

Sage Therapeutics, Inc.
Form 424B4
July 18, 2014
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**Filed Pursuant to Rule 424(b)(4)
Registration File No. 333-196849**

Prospectus

5,000,000 Shares

Common Stock

This is the initial public offering of shares of common stock of Sage Therapeutics, Inc. We are selling 5,000,000 shares of common stock.

The initial public offering price is \$18.00 per share.

Our common stock has been approved for listing on The NASDAQ Global Market under the symbol SAGE.

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 take advantage of certain reduced reporting requirements for this prospectus and may elect to comply with certain reduced public company reporting requirements for future filings.

	Per Share	Total
Initial public offering price	\$ 18.00	\$ 90,000,000
Underwriting discounts and commissions ⁽¹⁾	\$ 1.26	\$ 6,300,000
Proceeds to Sage Therapeutics, Inc. before expenses	\$ 16.74	\$ 83,700,000

(1) See Underwriting beginning on page 155 for additional information regarding underwriting compensation. We have granted the underwriters an option to purchase up to 750,000 additional shares of common stock to cover over-allotments.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 11.

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 on or about July 23, 2014.

J.P. Morgan

Goldman, Sachs & Co.

Leerink Partners

Canaccord Genuity

Prospectus dated July 17, 2014

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Until August 11, 2014, all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

We and the underwriters have not authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside of the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. Persons outside of the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described under Risk Factors and Management's Discussion and Analysis of Financial Condition and Results of Operations, in each case appearing elsewhere in this prospectus. Unless otherwise stated, all references to us, our, SAGE, we, the Company and similar designations refer to Sage Therapeutics, Inc.

Overview

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows us to make highly informed decisions when advancing our product candidates through the development process. Our initial product candidates, which are summarized in the following table, are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure.

The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent in Phase 1/2 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE

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is empiric, and there are no therapies at present that have been specifically approved for this indication. We thus believe there is a significant unmet medical need for SAGE-547.

Our follow-on product candidates, SAGE-689 and SAGE-217, utilize similar mechanistic pathways as SAGE-547 and are designed to have pharmaceutical properties which optimize both their non-clinical profiles and potential clinical profiles for the treatment of different stages of SE.

SAGE was founded in 2010, based on leading research in the areas of brain function and neuroactive steroids, to explore novel approaches to CNS therapeutics. Since our inception, we have continued to expand our know-how of CNS therapeutics through our research and development programs and to pursue intellectual property protection for our proprietary chemistry platform. In addition, we have assembled a world-class management team that together has been a part of the successful discovery, development and commercialization of more than 20 marketed CNS therapies.

Status Epilepticus

SE is a medical emergency and is treated with aggressive pharmacological approaches. SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. This results in an overall inpatient cost of \$3.8 billion to \$7.0 billion per year in the United States. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

SAGE-547 Clinical Development Program

We have compiled evidence which we believe supports the safety and activity of SAGE-547 for treatment of SRSE. Six patients have been treated with SAGE-547 by independent centers under emergency-use Investigational New Drug Applications, or INDs. Of note, each individual case of SRSE arose from a presumed different underlying etiology, the patients were of varying ages (17 months to 28 years of age), and all patients had been placed in a long-duration medically induced coma. In each case, SAGE-547 was administered with a target steady-state exposure similar to that planned for our ongoing Phase 1/2 clinical trial. Five of these patients treated with SAGE-547 achieved resolution of SRSE either during the course of or soon after SAGE-547 treatment. The one patient that did not achieve resolution of SRSE during the course of or soon after SAGE-547 treatment had low plasma exposures of SAGE-547.

On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the U.S. Food and Drug Administration, or FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are five active study sites in the United States, and we plan to open up to 15 additional study sites in the United States to achieve full enrollment of this clinical trial. As of the date of this prospectus, four patients have been enrolled in this trial and treated with SAGE-547. While data collection in and data review from these patients is ongoing, all four patients met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. Three of

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these patients were subsequently weaned off SAGE-547 without reinstating general anesthesia, while one patient experienced recurrence of SE upon withdrawal of SAGE-547 requiring the reinstatement of general anesthesia. Of the three patients that have completed the three-week follow-up period, one patient was discharged to a rehabilitation facility to continue recovery, one remained hospitalized to continue to be treated for severe ongoing medical conditions, and one experienced recurrence of SE. We believe this data provides preliminary evidence of the pharmacological effect of SAGE-547. We plan to report data from this Phase 1/2 clinical trial in the second half of 2014. In April 2014, the FDA, granted us orphan drug designation for SAGE-547 as a treatment for SE.

Follow-On Product Candidates

SAGE-689 and SAGE-217, two additional product candidates in our SE program, are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed as an adjunctive second-line therapy for the treatment of SE, and SAGE-217 is being developed as both an IV monotherapy for the treatment of RSE, and as an orally delivered maintenance therapeutic to prevent recurrent seizures in patients whose SE, RSE or SRSE has resolved.

We anticipate that SAGE-217 may also have the potential for use in a broader range of seizure conditions beyond maintenance therapy, including orphan genetic seizure disorders, such as Rett syndrome and Dravet syndrome. In addition, we believe related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, anxiety and tremor. With respect to our near-term SE programs, we plan to file an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. We are currently conducting IND-enabling studies of SAGE-217, with a plan to file an IND in the first half of 2015.

Understanding the Foundations of Our Approach

Neurotransmission

The CNS is composed of a vast and complex network of different structures and cell types, most of which serve directly or indirectly to provide a means for the nervous system to signal or communicate with other nerve cells in order to regulate and control all brain function. The cell type responsible for this signaling is called a neuron. Chemical or electrical signals can exert their effects on neurons by traveling across a physical gap located between two neurons, called a synapse. Presynaptic neurons transmit signals, whereas postsynaptic neurons react to the signals.

Neurotransmission is the process by which signaling molecules, called neurotransmitters, are released by a presynaptic neuron, travel over the synaptic space and bind to and interact with receptors on a postsynaptic neuron. Synaptic receptors are primarily located inside the synaptic cleft, or the space where the neurons communicate, and have been historically considered to be the most important part of the neuron. However, recent understanding of neurotransmission and brain function has shown there are many extrasynaptic receptors that also respond to neurotransmitters to exert their effects.

Allosteric modulation

We are focused on developing drugs based on selective allosteric modulation of key CNS synaptic and extrasynaptic receptors. Molecules that function directly on synaptic or extrasynaptic receptors at the site where the native, or natural, molecule binds to inhibit or activate them are known as orthosteric. Alternatively, allosteric modulators are a class of small molecules very different from classical orthosteric drugs, as they interact at a site different from the native site and allow for fine-tuning of neuronal signals. As a result, our drugs under development are capable of varying degrees of desired activity rather than complete activation or inhibition of the receptor as typically observed with orthosteric drugs. We believe this greater selectivity and modulatory control at extrasynaptic GABA_A receptors may allow us to develop CNS drugs that offer significant therapeutic and safety advantages over orthosteric drugs.

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Allosteric modulation of extrasynaptic GABA_A receptors to treat SE

Our current near-term product candidates are allosteric modulators of both synaptic and extrasynaptic, or existing outside of the synapse, GABA_A receptors, a characteristic important in distinguishing our approach from current therapies. While altering the level of synaptic GABA_A receptor activity can be beneficial in stopping seizures, this approach has limitations for the treatment of SE. As SE progresses in many patients, select synaptic GABA_A receptors are down-regulated, or removed from the neuronal synaptic surface. As a result, drugs that target down-regulated receptors, such as BDZs, often are not effective in stopping SE. In contrast, our product candidates work at both the synaptic and extrasynaptic GABA_A receptors. Non-clinical studies suggest that these extrasynaptic GABA_A receptors remain fully active during SE, offering the potential for drugs that impact GABA via the extrasynaptic GABA_A receptor to alter GABA activity and abate seizure. We believe that by creating compounds that target both these receptors, we may be successful in treating seizures that do not respond to BDZ therapy.

Allosteric modulation of GABA_A and NMDA receptors to address other CNS conditions

Now and in the foreseeable future, our product development pipeline will be focused on allosteric modulation of two important receptor systems in the brain GABA_A and NMDA. These receptor systems regulate inhibitory and excitatory neurotransmission, respectively, and are broadly accepted as impacting many psychiatric and neurological disorders. GABA_A and NMDA receptor systems are widely regarded as validated drug targets for a variety of CNS disorders, with decades of research and multiple approved drugs targeting these receptor systems. Drugs approved to modulate these receptor systems have had safety and efficacy limitations related to their poor pharmaceutical properties and adverse side effects. We believe that we will have the opportunity to develop molecules from our internal portfolio to more effectively address many of these disorders in the future.

Our proprietary chemistry platform

Our ability to identify and develop such novel CNS therapies is enabled by our proprietary chemistry platform that is centered on a scaffold of chemically modified endogenous neuroactive steroid compounds. We believe our know-how around the chemistry and activity of allosteric modulators allows us to efficiently design molecules with different characteristics by enabling us to control important properties such as half-life, brain penetration and the types of receptors with which our drugs interact. Therefore, we believe our product candidates will have the potential to bind with targets in the brain with more precision, increased safety and tolerability, and fewer off-target side effects than either current CNS therapies or previous therapies, which have often failed in development.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on development and commercialization of novel proprietary therapies for the treatment of life-threatening, rare CNS disorders.

Key elements of our strategy are to:

Rapidly advance SAGE-547 as a treatment for SRSE.

Develop our follow-on SE product candidates, SAGE-689 and SAGE-217, in parallel to SAGE-547.

Enhance the probability of success in treating SE by developing unique assets with differentiated features.

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Grow our pipeline more broadly utilizing the strengths of our proprietary chemistry platform and scientific know-how, to lessen our long-term reliance on a single franchise and facilitate long-term growth.

Focus our internal development activities on CNS indications where we can make well-informed, rapid go/no-go decisions.

Build a commercial capability to bring our CNS therapeutics to physicians and patients for rare target indications.

Selectively partner our programs to enhance our value.

Risk Factors

Our business is subject to many risks and uncertainties of which you should be aware before you decide to invest in our common stock. These risks are discussed more fully under **Risk Factors** in this prospectus. Some of these risks include:

We depend heavily on the success of the product candidates within our SE program, of which SAGE-547 is in Phase 1/2 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.

The number of patients suffering from SE, RSE or SRSE is small and has not been established with precision. If the actual number of patients with SE, RSE or SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.

Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.

Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.

Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limitations to the exclusivity afforded by such designation.

We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved.

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If we are unable to adequately protect our proprietary technology, or to obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

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Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.

Implications of being an emerging growth company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

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;

reduced disclosure about our executive compensation arrangements;

no non-binding advisory votes on executive compensation or golden parachute arrangements; and

exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these exemptions 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 on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements 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. Also, we have irrevocably elected to opt out of the exemption for the delayed adoption of certain accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Corporate History and Information

We were incorporated under the laws of the state of Delaware in April 2010. Our principal executive office is located at 215 First Avenue, Cambridge, Massachusetts, and our telephone number is (617) 299-8380. Our website address is www.sagerx.com. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus.

We own various U.S. federal trademark registrations and applications and unregistered trademarks, including our corporate logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

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THE OFFERING

Common stock offered by us	5,000,000 shares
Common stock to be outstanding after this offering	24,961,926 shares
Over-allotment option	We have granted the underwriters an option to purchase a maximum of 750,000 additional shares of common stock from us. The underwriters can exercise this option at anytime within 30 days from the date of this prospectus.
Use of proceeds	We estimate that we will receive net proceeds from the sale of shares of our common stock in this offering of approximately \$81.5 million, or \$94.0 million if the underwriters fully exercise their option to purchase additional shares, based on the initial public offering price of \$18.00 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to fund Phase 1/2 clinical development of SAGE-547, to fund IND-enabling activities and Phase 1 clinical development of SAGE-689, to fund IND-enabling activities for SAGE-217, to fund new and ongoing research and development activities and for working capital and other general corporate purposes. See Use of Proceeds for additional information.
Risk factors	You should read carefully Risk Factors beginning on page 11 and other information included in this prospectus for a discussion of factors that you should consider before deciding to invest in shares of our common stock.
NASDAQ Global Market symbol	SAGE
The number of shares of common stock to be outstanding after this offering is based on 1,954,351 shares of common stock outstanding as of May 31, 2014, which includes 251,326 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested, and excludes:	
	1,880,453 shares of common stock issuable upon exercise of outstanding options as of May 31, 2014 at a weighted average exercise price of \$2.77 per share;
	625,508 shares of common stock reserved for future issuance under our 2011 Stock Option and Grant Plan, or 2011 Stock Option Plan, as of May 31, 2014;
	1,143,000 shares of our common stock reserved for future issuance under our 2014 Stock Option and Incentive Plan, or 2014 Stock Option Plan, which will become effective upon the completion of this offering; and
	282,000 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan, which will become effective upon the completion of this offering.

