-00091-MX-PCT
Russia	2012142171	MRL-NOP-00091-RU-PCT
U.S.	13/582,637	MRL-NOP-00091-US-PCT

- Patent Family 3, PCT/US2011/026414, filed February 28, 2011, WO/2011/109261, Inhibitors of Catechol O-Methyl Transferase and Their Use in the Treatment of Psychotic Disorders, Wolkenberg et al.

Country	Application No.	Merck Ref.
Australia	20112223976	MRL-NOP-00090-AU-PCT
Brazil	BR112012021659-7	MRL-NOP-00090-BR-PCT
Canada	2789474	MRL-NOP-00090-CA-PCT
China	201180012413.6	MRL-NOP-00090-CN-PCT
EPC	11751124.6	MRL-NOP-00090-EP-PCT
India		MRL-NOP-00090-IN-

Japan	6909/CHENP/2012 2012-556122	PCT MRL-NOP-00090-JP-PCT
Korea	10-2012-7023049	MRL-NOP-00090-KR-PCT
Mexico	MX/A/2012/010188	MRL-NOP-00090-MX-PCT
Russia	2012142180	MRL-NOP-00090-RU-PCT
U.S.	13/582,555	MRL-NOP-00090-US-PCT

- **Domain Name**—www.cerecor.com

EXHIBIT E

BORROWER'S DEPOSIT ACCOUNTS AND INVESTMENT ACCOUNTS

Institution Name and Address	Account Number	Account Type	Name of Account Owner
PNC Bank, National AssociationAttn: Maureen Smith Vice President, Business Banking Treasury Management One East Pratt Street 3rd Floor Baltimore, Maryland 21202 (p) 410-237-5866	55-6363-9943	Money Market	Cerecor Inc.
PNC Bank, National AssociationAttn: Maureen Smith Vice President, Business Banking Treasury Management One East Pratt Street 3rd Floor Baltimore, Maryland 21202 (p) 410-237-5866	55-6363-9994	Business Checking	Cerecor Inc.
Wells Fargo Advisors 375 Park Avenue, 10th Floor New York, NY 10152	4122023377	Investment	Cerecor Inc.

EXHIBIT F

COMPLIANCE CERTIFICATE

Hercules Technology Growth Capital, Inc. (as "Agent")
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301

Reference is made to that certain Loan and Security Agreement dated August 19, 2014 and all ancillary documents entered into in connection with such Loan and Security Agreement all as may be amended from time to time, (hereinafter referred to collectively as the "Loan Agreement") by and among Hercules Technology Growth Capital, Inc. (the "Agent"), the several banks and other financial institutions or entities from time to time party thereto (collectively, the "Lender") and Hercules Technology Growth Capital, Inc., as agent for the Lender (the "Agent") and Cerecor Inc. (the "Company") as Borrower. All capitalized terms not defined herein shall have the same meaning as defined in the Loan Agreement.

The undersigned is an Officer of the Company, knowledgeable of all Company financial matters, and is authorized to provide certification of information regarding the Company; hereby certifies that in accordance with the terms and conditions of the Loan Agreement, the Company is in compliance for the period ending of all covenants, conditions and terms contained therein. Attached are the required documents supporting the above certification. The undersigned further certifies that these are prepared in accordance with GAAP (except for the absence of footnotes with respect to unaudited financial statement and subject to normal year end adjustments) and are consistent from one period to the next except as explained below.

REPORTING REQUIREMENT	REQUIRED	CHECK IF ATTACHED
Interim Financial Statements	Monthly within 30 days	
Interim Financial Statements	Quarterly within 45 days	
Audited Financial Statements	FYE within 180 days	

Very Truly Yours,

CERECOR INC.

By: _____

Name:
Its:

EXHIBIT G

FORM OF JOINDER AGREEMENT

This Joinder Agreement (the "Joinder Agreement") is made and dated as of [ ], 20[ ], and is entered into by and between ., a corporation ("Subsidiary"), and HERCULES TECHNOLOGY GROWTH CAPITAL, INC., a Maryland corporation (as "Agent").

RECITALS

A. Subsidiary's Affiliate, Cerecor Inc. ("Company") has entered into that certain Loan and Security Agreement dated August 19, 2014, with the several banks and other financial institutions or entities from time to time party thereto as lender (collectively, the "Lender") and the Agent, as such agreement may be amended (the "Loan Agreement"), together with the other agreements executed and delivered in connection therewith;

B. Subsidiary acknowledges and agrees that it will benefit both directly and indirectly from Company's execution of the Loan Agreement and the other agreements executed and delivered in connection therewith;

AGREEMENT

NOW THEREFORE, Subsidiary and Agent agree as follows:

1. The recitals set forth above are incorporated into and made part of this Joinder Agreement. Capitalized terms not defined herein shall have the meaning provided in the Loan Agreement.