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

the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of our common stock upon the completion of this offering;

no exercise of the outstanding options described above;

no exercise by the underwriters of their option to purchase up to an additional 750,000 shares of our common stock in this offering;

our amended and restated certificate of incorporation and our amended and restated by-laws, both of which we will file immediately prior to the completion of this offering; and

a 1-for-3.15 reverse stock split of our common stock and a proportional adjustment to the existing conversion ratio of each series of our redeemable convertible preferred stock, which became effective on July 2, 2014.

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You should read the following summary financial data together with our financial statements and the related notes appearing at the end of this prospectus and the Selected Financial Data and Management's Discussion and Analysis of Financial Condition and Results of Operations sections of this prospectus. We have derived the statement of operations data for the years ended December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived the statement of operations data for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) through March 31, 2014 and the balance sheet data as of March 31, 2014 from our unaudited consolidated financial statements included elsewhere in this prospectus. The unaudited financial data have been prepared on the same basis as the audited consolidated financial statements and, in management's opinion, include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the financial information as of and for the periods presented. Our historical results are not necessarily indicative of results that should be expected in the future, and results for the three months ended March 31, 2014 are not necessarily indicative of the results to be expected for the full year ending December 31, 2014.

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013	2014	
(in thousands, except per share data)					
Statement of operations data:					
Operating expenses:					
Research and development	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$ 28,268
General and administrative	2,402	3,922	806	1,617	9,146
Total operating expenses	9,631	18,279	3,389	5,790	37,414
Loss from operations	(9,631)	(18,279)	(3,389)	(5,790)	(37,414)
Interest income (expense), net		1			(46)
Other income (expense), net	(1)	(3)			(5)
Net loss	(9,632)	(18,281)	(3,389)	(5,790)	(37,465)
Accretion of redeemable convertible preferred stock to redemption value	(4)	(7)		(326)	(338)
Net loss attributable to common stockholders	\$ (9,636)	\$ (18,288)	\$ (3,389)	\$ (6,116)	\$ (37,803)
Net loss per share attributable to common stockholders basic and diluted ⁽¹⁾	\$ (8.62)	\$ (12.26)	\$ (2.39)	\$ (3.70)	
Weighted average common shares outstanding basic and diluted ⁽¹⁾	1,118	1,492	1,421	1,653	
Pro forma net loss per share attributable to common stockholders basic and diluted (unaudited) ³⁾		\$ (1.92)		\$ (0.35)	
Pro forma weighted average common shares outstanding basic and diluted (unaudited) ⁽²⁾		9,514		16,774	

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		As of March 31, 2014	
	Actual	Pro Forma ⁽³⁾ (in thousands)	Pro Forma As Adjusted ⁽⁴⁾
Balance sheet data:			
Cash and cash equivalents	\$ 55,425	\$ 55,425	\$ 136,885
Working capital ⁽⁵⁾	53,572	53,572	135,032
Total assets	56,777	56,777	137,395
Redeemable convertible preferred stock	91,011		
Total stockholders' equity (deficit)	(37,358)	53,653	135,113

- (1) See Note 9 to our financial statements for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.
- (2) See Note 9 to our financial statements for further details on the calculation of basic and diluted pro forma net loss per share attributable to common stockholders.
- (3) Pro forma balance sheet data give effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of our common stock upon the completion of this offering.
- (4) Pro forma as adjusted balance sheet data give effect to the pro forma adjustment described in footnote (3) above as well as the sale by us of 5,000,000 shares of our common stock in this offering at the initial public offering price of \$18.00 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.
- (5) We define working capital as current assets less current liabilities.

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RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all other information in this prospectus, including our financial statements and related notes, before investing in our common stock. Any of the risk factors we describe below could adversely affect our business, financial condition or results of operations. The market price of our common stock could decline if one or more of these risks or uncertainties actually occur, causing you to lose all or part of the money you paid to buy our common stock. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business. Certain statements below are forward-looking statements. See *Cautionary Note Regarding Forward-Looking Statements* in this prospectus.*

Risks Related to Product Development, Regulatory Approval and Commercialization

We depend heavily on the success of the product candidates within our status epilepticus, or SE, program, of which SAGE-547 is in Phase 1/2 clinical development and SAGE-689 and SAGE-217 are in non-clinical development. We cannot be certain that we will be able to obtain regulatory approval for, or successfully commercialize, any of our product candidates.

We currently have no drug products for sale and may never be able to develop marketable drug products. Our business depends heavily on the successful non-clinical and clinical development, regulatory approval and commercialization of the product candidates in our lead program in SE, of which only one product candidate, SAGE-547, is in Phase 1/2 clinical development for the treatment of super-refractory SE, or SRSE, and our other product candidates, SAGE-689 and SAGE-217, are in non-clinical development. SAGE-547 will require substantial additional clinical development, testing and regulatory approval before we are permitted to commence its commercialization. Our other product candidates, including SAGE-689 and SAGE-217, are still in non-clinical development stages. The non-clinical studies and clinical trials of our product candidates are, and the manufacturing and marketing of our product candidates will be, subject to extensive and rigorous review and regulation by numerous government authorities in the United States and in other countries where we intend to test and, if approved, market any product candidate. Before obtaining regulatory approvals for the commercial sale of any product candidate, we must demonstrate through non-clinical studies and clinical trials that the product candidate is safe and effective for use in each target indication. Drug development is a long, expensive and uncertain process, and delay or failure can occur at any stage of any of our clinical trials. This process can take many years and may include post-marketing studies and surveillance, which will require the expenditure of substantial resources beyond the proceeds we raise in this offering. Of the large number of drugs in development in the United States, only a small percentage will successfully complete the U.S. Food and Drug Administration, or FDA, regulatory approval process and will be commercialized. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development and non-clinical studies and clinical trials, we cannot assure you that any of our product candidates will be successfully developed or commercialized.

We are not permitted to market our product candidates in the United States until we receive approval of a New Drug Application, or an NDA, from the FDA, or in any foreign countries until we receive the requisite approval from such countries. We have initiated a Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547 in patients with SRSE. If our Phase 1/2 clinical trial of SAGE-547 is successful, we expect that the FDA will require us to complete at least one pivotal trial in order to submit an NDA for SAGE-547 as a treatment for SRSE patients. However, the FDA may require that we conduct additional pivotal trials before we can submit an NDA for SAGE-547. We have had only limited feedback from the FDA on the design of our ongoing Phase 1/2 clinical trial of SAGE-547 and on what would be required in a pivotal clinical trial of SAGE-547. Before beginning our pivotal

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trial for SAGE-547, the FDA will need to accept the results of our long-term toxicity studies in two animal species, which we submitted to the FDA in the second quarter of 2014. The FDA may require that we conduct additional toxicity studies and may also require us to conduct additional non-clinical studies before submitting an NDA for SAGE-547.

Both SAGE-689 and SAGE-217 are in non-clinical development and have yet to begin the clinical development process. We plan to file an Investigational New Drug Application, or IND, for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter.

Obtaining approval of an NDA is a complex, lengthy, expensive and uncertain process, and the FDA may delay, limit or deny approval of any of our product candidates for many reasons, including, among others:

we may not be able to demonstrate that our product candidates are safe and effective in treating SE, refractory SE, or RSE, or SRSE, as applicable, to the satisfaction of the FDA;

the results of our non-clinical studies and clinical trials may not meet the level of statistical or clinical significance required by the FDA for marketing approval;

the FDA may disagree with the number, design, size, conduct or implementation of our non-clinical studies and clinical trials;

the FDA may require that we conduct additional non-clinical studies and clinical trials;

the FDA or the applicable foreign regulatory agency may not approve the formulation, labeling or specifications of any of our product candidates;

the contract research organizations, or CROs, that we retain to conduct our non-clinical studies and clinical trials may take actions outside of our control that materially adversely impact our non-clinical studies and clinical trials;

the FDA may find the data from non-clinical studies and clinical trials insufficient to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;

the FDA may disagree with our interpretation of data from our non-clinical studies and clinical trials;

the FDA may not accept data generated at our non-clinical studies and clinical trial sites;

if our NDA, if and when submitted, is reviewed by an advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of our application or may recommend that the FDA require, as a condition of approval, additional non-clinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;

the FDA may require development of a Risk Evaluation and Mitigation Strategy, or REMS, as a condition of approval or post-approval;

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the FDA or the applicable foreign regulatory agency may determine that the manufacturing processes or facilities of third-party manufacturers with which we contract do not conform to applicable requirements, including current Good Manufacturing Practices, or cGMPs; or

the FDA or applicable foreign regulatory agency may change its approval policies or adopt new regulations.

Any of these factors, many of which are beyond our control, could jeopardize our ability to obtain regulatory approval for and successfully market our product candidates. Any such setback in our pursuit of regulatory approval would have a material adverse effect on our business and prospects.

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The number of patients suffering from SE, RSE and SRSE is small or has not been established with precision. If the actual number of patients with SE, RSE and SRSE is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development of our product candidates, and if any of our product candidates are approved, we believe our revenue and ability to achieve profitability would be materially adversely affected.

There is no precise method of establishing actual number of patients with SE, RSE or SRSE in any geography over any time period. Moreover, SE, RSE and SRSE are acute episode conditions. If we are not able to identify patients at the time of SE, RSE or SRSE onset, we will have difficulty completing our clinical trials. We estimate that the annual incidence of SE, RSE and SRSE in the United States is up to 150,000, 35,000 and 25,000 patients, respectively. If the actual number of patients with SE, RSE or SRSE is lower than we believe, we may experience difficulty in enrolling patients in our clinical trials, thereby delaying development of our product candidates. Further, if any of our product candidates are approved, the markets for our product candidates for these indications would be smaller than we anticipate, which could limit our ability to achieve profitability.

Favorable results from the emergency-use cases of SAGE-547 do not ensure that clinical trials will be successful and the results in any future emergency-use cases may not be positive and could adversely impact our clinical development plans.

SAGE-547 has been administered to a small number of patients as part of emergency-use cases, which permitted the administration of SAGE-547 outside of clinical trials. No assurance can be given that positive results observed to date in these emergency-use cases are attributable to SAGE-547, as they were not carried out in the controlled environment of a clinical trial. Further, no assurance can be provided that administration of SAGE-547 to other patients in any future emergency-use cases or otherwise will have positive results. Emergency use is a term that is used to refer to the use of an investigational drug outside of a clinical trial to treat a patient with a serious or immediately life-threatening disease or condition who has no comparable or satisfactory alternative treatment options. Regulators often allow emergency use on a case-by-case basis for an individual patient or for defined groups of patients with similar treatment needs. In the event there are negative results in future emergency-use cases, it could adversely affect or delay our clinical development of SAGE-547.

If serious adverse events or other undesirable side effects are identified during the use of SAGE-547 in emergency-use cases or in investigator sponsored trials of SAGE-547, it may adversely effect our development of SAGE-547 for SRSE.

In addition to use in emergency cases as described above, SAGE-547 is currently being tested in an investigator sponsored clinical trial for the treatment of traumatic brain injury, or TBI, by one of our collaborators. If serious adverse events or other undesirable side effects, or unexpected characteristics of SAGE-547 are observed in emergency-use cases or in investigator sponsored clinical trials of SAGE-547, it may adversely affect or delay our clinical development of SAGE-547, or we may need to abandon its development for SRSE entirely, and the occurrence of these events would have a material adverse effect on our business.

Positive results from early non-clinical studies and clinical trials of our product candidates are not necessarily predictive of the results of later non-clinical studies and clinical trials of our product candidates. If we cannot replicate the positive results from our earlier non-clinical studies and clinical trials of our product candidates in our later non-clinical studies and clinical trials, we may be unable to successfully develop, obtain regulatory approval for and commercialize our product candidates.

Positive results from our non-clinical studies of our product candidates, and any positive results we may obtain from our early clinical trials of our product candidates, may not necessarily be predictive

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of the results from required later non-clinical studies and clinical trials. Similarly, even if we are able to complete our planned non-clinical studies or clinical trials of our product candidates according to our current development timeline, the positive results from our non-clinical studies and clinical trials of our product candidates may not be replicated in subsequent non-clinical studies or clinical trial results. For example, although the first four patients treated with SAGE-547 in our Phase 1/2 clinical trial met the key efficacy endpoint and have not yet experienced any severe adverse events related to SAGE-547, future patients enrolled and treated with SAGE-547 in this trial may not have the same outcome. Also, our later-stage clinical trials could differ in significant ways from our ongoing Phase 1/2 clinical trial of SAGE-547, which could cause the outcome of these later-stage trials to differ from our earlier stage clinical trials. For example, these differences may include changes to inclusion and exclusion criteria, efficacy endpoints and statistical design. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, non-clinical findings made while clinical trials were underway or safety or efficacy observations made in non-clinical studies and clinical trials, including previously unreported adverse events. Moreover, non-clinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that believed their product candidates performed satisfactorily in non-clinical studies and clinical trials nonetheless failed to obtain FDA approval. We have not completed any clinical trials for our product candidates yet, and if we fail to produce positive results in our planned non-clinical studies or clinical trials of any of our product candidates, the development timeline and regulatory approval and commercialization prospects for our product candidates, and, correspondingly, our business and financial prospects, would be materially adversely affected.

Failures or delays in the commencement or completion of our planned clinical trials of our product candidates could result in increased costs to us and could delay, prevent or limit our ability to generate revenue and continue our business.

We have commenced a Phase 1/2 clinical trial of SAGE-547 as a treatment for SRSE and will need to complete at least one additional trial prior to the submission of an NDA for SAGE-547. Successful completion of our clinical trials is a prerequisite to submitting an NDA to the FDA and, consequently, the ultimate approval and commercial marketing of SAGE-547 and our other product candidates. We do not know whether any of our clinical trials will begin or be completed on schedule, if at all, as the commencement and completion of clinical trials can be delayed or prevented for a number of reasons, including, among others:

the FDA may deny permission to proceed with our planned clinical trials or any other clinical trials we may initiate, or may place a clinical trial on hold;

delays in filing or receiving approvals of additional INDs that may be required;

negative results from our ongoing non-clinical studies;

delays in reaching or failing to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;

inadequate quantity or quality of a product candidate or other materials necessary to conduct clinical trials, for example delays in the manufacturing of sufficient supply of finished drug product;

difficulties obtaining Institutional Review Board, or IRB, approval to conduct a clinical trial at a prospective site or sites;

challenges in recruiting and enrolling patients to participate in clinical trials, including the small size of the patient population, acute nature of SRSE, the proximity of patients to trial sites,

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eligibility criteria for the clinical trial, the nature of the clinical trial protocol, the availability of approved effective treatments for the relevant disease and competition from other clinical trial programs for similar indications;

severe or unexpected drug-related side effects experienced by patients in a clinical trial;

delays in validating any endpoints utilized in a clinical trial;

the FDA may disagree with our clinical trial design and our interpretation of data from clinical trials, or may change the requirements for approval even after it has reviewed and commented on the design for our clinical trials;

reports from non-clinical or clinical testing of other CNS therapies that raise safety or efficacy concerns; and

difficulties retaining patients who have enrolled in a clinical trial but may be prone to withdraw due to rigors of the clinical trials, lack of efficacy, side effects, personal issues or loss of interest.

Clinical trials may also be delayed or terminated as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, the FDA, the IRBs at the sites where the IRBs are overseeing a clinical trial, a data and safety monitoring board, or DSMB, overseeing the clinical trial at issue or other regulatory authorities due to a number of factors, including, among others:

failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols;

inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities that reveals deficiencies or violations that require us to undertake corrective action, including the imposition of a clinical hold;

unforeseen safety issues, including any that could be identified in our ongoing non-clinical carcinogenicity studies, adverse side effects or lack of effectiveness;

changes in government regulations or administrative actions;

problems with clinical supply materials; and

lack of adequate funding to continue clinical trials.

Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials of our product candidates may occur, which may result in changes to non-clinical studies and clinical trial protocols or additional non-clinical studies and clinical trial requirements, which could result in increased costs to us and could delay our development timeline.

Changes in regulatory requirements, FDA guidance or unanticipated events during our non-clinical studies and clinical trials may force us to amend non-clinical studies and clinical trial protocols or the FDA may impose additional non-clinical studies and clinical trial requirements. Amendments or changes to our clinical trial protocols would require resubmission to the FDA and IRBs for review and approval, which may adversely impact the cost, timing or successful completion of clinical trials. Similarly, amendments to our non-clinical studies may adversely impact the cost, timing, or successful completion of those non-clinical studies. If we experience delays completing, or if we terminate, any of our non-clinical studies or clinical trials, or if we are required to conduct additional non-clinical studies or clinical trials, the commercial prospects

for our product candidates may be harmed and our ability to generate product revenue will be delayed.

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We rely, and expect that we will continue to rely, on third parties to conduct any clinical trials for our product candidates. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We do not have the ability to independently conduct clinical trials. We rely on medical institutions, clinical investigators, contract laboratories and other third parties, such as CROs, to conduct clinical trials on our product candidates. We enter into agreements with third-party CROs to provide monitors for and to manage data for our ongoing clinical trials. We rely heavily on these parties for execution of clinical trials for our product candidates and control only certain aspects of their activities. As a result, we have less direct control over the conduct, timing and completion of these clinical trials and the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with outside parties can also be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Outside parties may:

have staffing difficulties;

fail to comply with contractual obligations;

experience regulatory compliance issues;

undergo changes in priorities or become financially distressed; or

form relationships with other entities, some of which may be our competitors.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. Nevertheless, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific requirements and standards, and our reliance on CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with regulations and guidelines, including current Good Clinical Practices, or cGCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate, and that the trial patients are adequately informed of the potential risks of participating in clinical trials. These regulations are enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities for any products in clinical development. The FDA enforces cGCP regulations through periodic inspections of clinical trial sponsors, principal investigators and trial sites. If we or our CROs fail to comply with applicable cGCPs, 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. We cannot assure you that, upon inspection, the FDA will determine that any of our clinical trials comply with cGCPs. In addition, our clinical trials must be conducted with product candidates produced under cGMPs regulations and will require a large number of test patients. Our failure or the failure of our CROs to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and could also subject us to enforcement action up to and including civil and criminal penalties.

Although we do design our clinical trials for our product candidates, CROs conduct all of the clinical trials. As a result, many important aspects of our drug development programs are outside of our direct control. In addition, the CROs may not perform all of their obligations under arrangements with us or in compliance with regulatory requirements, but we remain responsible and are subject to enforcement action that may include civil penalties up to and including criminal prosecution for any violations of FDA laws and regulations during the conduct of our clinical trials. If the CROs do not perform clinical trials in a satisfactory manner, breach their obligations to us or fail to comply with regulatory requirements, the development and commercialization of our product candidates may be delayed or our development program materially and irreversibly harmed. We cannot control the amount

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and timing of resources these CROs devote to our program or our clinical products. If we are unable to rely on clinical data collected by our CROs, we could be required to repeat, extend the duration of, or increase the size of our clinical trials and this could significantly delay commercialization and require significantly greater expenditures.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced 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, any clinical trials such CROs are associated with may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, we believe that our financial results and the commercial prospects for our product candidates in the subject indication would be harmed, our costs could increase and our ability to generate revenue could be delayed.

We rely completely on third-party suppliers to manufacture our clinical drug supplies for our product candidates, and we intend to rely on third parties to produce non-clinical, clinical and commercial supplies of any future product candidate.

We do not currently have, nor do we plan to acquire, the infrastructure or capability to internally manufacture our clinical drug supply of our product candidates, or any future product candidates, for use in the conduct of our non-clinical studies and clinical trials, and we lack the internal resources and the capability to manufacture any product candidates on a clinical or commercial scale. For example, SAGE-547 used in the emergency-use cases was manufactured at an academic site, the active pharmaceutical ingredient for SAGE-547 for our Phase 1/2 clinical trial was manufactured at an academic site and SAGE-547 as formulated for our Phase 1/2 clinical trial was manufactured at a third-party manufacturer's site. The facilities used by our contract manufacturers to manufacture the active pharmaceutical ingredient and final drug product must complete a pre-approval inspection by the FDA and other comparable foreign regulatory agencies to assess compliance with applicable requirements, including cGMPs, after we submit our NDA or relevant foreign regulatory submission to the applicable regulatory agency.

We do not control the manufacturing process of, and are completely dependent on, our contract manufacturers to comply with cGMPs for manufacture of both active drug substances and finished drug products. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or applicable foreign regulatory agencies, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no direct control over our contract manufacturers' ability to maintain adequate quality control, quality assurance and qualified personnel. Furthermore, all of our contract manufacturers are engaged with other companies to supply and/or manufacture materials or products for such companies, which exposes our manufacturers to regulatory risks for the production of such materials and products. As a result, failure to satisfy the regulatory requirements for the production of those materials and products may affect the regulatory clearance of our contract manufacturers' facilities generally. If the FDA or an applicable foreign regulatory agency determines now or in the future that these facilities for the manufacture of our product candidates are noncompliant, we may need to find alternative manufacturing facilities, which would adversely impact our ability to develop, obtain regulatory approval for or market our product candidates. Our reliance on contract manufacturers also exposes us to the possibility that they, or third parties with access to their facilities, will have access to and may appropriate our trade secrets or other proprietary information.

We do not have long-term supply agreements in place with our contractors, and each batch of our product candidates is individually contracted under a quality and supply agreement. If we engage new contractors, such contractors must complete an inspection by the FDA and other applicable foreign

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regulatory agencies. We plan to continue to rely upon contract manufacturers and, potentially, collaboration partners to manufacture commercial quantities of our product candidates, if approved. Our current scale of manufacturing is adequate to support all of our needs for non-clinical studies and clinical trial supplies.

Even if we receive marketing approval for our product candidates in the United States, we may never receive regulatory approval to market our product candidates outside of the United States.

We have not yet selected any markets outside of the United States where we intend to seek regulatory approval to market our product candidates. In order to market any product outside of the United States, however, we must establish and comply with the numerous and varying safety, efficacy and other regulatory requirements of other countries. Approval procedures vary among countries and can involve additional product candidate testing and additional administrative review periods. The time required to obtain approvals in other countries might differ from that required to obtain FDA approval. The marketing approval processes in other countries may implicate all of the risks detailed above regarding FDA approval in the United States as well as other risks. In particular, in many countries outside of the United States, products must receive pricing and reimbursement approval before the product can be commercialized. Obtaining this approval can result in substantial delays in bringing products to market in such countries. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may have a negative effect on the regulatory process in others. Failure to obtain marketing approval in other countries or any delay or other setback in obtaining such approval would impair our ability to market our product candidates in such foreign markets. Any such impairment would reduce the size of our potential market, which could have a material adverse impact on our business, results of operations and prospects.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate any revenue.

We do not currently have an infrastructure for the sales, marketing and distribution of pharmaceutical products. In order to market our product candidates, if approved by the FDA or any other regulatory body, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, or if we are unable to do so on commercially reasonable terms, our business, results of operations, financial condition and prospects will be materially adversely affected.

Even if we receive marketing approval for our product candidates, our product candidates may not achieve broad market acceptance, which would limit the revenue that we generate from their sales.

The commercial success of our product candidates, if approved by the FDA or other applicable regulatory authorities, will depend upon the awareness and acceptance of our product candidates among the medical community, including physicians, patients and healthcare payors. Market acceptance of our product candidates, if approved, will depend on a number of factors, including, among others:

the efficacy of our product candidates as demonstrated in clinical trials, and, if required by any applicable regulatory authority in connection with the approval for the applicable indications, to provide patients with incremental health benefits, as compared with other available CNS therapies;

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limitations or warnings contained in the labeling approved for our product candidates by the FDA or other applicable regulatory authorities;

the clinical indications for which our product candidates are approved;

availability of alternative treatments already approved or expected to be commercially launched in the near future;

the potential and perceived advantages of our product candidates over current treatment options or alternative treatments, including future alternative treatments;

the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;

the strength of marketing and distribution support and timing of market introduction of competitive products;

publicity concerning our products or competing products and treatments;

pricing and cost effectiveness;

the effectiveness of our sales and marketing strategies;

our ability to increase awareness of our product candidates through marketing efforts;

our ability to obtain sufficient third-party coverage or reimbursement; or

the willingness of patients to pay out-of-pocket in the absence of third-party coverage.