2. By signing this Joinder Agreement, Subsidiary shall be bound by the terms and conditions of the Loan Agreement the same as if it were the Borrower (as defined in the Loan Agreement) under the Loan Agreement, mutatis mutandis, provided however, that (a) with respect to (i) Section 5.1 of the Loan Agreement, Subsidiary represents that it is an entity duly organized, legally existing and in good standing under the laws of [ ], (b) neither Agent nor Lender shall have any duties, responsibilities or obligations to Subsidiary arising under or related to the Loan Agreement or the other agreements executed and delivered in connection therewith, (c) that if Subsidiary is covered by Company's insurance, Subsidiary shall not be required to maintain separate insurance or comply with the provisions of Sections 6.1 and 6.2 of the Loan Agreement, and (d) that as long as Company satisfies the requirements of Section 7.1 of the Loan Agreement, Subsidiary shall not have to provide Agent separate Financial Statements. To the extent that Agent or Lender has any duties, responsibilities or obligations arising under or related to the Loan Agreement or the other agreements executed and delivered in connection therewith, those duties, responsibilities or obligations shall flow only to Company and not to Subsidiary or any other Person or entity. By way of example (and not an exclusive list): (i) Agent's providing notice to Company in accordance with the Loan Agreement or as otherwise agreed among Company, Agent and Lender shall be deemed provided to Subsidiary; (ii) a Lender's providing an Advance to Company shall be deemed an Advance to Subsidiary; and (iii) Subsidiary shall have no right to request an Advance or make any other demand on Lender.

3. Subsidiary agrees not to certificate its equity securities without Agent's prior written consent, which consent may be conditioned on the delivery of such equity securities to Agent in order to perfect Agent's security interest in such equity securities.

4. Subsidiary acknowledges that it benefits, both directly and indirectly, from the Loan Agreement, and hereby waives, for itself and on behalf on any and all successors in interest (including without limitation any assignee for the benefit of creditors, receiver, bankruptcy trustee or itself as debtor-in-possession under any bankruptcy proceeding) to the fullest extent provided by law, any and all claims, rights or defenses to the enforcement of this

Joinder Agreement on the basis that (a) it failed to receive adequate consideration for the execution and delivery of this Joinder Agreement or (b) its obligations under this Joinder Agreement are avoidable as a fraudulent conveyance.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

[SIGNATURE PAGE TO JOINDER AGREEMENT]

SUBSIDIARY:

.

By: _____

Name:
Title:

Address:
Telephone:
Facsimile:

AGENT:

HERCULES TECHNOLOGY GROWTH CAPITAL, INC.

By: _____

Name:
Title:

Address:
400 Hamilton Ave., Suite 310
Palo Alto, CA 94301
Facsimile: 650-473-9194
Telephone: 650-289-3060

EXHIBIT H

ACH DEBIT AUTHORIZATION AGREEMENT

Hercules Technology Growth Capital, Inc.
400 Hamilton Avenue, Suite 310
Palo Alto, CA 94301

Re: Loan and Security Agreement dated August , 2014 between Cerecor Inc., as borrower ("Borrower") and Hercules Technology Growth Capital, Inc., in its capacity as lender and agent ("Agent") (the "Agreement")

In connection with the above referenced Agreement, the Borrower hereby authorizes the Agent to initiate debit entries for the periodic payments due under the Agreement to the Borrower's account indicated below. The Borrower authorizes the depository institution named below to debit to such account.

DEPOSITORY NAME	BRANCH
CITY	STATE AND ZIP CODE
TRANSIT/ABA NUMBER	ACCOUNT NUMBER

This authority will remain in full force and effect so long as any amounts are due under the Agreement.

CERECOR INC.
(Borrower)

By: _____

Date:

SCHEDULE 1.1

COMMITMENTS

LENDER		TERM COMMITMENT
HERCULES TECHNOLOGY GROWTH CAPITAL, INC.	$	7,500,000
TOTAL COMMITMENTS	$	7,500,000

SCHEDULE 1A

EXISTING PERMITTED INDEBTEDNESS

Reimbursement obligations to PNC Bank in connection with $175,000 Standby Letter of Credit issued to the landlord of Borrower's premises at 400 E. Pratt Street, Suite 604, Baltimore, Maryland.

SCHEDULE 1C

EXISTING PERMITTED LIENS

Lien on Certificate of Deposits in the amount of $175,000 held with PNC Bank given in connection with Borrower's reimbursement obligations to PNC Bank in connection with $175,000 Standby Letter of Credit issued to the landlord of Borrower's premises at 400 E. Pratt Street, Suite 604, Baltimore, Maryland.

SCHEDULE 5.10

INTELLECTUAL PROPERTY

See Exhibit D.

SCHEDULE 5.14

CAPITALIZATION

See attached.

SCHEDULE 7.16

POST-CLOSING ITEMS

Borrower shall deliver or cause to be delivered to Agent:

1. On or before September 15, 2014, a Subordination Agreement or waiver in form reasonably satisfactory to Agent with PDL Pratt Associates, LLC, the landlord of Borrower's premises located at 400 E. Pratt Street, Suite 604, Baltimore, Maryland pursuant to a lease dated August 3, 2013.

QuickLinks