If our product candidates are approved but do not achieve an adequate level of acceptance by patients, physicians and payors, we may not generate sufficient revenue from our product candidates to become or remain profitable. Before granting reimbursement approval, healthcare payors may require us to demonstrate that our product candidates, in addition to treating these target indications, also provide incremental health benefits to patients. Our efforts to educate the medical community and third-party payors about the benefits of our product candidates may require significant resources and may never be successful.

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

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt non-clinical studies and clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. If our product candidates receive marketing approval and we or others identify undesirable side effects caused by such product candidates (or any other similar products) after such approval, a number of potentially significant negative consequences could result,

including:

regulatory authorities may withdraw or limit their approval of such product candidates;

regulatory authorities may require the addition of labeling statements, such as a boxed warning or a contraindication;

we may be required to change the way such product candidate are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates;

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we may be subject to regulatory investigations and government enforcement actions;

we may decide to remove such product candidates from the marketplace;

we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and

our reputation may suffer.

We believe that any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidates and could substantially increase the costs of commercializing our product candidates and significantly impact our ability to successfully commercialize our product candidates and generate revenues.

Even if we receive marketing approval for our product candidates, we may still face future development and regulatory difficulties.

Even if we receive marketing approval for our product candidates, regulatory authorities may still impose significant restrictions on our product candidates, indicated uses or marketing or impose ongoing requirements for potentially costly post-approval studies. Our product candidates will also be subject to ongoing FDA requirements governing the labeling, packaging, storage and promotion of the product and record keeping and submission of safety and other post-market information. The FDA has significant post-marketing authority, including, for example, the authority to require labeling changes based on new safety information and to require post-marketing studies or clinical trials to evaluate serious safety risks related to the use of a drug. The FDA also has the authority to require, as part of an NDA or post-approval, the submission of a REMS. Any REMS required by the FDA may lead to increased costs to assure compliance with new post-approval regulatory requirements and potential requirements or restrictions on the sale of approved products, all of which could lead to lower sales volume and revenue.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMPs and other regulations. If we or a regulatory agency discover problems with our product candidates, such as adverse events of unanticipated severity or frequency, or problems with the facility where our product candidates are manufactured, a regulatory agency may impose restrictions on our product candidates, the manufacturer or us, including requiring withdrawal of our product candidates from the market or suspension of manufacturing. If we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may, among other things:

issue warning letters or untitled letters;

seek an injunction or impose civil or criminal penalties or monetary fines;

suspend or withdraw marketing approval;

suspend any ongoing clinical trials;

refuse to approve pending applications or supplements to applications submitted by us;

suspend or impose restrictions on operations, including costly new manufacturing requirements; or

seize or detain products, refuse to permit the import or export of products, or request that we initiate a product recall.

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Competing therapies could emerge adversely affecting our opportunity to generate revenue from the sale of our product candidates.

The biopharmaceuticals industry is highly competitive. There are many public and private biopharmaceutical companies, universities, governmental agencies and other research organizations actively engaged in the research and development of products that may be similar to our product candidates or address similar markets. It is probable that the number of companies seeking to develop products and therapies similar to our products will increase.

Currently, there are no therapies specifically approved for RSE or SRSE. However, many products approved for other indications, general anesthetics and anti-seizure drugs, are used off-label for various stages of SE therapy. Additionally, though not indicated, acupuncture, hypothermia, and electroconvulsive therapy are sometimes used prior to withdrawal of care for patients with SRSE.

In the field of neuroactive steroids focused on modulation of GABA_A or NMDA receptors, our principal competitor is Marinus Pharmaceuticals, Inc., which is developing a reformulated form of Ganaxolone, a known GABA_A positive allosteric modulator neuroactive steroid, for potential treatment of drug-resistant partial complex seizures and fragile X syndrome.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

We may seek to establish collaborations, and, if we are not able to establish them on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our drug development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. For some of our product candidates, we may decide to collaborate with pharmaceutical and biotechnology companies for the development and potential commercialization of those product candidates.

We face significant competition in seeking appropriate collaborators. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. The terms of any collaborations or other arrangements that we may establish may not be favorable to us.

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We may also be restricted under existing collaboration agreements from entering into future agreements on certain terms with potential collaborators. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators.

We may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of the product candidate for which we are seeking to collaborate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

In addition, any future collaborations that we enter into may not be successful. The success of our collaboration arrangements 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 collaboration arrangement 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 collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority. 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.

We may not be successful in our efforts to identify or discover additional product candidates or 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.

The success of our business depends primarily upon our ability to identify, develop and commercialize products based on our proprietary chemistry platform. Although some of our product candidates are in non-clinical and clinical development, our research programs may fail to identify other potential product candidates for clinical development for a number of reasons. Our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

Because we have limited financial and management resources, we focus on a limited number of research programs and product candidates and are currently focused on our SE program. As a result, 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 drugs or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable drugs. 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 future 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.

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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 and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

We are subject to healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Although we do not currently have any products on the market, once we begin commercializing our products, we may be subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of our product candidates, if approved. Our future arrangements with third-party payors will 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 product candidates, if we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

The federal anti-kickback statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid.

The federal False Claims Act imposes criminal and civil penalties, including those from 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 or making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government.

The federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information.

The federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services.

The federal transparency requirements, sometimes referred to as the Sunshine Act, under the Patient Protection and Affordable Care Act, require manufacturers of drugs, devices, biologics and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests.

Analogous state laws and regulations, such as state anti-kickback and false claims laws and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance

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guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and drug pricing.

Ensuring that our future business arrangements with third parties comply with applicable healthcare laws and regulations could be costly. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations, including anticipated activities to be conducted by our sales team, were found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines and exclusion from government funded healthcare programs, such as Medicare and Medicaid, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If we are found to have improperly promoted off-label uses, we may become subject to significant liability.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as SAGE-547, SAGE-689, and SAGE-217, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. For example, if we receive marketing approval for SAGE-547 as a treatment for SRSE, physicians may nevertheless prescribe SAGE-547 to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

Even if approved, reimbursement policies could limit our ability to sell our product candidates.

Market acceptance and sales of our product candidates will depend on reimbursement policies and may be affected by healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels for those medications. Cost containment is a primary concern in the U.S. healthcare industry and elsewhere. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that reimbursement will be available for our product candidates and, if reimbursement is available, the level of such reimbursement. Reimbursement may impact the demand for, or the price of, our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates.

In some foreign countries, particularly in Canada and European countries, the pricing of prescription pharmaceuticals is subject to strict governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we may be required to conduct a clinical trial that compares the

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cost-effectiveness of our product candidates with other available therapies. If reimbursement for our product candidates is unavailable in any country in which we seek reimbursement, if it is limited in scope or amount, if it is conditioned upon our completion of additional clinical trials, or if pricing is set at unsatisfactory levels, our operating results could be materially adversely affected.

Even though we have obtained orphan drug designation for SAGE-547 as a treatment for SE, there may be limits to the regulatory exclusivity afforded by such designation.

Even though we have obtained orphan drug designation for SAGE-547 for treatment of SE, there are limitations to exclusivity afforded by such designation. In the United States, the company that first obtains FDA approval for a designated orphan drug for the specified rare disease or condition receives orphan drug marketing exclusivity for that drug for a period of seven years. This orphan drug exclusivity prevents the FDA from approving another application, including a full NDA to market the same drug for the same orphan indication, except in very limited circumstances, including when the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. For purposes of small molecule drugs, the FDA defines same drug as a drug that contains the same active moiety and is intended for the same use as the drug in question. To obtain orphan drug exclusivity for a drug that shares the same active moiety as an already approved drug, it must be demonstrated to the FDA that the drug is safer or more effective than the approved orphan designated drug, or that it makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition or if another drug with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care.

Our future growth may depend, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future profitability may depend, in part, on our ability to commercialize our product candidates in foreign markets for which we may rely on collaboration with third parties. If we commercialize our product candidates in foreign markets, we would be subject to additional risks and uncertainties, including:

our customers' ability to obtain reimbursement for our product candidates in foreign markets;

our inability to directly control commercial activities because we are relying on third parties;

the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements;

different medical practices and customs in foreign countries affecting acceptance in the marketplace;

import or export licensing requirements;

longer accounts receivable collection times;

longer lead times for shipping;

language barriers for technical training;

reduced protection of intellectual property rights in some foreign countries;

the existence of additional potentially relevant third party intellectual property rights;

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foreign currency exchange rate fluctuations; and

the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

Foreign sales of our product candidates could also be adversely affected by the imposition of governmental controls, political and economic instability, trade restrictions and changes in tariffs.

Risks Related to Our Intellectual Property Rights

If we are unable to adequately protect our proprietary technology, or obtain and maintain issued patents that are sufficient to protect our product candidates, others could compete against us more directly, which would have a material adverse impact on our business, results of operations, financial condition and prospects.

We strive to protect and enhance the proprietary technologies that we believe are important to our business, including seeking patents intended to cover our products and compositions, their methods of use and any other inventions that are important to the development of our business. We also rely on trade secrets 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, should they issue, preserve the confidentiality of our trade secrets and operate without infringing the valid and enforceable patents and proprietary rights of third parties. We also rely on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen and maintain the proprietary position of our product candidates. Our owned and licensed patent applications relate to SAGE-547, GABA_A receptor modulators, including genus and species claims to SAGE-689 and NMDA receptor modulators.

We currently have no issued patents covering any of our lead product candidates, SAGE-547, SAGE-689, or SAGE-217. We cannot provide any assurances that any of our pending patent applications will mature into issued patents and, if they do, that such patents will include claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage. For example, the patent applications that may provide coverage for SAGE-547, only cover particular formulations and particular methods of using such formulations to treat seizure conditions, such as SE. As a result, if a patent issues from such patent applications, it would not prevent third-party competitors from creating, making and marketing alternative formulations, that fall outside the scope of our patent claims or practicing alternative methods. There can be no assurance that any such alternative formulations will not be equally effective as our formulation of SAGE-547. Moreover, other parties have developed technologies that may be related or competitive to our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patent applications, either by claiming the same methods or formulations or by claiming subject matter that could dominate our patent position. Such third-party patent positions may limit or even eliminate our ability to obtain patent protection for certain inventories.

The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, the issuance, scope, validity and enforceability of any patent claims that we may obtain cannot be predicted with certainty. Patents, if issued, may be challenged, deemed unenforceable, invalidated, or circumvented. U.S. patents and patent applications may also be subject to interference proceedings, *ex parte* reexamination, or *inter partes* review proceedings, supplemental examination and challenges in district court. Patents may be subjected to opposition, post-grant review, or comparable proceedings lodged in various foreign, both national and regional, patent offices. These proceedings could result in either loss of the patent or

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denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. In addition, such proceedings may be costly. Thus, any patents, should they issue, that we may own or exclusively license may not provide any protection against competitors. Furthermore, an adverse decision in an interference proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates.

Furthermore, though a patent, if it were to issue, is presumed valid and enforceable, its issuance is not conclusive as to its validity or its enforceability and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products. Even if a patent issues and is held to be valid and enforceable, competitors may be able to design around our patents, such as using pre-existing or newly developed technology. Other parties may develop and obtain patent protection for more effective technologies, designs or methods. We may not be able to prevent the unauthorized disclosure or use of our technical knowledge or trade secrets by consultants, vendors, former employees and current employees. The laws of some foreign countries do not protect our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries. If these developments were to occur, they could have a material adverse effect on our sales.

Our ability to enforce our patent rights depends on our ability to detect infringement. It is difficult to detect infringers who do not advertise the components that are used in their products. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product. Any litigation to enforce or defend our patent rights, even if we were to prevail, could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents, if and when issued, could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If any of our patents, if and when issued, covering our product candidates are invalidated or found unenforceable, our financial position and results of operations would be materially and adversely impacted. In addition, if a court found that valid, enforceable patents held by third parties covered our product candidates, our financial position and results of operations would also be materially and adversely impacted.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates or any other products or product candidates;

any of our pending patent applications will issue as patents at all;

we will be able to successfully commercialize our product candidates, if approved, before our relevant patents expire;

we were the first to make the inventions covered by each of our patents and pending patent applications;

we were the first to file patent applications for these inventions;

others will not develop similar or alternative technologies that do not infringe our patents;

others will not use pre-existing technology to effectively compete against us;

any of our patents, if issued, will be found to ultimately be valid and enforceable;

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any patents issued to us will provide a basis for an exclusive market for our commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;

we will develop additional proprietary technologies or product candidates that are separately patentable; or

that our commercial activities or products will not infringe upon the patents or proprietary rights of others.

We rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. It is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants who are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

We may infringe the intellectual property rights of others, which may prevent or delay our product development efforts and stop us from commercializing or increase the costs of commercializing our product candidates, if approved.

Our success will depend in part on our ability to operate without infringing the intellectual property and proprietary rights of third parties. We cannot assure you that our business, products and methods do not or will not infringe the patents or other intellectual property rights of third parties.

The pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights. Other parties may allege that our product candidates or the use of our technologies infringes patent claims or other intellectual property rights held by them or that we are employing their proprietary technology without authorization. As we continue to develop and, if approved, commercialize our current product candidates and future product candidates, competitors may claim that our technology infringes their intellectual property rights as part of business strategies designed to impede our successful commercialization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, third parties may have currently pending patent applications which may later result in issued patents that our product candidates may infringe, or which such third parties claim are infringed by our technologies. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our product candidates, products or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could have a material adverse effect on us. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

Patent and other types of intellectual property litigation can involve complex factual and legal questions, and their outcome is uncertain. Any claim relating to intellectual property infringement that is successfully asserted against us may require us to pay substantial damages, including treble damages and attorney's fees if we are found to be willfully infringing another party's patents, for past use of the

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asserted intellectual property and royalties and other consideration going forward if we are forced to take a license. In addition, if any such claim were successfully asserted against us and we could not obtain such a license, we may be forced to stop or delay developing, manufacturing, selling or otherwise commercializing our product candidates.

Even if we are successful in these proceedings, we may incur substantial costs and divert management time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court, or redesign our products. Patent litigation is costly and time-consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, intellectual property litigation or claims could force us to do one or more of the following:

cease developing, selling or otherwise commercializing our product candidates;

pay substantial damages for past use of the asserted intellectual property;

obtain a license from the holder of the asserted intellectual property, which license may not be available on reasonable terms, if at all; and

in the case of trademark claims, redesign, or rename, some or all of our product candidates to avoid infringing the intellectual property rights of third parties, which may not be possible and, even if possible, could be costly and time-consuming.

Any of these risks coming to fruition could have a material adverse effect on our business, results of operations, financial condition and prospects.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We enter into confidentiality and intellectual property assignment agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors. These agreements generally provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. For example, even if we have a consulting agreement in place with an academic advisor pursuant to which such academic advisor is required to assign any inventions developed in connection with providing services to us, such academic advisor may not have the right to assign such inventions to us, as it may conflict with his or her obligations to assign all such intellectual property to his or her employing institution.

Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

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

The U.S. Patent and Trademark Office, or U.S. PTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process. There are situations in which noncompliance can result in

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

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming and unsuccessful.

Even if the patent applications we own or license are issued, competitors may infringe these patents. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid, is unenforceable and/or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology 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 a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

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 our common stock.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court.

If we or one of our licensing partners initiated legal proceedings against a third party to enforce a patent, if and when issued, covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include alleged failures to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for unenforceability assertions include allegations that someone connected with prosecution of the patent withheld relevant information from the U.S. PTO, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review and equivalent proceedings in foreign jurisdictions, e.g., opposition proceedings. Such proceedings could result in revocation or amendment of our patents in such a way that they no longer cover our product candidates or competitive products. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a

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defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection would have a material adverse impact on our business.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained 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 may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For the patent families related to SAGE-547, SAGE-689 and SAGE-217, as well as for most of the patent families that we own or license, the relevant statutory deadlines have not yet expired. Thus, for each of the patent families that we believe provide coverage for our lead product candidates, we will need to decide whether and where to pursue protection outside the United States.

Competitors may use our technologies in jurisdictions where we do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biotechnology. This could make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we

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initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We are dependent on licensed intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing our product candidates, if approved. If we breach any of the agreements under which we license the use, development and commercialization rights to our product candidates or technology from third parties or, in certain cases, we fail to meet certain development deadlines, we could lose license rights that are important to our business.

We are a party to a number of license agreements under which we are granted rights to intellectual property that are important to our business and we expect that we may need to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose on us, various development, regulatory and/or commercial diligence obligations, payment of milestones and/or royalties and other obligations. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license. Our business could suffer, for example, if any current or future licenses terminate, if the licensors fail to abide by the terms of the license, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. See [Business Licenses](#) for a description of our license agreements, which includes a description of the termination provisions of these agreements.

As we have done previously, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we cannot provide any assurances that third-party patents do not exist that might be enforced against our current product candidates or future products in the absence of such a license. We may fail to obtain any of these licenses on commercially reasonable terms, if at all. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

the scope of rights granted under the license agreement and other interpretation-related issues;

whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;

our right to sublicense patent and other rights to third parties under collaborative development relationships;

our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations; and

the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners.

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If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

We have entered into several licenses to support our various programs. We completed an exclusive license agreement with Washington University, or WU, under certain patent families that comprise a variety of small molecule allosteric modulators of GABA_A receptors and for which we have the worldwide right to develop and commercialize. A patent family that discloses and claims SAGE-689 is licensed to us under this agreement. We are obligated to pay WU certain clinical/regulatory milestones and single-digit royalties on products developed from this technology. Termination of our license agreement with WU would have a material adverse impact on our ability to develop and commercialize SAGE-689.

We have also entered into an exclusive license agreement with CyDex Pharmaceuticals, Inc., or CyDex, a wholly owned subsidiary of Ligand Pharmaceuticals, Inc., to use its Captisol technology to develop SAGE-547 for the field of use, which includes all fields for the treatment, prevention or diagnosis of any disease or symptom in humans or animals. We are obligated to pay CyDex certain clinical/regulatory milestones and single-digit royalties on SAGE-547. In addition, we entered into a supply agreement with CyDex, pursuant to which they supply us with Captisol to formulate SAGE-547. Absent an alternative agreement by the parties, our rights under our exclusive license agreement terminate in the event that the supply agreement terminates. Currently, our SAGE-547 product candidate in clinical development is formulated in Captisol. Termination of our license agreement with CyDex would have a material adverse impact on our ability to develop and commercialize SAGE-547 in its current formulation.

We also entered into a non-exclusive license with The Regents of the University of California, or the Regents. Pursuant to this agreement the Regents granted us a non-exclusive, non-transferable license under all personal property rights of the Regents covering the tangible personal property in an IND application package owned by the Regents, or the Data, and a specified quantity of cGMP grade allopregnanolone, or the Material, to (i) use the Data for reference or incorporation in an IND for use of the Material as a treatment of SE, essential tremor and/or post-partum depression and (ii) use the Material or modifications of the Material to develop a pharmaceutical formulation for clinical trials for SE, essential tremor and/or post-partum depression. This agreement requires us to pay milestone payments in connection with the first derived product, which would include SAGE-547, that meets the relevant milestones and we must also pay single-digit royalties for each derived product for a period of 15 years following the first commercial sale of such derived product. Termination of our license agreement with the Regents would have a material adverse impact on our ability to develop and commercialize derived products, which would include SAGE-547.

We may enter into additional license(s) to third-party intellectual property that are necessary or useful to our business. Our current licenses and any future licenses that we may enter into impose various royalty payment, milestone, and other obligations on us. For example, as is the case for the Washington University license, the licensor may retain control over patent prosecution and maintenance under a license agreement, in which case, we may not be able to adequately influence patent prosecution or prevent inadvertent lapses of coverage due to failure to pay maintenance fees. If we fail to comply with any of our obligations under a current or future license agreement, our licensor(s) may allege that we have breached our license agreement and may accordingly seek to terminate our license with them. In addition, future licensor(s) may decide to terminate our license at will. Termination of any of our current or future licenses could result in our loss of the right to use the licensed intellectual property, which could materially adversely affect our ability to develop and commercialize a product candidate or product, if approved, as well as harm our competitive business position and our business prospects.

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In addition, if our licensors fail to abide by the terms of the license, if the licensors fail to prevent infringement by third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms our business could suffer.

Some intellectual property which we have licensed may have been discovered through government funded programs and thus may be subject to federal regulations such as march-in rights, certain reporting requirements, and a preference for U.S. industry. Compliance with such regulations may limit our exclusive rights, subject us to expenditure of resources with respect to reporting requirements, and limit our ability to contract with non-U.S. manufacturers.

Some of the intellectual property rights we have licensed may have been generated through the use of U.S. government funding and may therefore be subject to certain federal regulations. For example, some of the intellectual property rights licensed to us under the license agreements with WU and the Regents may have been generated using U.S. government funds. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future product candidates pursuant to the Bayh-Dole Act of 1980, or Bayh-Dole Act. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations (also referred to as march-in rights). The U.S. government also has the right to take title to these inventions if we fail, or the applicable licensor fails, to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title to these inventions in any country in which a patent application is not filed within specified time limits. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us, or the applicable licensor, to expend substantial resources. In addition, the U.S. government requires that any products embodying the subject invention or produced through the use of the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property.

We currently do not plan to apply for additional U.S. government funding, but if we do, and we discover compounds or drug candidates as a result of such funding, intellectual property rights to such discoveries may be subject to the applicable provisions of the Bayh-Dole Act.

If we do not obtain additional protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the patent terms and obtaining data exclusivity for our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of FDA marketing approval of our product candidates, one or more of the U.S. patents we own or license may be eligible for limited patent term restoration under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, we may not be granted an extension because of, for example,

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failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. For example, we may not be granted an extension if the active ingredient of SAGE-547, allopregnanolone, is used in another drug company's product candidate and that product candidate is the first to obtain FDA approval. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration or the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our ability to generate revenues could be materially adversely affected.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biotechnology companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the United States has recently enacted and is currently implementing wide-ranging patent reform legislation: the Leahy-Smith America Invents Act. The America Invents Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. It is not yet clear what, if any, impact the America Invents Act will have on the operation of our business. However, the America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of any patents that may issue from our patent applications, all of which could have a material adverse effect on our business and financial condition.

In addition, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. The full impact of these decisions is not yet known. For example, on March 20, 2012 in *Mayo Collaborative Services, DBA Mayo Medical Laboratories, et al. v. Prometheus Laboratories, Inc.*, the Court held that several claims drawn to measuring drug metabolite levels from patient samples and correlating them to drug doses were not patentable subject matter. The decision appears to impact diagnostics patents that merely apply a law of nature via a series of routine steps and it has created uncertainty around the ability to obtain patent protection for certain inventions. Additionally, on June 13, 2013 in *Association for Molecular Pathology v. Myriad Genetics, Inc.*, the Court held that claims to isolated genomic DNA are not patentable, but claims to complementary DNA molecules are patent eligible because they are not a natural product. The effect of the decision on patents for other isolated natural products is uncertain. However, on March 4, 2014, the U.S. PTO issued a memorandum to patent examiners providing guidance for examining claims that recite laws of nature, natural phenomena or natural products under the Myriad and Prometheus decisions. This guidance did not limit the application of Myriad to DNA but, rather, applied the decision to other natural products.

In addition to increasing uncertainty with regard to our ability to obtain future patents, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on these and other decisions by the U.S. Congress, the federal courts and the U.S. PTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce any patents that may issue in the future.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

Our employees have been previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We also engage advisors and consultants who are concurrently employed at universities or who perform services for other entities.

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Although we are not aware of any claims currently pending against us, we may be subject to claims that we or our employees, advisors or consultants have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third party. We have and may in the future also be subject to claims that an employee, advisor or consultant performed work for us that conflicts with that person's obligations to a third party, such as an employer, and thus, that the third party has an ownership interest in the intellectual property arising out of work performed for us. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending such claims, in addition to paying money claims, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which would materially adversely affect our commercial development efforts.

Numerous factors may limit any potential competitive advantage provided by our intellectual property rights.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain our competitive advantage. Moreover, if a third party has intellectual property rights that cover the practice of our technology, we may not be able to fully exercise or extract value from our intellectual property rights. The following examples are illustrative:

others may be able to develop and/or practice technology that is similar to our technology or aspects of our technology but that is not covered by the claims of patents, should such patents issue from our patent applications;

we might not have been the first to make the inventions covered by a pending patent application that we own;

we might not have been the first to file patent applications covering an invention;

others may independently develop similar or alternative technologies without infringing our intellectual property rights;

pending patent applications that we own or license may not lead to issued patents;

patents, if issued, that we own or license may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;

third parties may compete with us in jurisdictions where we do not pursue and obtain patent protection;

we may not be able to obtain and/or maintain necessary or useful licenses on reasonable terms or at all;

third parties may assert an ownership interest in our intellectual property and, if successful, such disputes may preclude us from exercising exclusive rights over that intellectual property;

we may not develop or in-license additional proprietary technologies that are patentable; and

the patents of others may have an adverse effect on our business.

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

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General Company-Related Risks

We will need to develop and expand our company, and we may encounter difficulties in managing this development and expansion, which could disrupt our operations.

As of the date of this prospectus, we had 25 full-time employees and no part-time employees, and in connection with becoming a public company, we expect to increase our number of employees and the scope of our operations. To manage our anticipated development and expansion, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Also, our management may need to divert a disproportionate amount of its attention away from its day-to-day activities and devote a substantial amount of time to managing these development activities. Due to our limited resources, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. This may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. The physical expansion of our operations may lead to significant costs and may divert financial resources from other projects, such as the development of our product candidates. If our management is unable to effectively manage our expected development and expansion, our expenses may increase more than expected, our ability to generate or increase our revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates, if approved, and compete effectively will depend, in part, on our ability to effectively manage the future development and expansion of our company.

Our future success depends on our ability to retain our President and Chief Executive Officer and to attract, retain and motivate qualified personnel.

We are highly dependent on Dr. Jeffrey M. Jonas, our President and Chief Executive Officer. We have entered into an employment agreement with Dr. Jonas, but he may terminate his employment with us at any time. Although we do not have any reason to believe that we will lose the services of Dr. Jonas in the foreseeable future, the loss of his services might impede the achievement of our research, development and commercialization objectives. We also do not have any key-man life insurance on Dr. Jonas. We rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us and may not be subject to our standard non-compete agreements. Recruiting and retaining qualified scientific personnel and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. Failure to succeed in clinical trials may make it more challenging to recruit and retain qualified scientific personnel.

Our employees may engage in misconduct or other improper activities, including violating applicable regulatory standards and requirements or engaging in insider trading, which could significantly harm our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with the regulations of the FDA and applicable non-U.S. regulators, provide accurate information to the FDA and applicable non-U.S. regulators, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations

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intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of, including trading on, information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a code of conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may be ineffective 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 comply with these 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 the imposition of significant fines or other sanctions.

We face potential product liability exposure, and, if claims are brought against us, we may incur substantial liability.

The use of our product candidates in clinical trials and the sale of our product candidates, if approved, exposes us to the risk of product liability claims. Product liability claims might be brought against us by patients, healthcare providers or others selling or otherwise coming into contact with our product candidates. 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, including as a result of interactions with alcohol or other drugs, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we become subject to product liability claims and cannot successfully defend ourselves against them, we could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in, among other things:

withdrawal of patients from our clinical trials;

substantial monetary awards to patients or other claimants;

decreased demand for our product candidates or any future product candidates following marketing approval, if obtained;

damage to our reputation and exposure to adverse publicity;

increased FDA warnings on product labels;

litigation costs;

distraction of management's attention from our primary business;

loss of revenue; and

the inability to successfully commercialize our product candidates or any future product candidates, if approved.

We maintain product liability insurance coverage for our clinical trials with a \$10 million annual aggregate coverage limit. Nevertheless, our insurance coverage may be insufficient to reimburse us for any expenses or losses we may suffer. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses, including if insurance coverage becomes increasingly expensive. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may not be able to obtain this product liability insurance on commercially reasonable terms. Large judgments have been awarded in class action lawsuits based on drugs that had unanticipated side effects. The cost of any product

liability litigation or other proceedings, even if

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resolved in our favor, could be substantial, particularly in light of the size of our business and financial resources. A product liability claim or series of claims brought against us could cause our stock price to decline and, if we are unsuccessful in defending such a claim or claims and the resulting judgments exceed our insurance coverage, our financial condition, business and prospects could be materially adversely affected.

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

As a public company, and particularly after we are no longer an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the Securities and Exchange Commission and The NASDAQ Stock Market have imposed various requirements on public companies, including 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, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

In order to satisfy our obligations as a public company, we will need to hire additional qualified accounting and financial personnel with appropriate public company experience.

As a newly public company, we will need to establish and maintain effective disclosure and financial controls and make changes in our corporate governance practices. We will need to hire additional accounting and financial personnel with appropriate public company experience and technical accounting knowledge, and it may be difficult to recruit and maintain such personnel. Even if we are able to hire appropriate personnel, our existing operating expenses and operations will be impacted by the direct costs of their employment and the indirect consequences related to the diversion of management resources from product development efforts.

Our ability to use our net operating loss carryforwards and certain tax credit carryforwards may be subject to limitation.

As of December 31, 2013, we had federal and state net operating loss carryforwards of \$24.0 million and \$23.7 million, respectively, which begin to expire in 2031. As of December 31, 2013, we also had federal and state research and development tax credit carryforwards of \$0.3 million and \$0.2

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million, respectively, which begin to expire in 2031 and 2027, respectively. Under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, changes in our ownership may limit the amount of our net operating loss carryforwards and research and development tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of our company of more than 50% within a three-year period. Any such limitation may significantly reduce our ability to utilize our net operating loss carryforwards and research and development tax credit carryforwards before they expire. The completion of this offering, together with private placements and other transactions that have occurred since our inception, may trigger such an ownership change pursuant to Section 382. Any such limitation, whether as the result of this offering, prior private placements, sales of our common stock by our existing stockholders or additional sales of our common stock by us after this offering, could have a material adverse effect on our results of operations in future years. We have not completed a study to assess whether an ownership change for purposes of Section 382 has occurred, or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such study.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The recent global financial crisis caused extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn, such as the recent global financial crisis, could result in a variety of risks to our business, including, weakened demand for our product candidates and our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption, or cause our customers to delay making payments for our services. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Our internal computer systems, or those of our third-party CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product candidates development programs.

Despite the implementation of security measures, our internal computer systems and those of our third-party CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material

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disruption of our programs. For example, the loss of clinical trial data for our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

We may acquire businesses or products, or form strategic alliances, in the future, and we may not realize the benefits of such acquisitions.

We may acquire additional businesses or products, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing business. If we acquire businesses with promising markets or technologies, we may not be able to realize the benefit of acquiring such businesses if we are unable to successfully integrate them with our existing operations and company culture. We may encounter numerous difficulties in developing, manufacturing and marketing any new products resulting from a strategic alliance or acquisition that delay or prevent us from realizing their expected benefits or enhancing our business. We cannot assure you that, following any such acquisition, we will achieve the expected synergies to justify the transaction.

Risks Related to Our Financial Position and Need for Capital

We are a development stage biopharmaceutical company with a limited operating history and have not generated any revenue from product sales. We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.

We are a development stage company with a limited operating history on which to base your investment decision. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We were incorporated in April 2010. Our operations to date have been limited primarily to organizing and staffing our company, raising capital and conducting research and development activities for our product candidates. We have never generated any revenue from product sales. We have not obtained regulatory approvals for any of our product candidates.

We have funded our operations to date through proceeds from sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we had received net proceeds of \$90.7 million from such transactions. As of March 31, 2014, our cash and cash equivalents were \$55.4 million. We have incurred net losses in each year since our inception, and we have a deficit accumulated during the development stage of \$37.5 million as of March 31, 2014. Our net losses were \$9.6 million and \$18.3 million for the years ended December 31, 2012 and 2013, respectively, and \$5.8 million for the three months ended March 31, 2014. Substantially all of our operating losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to incur increasing levels of operating losses over the next several years and for the foreseeable future. Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' deficit and working capital. We expect our research and development expenses to significantly increase in connection with our clinical trials of our product candidates. In addition, if we obtain marketing approval for our product candidates, we will incur significant sales, marketing and outsourced-manufacturing expenses. Once we are a public company, we will incur additional costs associated with operating as a public company. As a result, we expect to continue to incur significant and increasing operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing

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pharmaceutical products, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

Our ability to become profitable depends upon our ability to generate revenue. To date, we have not generated any revenue from our lead product candidates, SAGE-547, SAGE-689 and SAGE-217, and we do not know when, or if, we will generate any revenue. We do not expect to generate significant revenue unless and until we obtain marketing approval of, and begin to sell, SAGE-547, SAGE-689 or SAGE-217. Our ability to generate revenue depends on a number of factors, including, but not limited to, our ability to:

initiate and successfully complete clinical trials that meet their clinical endpoints;

initiate and successfully complete all safety studies required to obtain U.S. and foreign marketing approval for our product candidates;

commercialize our product candidates, if approved, by developing a sales force or entering into collaborations with third parties; and

achieve market acceptance of our product candidates in the medical community and with third-party payors.

Absent our entering into a collaboration or partnership agreement, we expect to incur significant sales and marketing costs as we prepare to commercialize our product candidates. Even if we initiate and successfully complete pivotal clinical trials of our product candidates, and our product candidates are approved for commercial sale, and despite expending these costs, our product candidates may not be a commercially successful drug. We may not achieve profitability soon after generating product sales, if ever. If we are unable to generate product revenue, we will not become profitable and may be unable to continue operations without continued funding.

Even if this offering is successful, we will need to raise additional funding, which may not be available 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.

We are currently advancing our product candidates through non-clinical and clinical development. Developing small molecule products is expensive, and we expect our research and development expenses to increase substantially in connection with our ongoing activities, particularly as we advance our product candidate in clinical trials. Depending on the status of regulatory approval or, if approved, commercialization of our product candidates, as well as the progress we make in selling our product candidates, we may require additional capital to fund operating needs thereafter. We may also need to raise additional funds sooner if we choose to pursue additional indications and/or geographies for our product candidates or otherwise expand more rapidly than we presently anticipate.

As of March 31, 2014, our cash and cash equivalents were \$55.4 million. We estimate that the net proceeds from this offering will be approximately \$81.5 million, based on the initial public offering price of \$18.00 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We expect that the net proceeds from this offering and our existing cash and cash equivalents will be sufficient to fund our current operations for at least the next 12 months. However, our operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. In any event, we will require additional capital to obtain regulatory approval for, and to commercialize, our product candidates. Raising funds in the current economic environment may

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present additional challenges. Even if we believe we have sufficient funds for our current or future operating plans, we may seek additional capital if market conditions are favorable or if we have specific strategic considerations.

Any additional fundraising efforts may divert our management from their 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. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, 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. We could also be required to seek funds through arrangements with collaborative partners or otherwise at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidate or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product candidate or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights.

We may seek additional capital through a combination of private and public equity offerings, debt financings, collaborations and strategic and licensing arrangements. To the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest in our company will be diluted. In addition, the terms of any such securities may include liquidation or other preferences that materially adversely affect your rights as a stockholder. Debt financing, if available, would increase our fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaboration, strategic partnerships and licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates, our intellectual property, future revenue streams or grant licenses on terms that are not favorable to us.

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

You will suffer immediate and substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on the initial public offering price of \$18.00 per share, purchasers of common stock in this offering will experience immediate dilution of \$12.59 per share in net tangible book value of the common stock. In addition, investors purchasing common stock in this offering will contribute 49.8% of the total amount invested by stockholders since inception but will only own 20.0% of the shares of common stock outstanding. In the past, we issued securities to acquire common stock at prices significantly below the initial public offering price. To the extent these outstanding securities are ultimately exercised, investors purchasing common stock in this offering will

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sustain further dilution. See [Dilution](#) for a more detailed description of the dilution to new investors in the offering.

Risks Related to Our Common Stock

Market volatility may affect our stock price and the value of your investment.

Following this offering, the market price for our common stock is likely to be volatile, in part because our common stock has not been previously traded publicly. In addition, the market price of our common stock may fluctuate significantly in response to a number of factors, most of which we cannot control, including, among others:

plans for, progress of or results from non-clinical studies and clinical trials of our product candidates;

the failure of the FDA to approve our product candidates;

announcements of new products, technologies, commercial relationships, acquisitions or other events by us or our competitors;

the success or failure of other CNS therapies;

regulatory or legal developments in the United States and other countries;

failure of our product candidates, if approved, to achieve commercial success;

fluctuations in stock market prices and trading volumes of similar companies;

general market conditions and overall fluctuations in U.S. equity markets;

variations in our quarterly operating results;

changes in our financial guidance or securities analysts' estimates of our financial performance;

changes in accounting principles;

our ability to raise additional capital and the terms on which we can raise it;

sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders;

additions or departures of key personnel;

discussion of us or our stock price by the press and by online investor communities; and

other risks and uncertainties described in these risk factors.

An active trading market for our common stock may not develop, and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering, there has been no public market for shares of our common stock. Although our common stock has been approved for listing on The NASDAQ Global Market, an active trading market for our shares may never develop or be sustained following this offering. The initial public offering price of our common stock was determined through negotiations between us and the underwriters. This initial public offering price may not be indicative of the market price of our common stock after this offering. In the absence of an active trading market for our common stock, investors may not be able to sell their common stock at or above the initial public offering price or at the time that they would like to sell.

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We have a significant stockholder, which will limit your ability to influence corporate matters and may give rise to conflicts of interest.

A fund affiliated with Third Rock Ventures, or TRV, is our largest stockholder. As of May 31, 2014, TRV beneficially owned approximately 58.5% of our common stock. Following this offering, we anticipate that TRV will beneficially own approximately 46.8% of our common stock. Accordingly, TRV exerts and will continue to exert significant influence over us and any action requiring the approval of the holders of our common stock, including the election of directors and amendments to our organizational documents, such as increases in our authorized shares of common stock and approval of significant corporate transactions. Furthermore, the interests of TRV may not always coincide with your interests or the interests of other stockholders and TRV may act in a manner that advances its best interests and not necessarily those of other stockholders, including seeking a premium value for its common stock, which might affect the prevailing market price for our common stock.

Our executive officers, directors, principal stockholders and their affiliates will continue to exercise significant control over our company after this offering, which will limit your ability to influence corporate matters and could delay or prevent a change in corporate control.

Immediately following the completion of this offering, and disregarding any shares of common stock that they purchase in this offering, the existing holdings of our executive officers, directors, principal stockholders and their affiliates, including investment funds affiliated with ARCH Venture Fund VII, L.P., or ARCH, TRV, and entities affiliated with Fidelity Investment, or Fidelity, will represent beneficial ownership, in the aggregate, of approximately 73.0% of our outstanding common stock, assuming no exercise of the underwriters' option to acquire additional common stock in this offering and assuming we issue the number of shares of common stock as set forth on the cover page of this prospectus. As a result, these stockholders, if they act together, will be able to influence our management and affairs and control the outcome of matters submitted to our stockholders for approval, including the election of directors and any sale, merger, consolidation, or sale of all or substantially all of our assets. These stockholders acquired their shares of common stock for substantially less than the price of the shares of common stock being acquired in this offering, and these stockholders may have interests, with respect to their common stock, that are different from those of investors in this offering and the concentration of voting power among these stockholders may have an adverse effect on the price of our common stock. In addition, this concentration of ownership might adversely affect the market price of our common stock by:

delaying, deferring or preventing a change of control of us;

impeding a merger, consolidation, takeover or other business combination involving us; or

discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

See "Principal Stockholders" in this prospectus for more information regarding the ownership of our outstanding common stock by our executive officers, directors, principal stockholders and their affiliates.

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

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the market price of our common stock could decline. Based upon the number of shares of common stock, on an as-converted basis, outstanding as of May 31, 2014, upon the completion of this offering, we will have outstanding a total of 24,961,926 shares of common stock,

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assuming no exercise of the underwriters' option to purchase additional shares. Of these shares, as of the date of this prospectus, approximately 5,000,000 shares of our common stock, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable, without restriction, in the public market immediately following this offering, assuming that current stockholders do not purchase shares in this offering. The representatives of the underwriters, however, may, in their sole discretion, permit our officers, directors and other stockholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements.

The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus. After the lock-up agreements expire, based upon the number of shares of common stock, on an as-converted basis, outstanding as of May 31, 2014, up to an additional 19,961,926 shares of common stock will be eligible for sale in the public market, 73.0% of which shares are held by directors, executive officers and other affiliates and will be subject to certain limitations of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act.

Upon completion of this offering, 3,930,961 shares of common stock that are either subject to outstanding options 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 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

After this offering, the holders of approximately 18,007,575 shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Any sales of securities by these stockholders could have a material adverse effect on the market our common stock.

We have broad discretion in how we use the proceeds of this offering and may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.

We will have considerable discretion in the application of the net proceeds of this offering. We intend to use the net proceeds from this offering to fund the costs of our Phase 1/2 clinical development of SAGE-547, to fund the IND-enabling activities and Phase 1 clinical activity for SAGE-689, to fund the IND-enabling activities for SAGE-217 and to fund new and ongoing research and development activities, working capital and other general corporate purposes, which may include funding for the hiring of additional personnel, capital expenditures and the costs of operating as a public company. As a result, investors will be relying upon management's judgment with only limited information about our specific intentions for the use of the balance of the net proceeds of this offering. We may use the net proceeds for purposes that do not yield a significant return or any return at all for our stockholders. In addition, pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

After the completion of this offering, we may be at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and pharmaceutical companies have experienced significant stock price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

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Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, even one that may be beneficial to our stockholders, more difficult 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 may delay or prevent an acquisition of us or a change in our management. These provisions include a classified board of directors, a prohibition on actions by written consent of our stockholders and the ability of our board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us. Although we believe these provisions collectively provide for an opportunity to obtain greater value for stockholders by requiring potential acquirers to negotiate with our board of directors, they would apply even if an offer rejected by our board were considered beneficial by some stockholders. In addition, 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, which is responsible for appointing the members of our management.

We are an emerging growth company, and as a result of the reduced disclosure and governance requirements applicable to emerging growth companies, our common stock may be less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. If we choose not to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, our auditors will not be required to attest to the effectiveness of our internal control over financial reporting. As a result, investors may become less comfortable with the effectiveness of our internal controls and the risk that material weaknesses or other deficiencies in our internal controls go undetected may increase. If we choose to provide reduced disclosures in our periodic reports and proxy statements while we are an emerging growth company, investors would have access to less information and analysis about our executive compensation, which may make it difficult for investors to evaluate our executive compensation practices. We cannot predict if investors will find our common stock less attractive because we will 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. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (a) the last day of the fiscal year following the fifth anniversary of the completion of this offering, (b) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.0 billion, (c) the date on which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the prior June 30th, and (d) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period.

We do not intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any cash dividend on our common stock and do not currently intend to do so in the foreseeable future. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying

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any cash dividends in the foreseeable future. Therefore, the success of an investment in shares of our common stock will depend upon any future appreciation in their value. There is no guarantee that shares of our common stock will appreciate in value or even maintain the price at which you purchased them.

If securities or industry analysts do not publish or cease publishing research or reports or publish misleading, inaccurate or unfavorable research about us, our business or our market, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us, our business, our market or our competitors. We do not currently have and may never obtain research coverage by securities and industry analysts. If no or few securities or industry analysts cover our company, the trading price and volume of our stock would likely 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, or provides more favorable relative recommendations about our competitors, 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 or trading volume to decline.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled Prospectus Summary, Risk Factors, Management's Discussion and Analysis of Financial Condition and Results of Operations and Business, contains forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

our use of the net proceeds from this offering;

the accuracy of our estimates regarding expenses, future revenues and capital requirements;

our ability to achieve orphan drug designation for our product candidates;

our plans to develop and commercialize our product candidates, initially as treatments for SE, RSE and SRSE;

our ability to advance our product candidates into clinical trials, including pivotal clinical trials, and successfully complete such clinical trials;

regulatory developments in the United States and foreign countries;

the performance of our third-party manufacturers and CROs;

our ability to obtain and maintain intellectual property protection for our proprietary assets;

the size of the potential markets for our product candidates and our ability to serve those markets;

the rate and degree of market acceptance of our product candidates for any indication once approved;

our ability to obtain additional financing;

the success of competing products that are or become available for the indications that we are pursuing; and

the loss of key scientific or management personnel.

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In some cases, you can identify forward-looking statements by terminology such as may, will, should, expects, intends, plans, anticipate, believes, estimates, predicts, potential, continue or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under Risk Factors and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC 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 any future results expressed or implied by these forward-looking statements.

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The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

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USE OF PROCEEDS

We estimate that our net proceeds from the sale of shares of our common stock in this offering will be approximately \$81.5 million, or \$94.0 million if the underwriters exercise in full their option to purchase additional shares, based on the initial public offering price of \$18.00 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering, plus, if needed, cash on hand, as follows:

approximately \$10.0 million to fund the costs of our Phase 1/2 clinical development of SAGE-547;

approximately \$10.0 million to fund the IND-enabling activities and Phase 1 clinical development of SAGE-689;

approximately \$7.0 million to fund the IND-enabling activities for SAGE-217; and

the remaining proceeds, if any, to fund new and ongoing research and development activities, working capital and other general corporate purposes, which may include funding for the hiring of additional personnel, capital expenditures and the costs of operating as a public company.

Based on our current plans, we believe our cash, cash equivalents and short-term investments, together with the net proceeds to us from this offering, will be sufficient to fund our operations for at least the next 12 months.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from non-clinical studies and any ongoing clinical trials or clinical trials we may commence in the future, 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.

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 U.S. government securities.

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DIVIDEND POLICY

We have never declared or paid dividends on our capital stock. We do not anticipate paying any dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. Any future determination to declare dividends will be subject to the discretion of our board of directors and will depend on various factors, including applicable laws, our results of operations, financial condition, future prospects and any other factors deemed relevant by our board of directors. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Table of Contents**CAPITALIZATION**

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

on an actual basis;

on a pro forma basis, giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of our common stock upon the completion of this offering; and

on a pro forma as adjusted basis, giving effect to the pro forma adjustments listed above as well as the sale by us of 5,000,000 shares of our common stock in this offering at the initial public offering price of \$18.00 per share, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table in conjunction with the sections of this prospectus entitled **Selected Financial Data** and **Management's Discussion and Analysis of Financial Condition and Results of Operations** and with our financial statements and related notes included elsewhere in this prospectus.

	As of March 31, 2014		
	Actual	Pro Forma	Pro Forma As Adjusted
	(in thousands, except share and per share data)		
Cash and cash equivalents	\$ 55,425	\$ 55,425	\$ 136,885
Redeemable convertible preferred stock (Series A, B and C), \$0.0001 par value; 56,723,905 shares authorized and 56,723,904 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	91,011		
Stockholders' equity (deficit):			
Preferred stock, \$0.0001 par value; no shares authorized, issued or outstanding, actual; 5,000,000 shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted			
Common stock, \$0.0001 par value; 70,623,905 shares authorized, 1,954,351 shares issued and outstanding, actual; 120,000,000 shares authorized, 19,961,926 shares issued and outstanding, pro forma; 120,000,000 shares authorized, 24,961,926 shares issued and outstanding, pro forma as adjusted		2	2
Additional paid-in capital	107	91,116	172,576
Deficit accumulated during the development stage	(37,465)	(37,465)	(37,465)
Total stockholders' equity (deficit)	(37,358)	53,653	135,113
Total capitalization	\$ 53,653	\$ 53,653	\$ 135,113

The number of common shares shown as outstanding on an actual, pro forma and pro forma as adjusted basis in the table above is based on 1,954,351 shares of common stock outstanding as of March 31, 2014, which includes 273,778 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested, and excludes:

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1,540,773 shares of common stock issuable upon the exercise of outstanding options as of March 31, 2014 at a weighted average exercise price of \$1.42 per share;

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965,188 shares of common stock reserved for future issuance under our 2011 Stock Option Plan as of March 31, 2014;

1,143,000 shares of our common stock reserved for future issuance under our 2014 Stock Option Plan, which will become effective upon the completion of this offering; and

282,000 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan, which will become effective upon the completion of this offering.

Table of Contents**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 you will pay in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of March 31, 2014 was \$(38.2) million, or \$(19.55) per share of common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and redeemable convertible preferred stock, which is not included within stockholders' equity (deficit). Historical net tangible book value per share is our historical net tangible book value (deficit) divided by the number of shares of common stock outstanding as of March 31, 2014.

Our pro forma net tangible book value as of March 31, 2014 was \$52.8 million, or \$2.65 per share of common stock. Pro forma net tangible book value represents total tangible assets less total liabilities, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of our common stock upon the completion of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the pro forma number of shares of our common stock outstanding as of March 31, 2014, after giving effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of common stock upon the completion of this offering.

After giving effect to the sale by us of 5,000,000 shares of common stock in this offering at the initial public offering price of \$18.00 per share, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2014 would have been \$135.1 million, or \$5.41 per share. This represents an immediate increase in pro forma as adjusted net tangible book value of \$2.76 per share to existing stockholders and an immediate dilution of \$12.59 per share to new investors purchasing common stock in this offering at the initial public offering price. Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Initial public offering price per share	\$ 18.00
Historical net tangible book value (deficit) per share as of March 31, 2014	\$ (19.55)
Increase per share attributable to the conversion of all shares of redeemable convertible preferred stock outstanding	22.20
Pro forma net tangible book value per share as of March 31, 2014	2.65
Increase in pro forma as adjusted net tangible book value per share attributable to new investors purchasing shares in this offering	2.76
Pro forma as adjusted net tangible book value per share after this offering	5.41
Dilution per share to new investors participating in this offering	\$ 12.59

If the underwriters exercise their option to purchase additional shares in full, the pro forma as adjusted net tangible book value per share after this offering would be \$5.74 per share, representing an increase in pro forma as adjusted net tangible book value per share to existing stockholders of \$3.09 per share and immediate dilution in pro forma as adjusted net tangible book value per share to new investors purchasing shares in this offering of \$12.26 per share, based on the initial public offering price of \$18.00 per share.

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The following table summarizes, as of March 31, 2014, on a pro forma as adjusted basis described above, the number of shares of our common stock, the total consideration and the average price per share (i) paid to us by existing stockholders and (ii) to be paid by new investors purchasing shares of common stock in this offering at the initial public offering price of \$18.00 per share, before deducting underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	19,961,926	80.0%	\$ 90,805,999	50.2%	\$ 4.55
New investors	5,000,000	20.0	90,000,000	49.8	\$ 18.00
Total	24,961,926	100.0%	\$ 180,805,999	100.0%	

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is exercised in full, the number of shares of our common stock held by existing stockholders would be reduced to 77.6% of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by new investors participating in the offering would be increased to 22.4% of the total number of shares of our common stock outstanding after this offering.

The above discussion and tables are based on 1,954,351 shares of common stock outstanding as of March 31, 2014 (which includes 273,778 shares that are subject to repurchase by us and are not considered outstanding for accounting purposes until vested) and also give effect to the automatic conversion of all outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,007,575 shares of common stock upon the completion of this offering. The discussion and tables above assume no exercise of any outstanding stock options. As of March 31, 2014, there were 1,540,773 shares of common stock issuable upon exercise of outstanding options at a weighted average exercise price of \$1.42 per share. The tables above also exclude 965,188 shares of common stock reserved for future issuance under our 2011 Stock Option Plan as of March 31, 2014, 1,143,000 shares of our common stock reserved for future issuance under our 2014 Stock Option Plan, which will become effective upon the completion of this offering, and 282,000 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan, which will become effective upon the completion of this offering.

To the extent that outstanding options are exercised, you will experience further dilution. 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 additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.

Table of Contents**SELECTED FINANCIAL DATA**

You should read the following selected financial data together with our financial statements and the related notes appearing at the end of this prospectus and the Management's Discussion and Analysis of Financial Condition and Results of Operations section of this prospectus. We have derived the statement of operations data for the years ended December 31, 2012 and 2013 and the balance sheet data as of December 31, 2012 and 2013 from our audited financial statements included elsewhere in this prospectus. We have derived the statement of operations data for the three months ended March 31, 2013 and 2014 and for the cumulative period from inception (April 16, 2010) through March 31, 2014 and the balance sheet data as of March 31, 2014 from our unaudited consolidated financial statements included elsewhere in this prospectus. The unaudited financial data have been prepared on the same basis as the audited consolidated financial statements and, in management's opinion, include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the financial information as of and for the periods presented. Our historical results are not necessarily indicative of the results that should be expected in the future, and results for the three months ended March 31, 2014 are not necessarily indicative of the results to be expected for the full year ending December 31, 2014.

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013	2014	
	(in thousands, except per share data)				
Statement of operations data:					
Operating expenses:					
Research and development	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$ 28,268
General and administrative	2,402	3,922	806	1,617	9,146
Total operating expenses	9,631	18,279	3,389	5,790	37,414
Loss from operations	(9,631)	(18,279)	(3,389)	(5,790)	(37,414)
Interest income (expense), net		1			(46)
Other income (expense), net	(1)	(3)			(5)
Net loss	(9,632)	(18,281)	(3,389)	(5,790)	(37,465)
Accretion of redeemable convertible preferred stock to redemption value	(4)	(7)		(326)	(338)
Net loss attributable to common stockholders	\$ (9,636)	\$ (18,288)	\$ (3,389)	\$ (6,116)	\$ (37,803)
Net loss per share attributable to common stockholders - basic and diluted ⁽¹⁾	\$ (8.62)	\$ (12.26)	\$ (2.39)	\$ (3.70)	
Weighted average common shares outstanding - basic and diluted ⁽¹⁾	1,118	1,492	1,421	1,653	
Pro forma net loss per share attributable to common stockholders - basic and diluted (unaudited) ⁽²⁾		\$ (1.92)		\$ (0.35)	
Pro forma weighted average common shares outstanding - basic and diluted (unaudited) ⁽²⁾		9,514		16,774	

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	As of December 31, 2012	As of December 31, 2013 (in thousands)	As of March 31, 2014
Balance sheet data:			
Cash and cash equivalents	\$ 2,802	\$ 8,066	\$ 55,425
Working capital ⁽³⁾	1,407	6,092	53,572
Total assets	2,995	8,532	56,777
Redeemable convertible preferred stock	14,970	37,709	91,011
Total stockholders' deficit	(13,394)	(31,536)	(37,358)

- (1) See Note 9 to our financial statements for further details on the calculation of basic and diluted net loss per share attributable to common stockholders.
- (2) See Note 9 to our financial statements for further details on the calculation of basic and diluted pro forma net loss per share attributable to common stockholders.
- (3) We define working capital as current assets less current liabilities.

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

You should read the following discussion and analysis of financial condition and results of operations together with the section entitled "Selected Financial Data" and our financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions and projections. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this prospectus.

Overview

We are a biopharmaceutical company committed to developing and commercializing novel medicines to treat life-threatening, rare central nervous system, or CNS, disorders, where there are inadequate or no approved existing therapies. We are targeting CNS indications where patient populations are easily identified, acute treatment is typically initiated in the hospital setting, clinical endpoints are well-defined, and development pathways are feasible. This focus allows us to make highly informed decisions when advancing our product candidates through the development process. Our initial product candidates are aimed at treating different stages of status epilepticus, or SE, a life-threatening condition in which the brain is in a state of persistent seizure.

The lead product candidate in our SE program, SAGE-547, is an intravenous, or IV, agent in Phase 1/2 clinical development as an adjunctive therapy, a therapy combined with current therapeutic approaches, for the treatment of super-refractory SE, or SRSE. The current standard of care for SRSE is empiric, and there are no therapies at present that have been specifically approved for this indication. We thus believe there is a significant unmet medical need for SAGE-547.

SE is diagnosed when a patient has a seizure lasting longer than five minutes, and is associated with substantial morbidity and mortality. We estimate that in the United States each year there are up to 150,000 cases of SE, of which 30,000 SE patients die. We estimate that there are 35,000 patients with SE in the United States that are hospitalized in the intensive care unit, or ICU, each year. An SE patient is first treated with benzodiazepines, or BDZs, and if no response then treated with other, second-line, anti-seizure drugs. If the seizure persists after second-line therapy the patient is diagnosed as having refractory SE, or RSE, admitted to the ICU and placed into a medically induced coma. Currently, there are no therapies that have been specifically approved for refractory SE, or RSE; however, physicians typically use anesthetic agents to induce the coma and stop the seizure immediately. After a period of 24 hours, an attempt is made to wean the patient from the anesthetic agents to evaluate whether or not the seizure condition has resolved. Unfortunately, not all patients respond to weaning attempts, in which case the patient must be maintained in the medically induced coma. At this point, the patient is diagnosed as having SRSE.

We have compiled evidence which we believe supports the safety and activity of SAGE-547 for treatment of SRSE. Six patients have been treated with SAGE-547 by independent centers under emergency-use Investigational New Drug Applications, or INDs. Five of these patients treated with SAGE-547 achieved resolution of SRSE either during the course of or soon after SAGE-547 treatment. The one patient that did not achieve resolution of SRSE during the course of or soon after SAGE-547 treatment had low plasma exposures of SAGE-547. On October 30, 2013, we filed an IND for SAGE-547 for the treatment of SRSE with the U.S. Food and Drug Administration, or FDA, and we received notification allowing us to proceed with our Phase 1/2 clinical trial of SAGE-547 on November 27, 2013. We commenced our Phase 1/2 clinical trial to study safety, tolerability and efficacy of SAGE-547

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in adult patients with SRSE in January 2014. This clinical trial is an open-label study in at least ten patients diagnosed with SRSE. Currently, there are five active study sites in the United States, and we plan to open up to 15 additional study sites in the United States to achieve full enrollment of this clinical trial. As of the date of this prospectus, four patients have been enrolled in this trial and treated with SAGE-547. While data collection in and data review from these patients is ongoing, all four patients met the key efficacy endpoint, in that each was successfully weaned off his or her anesthetic agent while SAGE-547 was being administered. Three of these patients were subsequently weaned off SAGE-547 without reinstating general anesthesia, while one patient experienced recurrence of SE upon withdrawal of SAGE-547 requiring reinstatement of general anesthesia. Of the three patients that have completed the three-week followup period, one patient was discharged to a rehabilitation facility to continue recovery, one remained hospitalized to continue to be treated for severe ongoing medical conditions, and one experienced recurrence of SE. We believe this data provides preliminary evidence of the pharmacological effect of SAGE-547. We plan to report data from this Phase 1/2 clinical trial in the second half of 2014. In April 2014, the FDA granted us orphan drug designation for SAGE-547 as a treatment for SE.

SAGE-689 and SAGE-217, two additional product candidates in our SE program, are currently in IND-enabling toxicology and safety pharmacology testing. SAGE-689 is being developed as an adjunctive second-line therapy for the treatment of SE, and SAGE-217 is being developed as both an IV monotherapy for the treatment of RSE, and as an orally delivered maintenance therapeutic to prevent recurrent seizures in patients whose SE, RSE or SRSE has resolved.

We anticipate that SAGE-217 may also have the potential for use in a broader range of seizure conditions beyond maintenance therapy, including orphan genetic seizure disorders, such as Rett syndrome and Dravet syndrome. In addition, we believe related molecules from our portfolio may be useful in the treatment of a variety of neurological and psychiatric disorders, including, for example, fragile X syndrome, anxiety and tremor. With respect to our near-term SE programs, we plan to file an IND for SAGE-689 in the second half of 2014 and to begin a Phase 1 clinical trial thereafter. We are currently conducting IND-enabling studies of SAGE-217, with a plan to file an IND in the first half of 2015.

SAGE was founded in 2010, based on leading research in the areas of brain function and neuroactive steroids, to explore novel approaches to CNS therapeutics. Since our inception, we have continued to expand our know-how of CNS therapeutics through our research and development programs and to pursue intellectual property protection for our proprietary chemistry platform. In addition, we have assembled a world-class management team that together has been a part of the successful discovery, development and commercialization of more than 20 marketed CNS therapies.

Since our inception in April 2010, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, identifying and developing our product candidates, preparing to conduct clinical studies of our product candidates, providing general and administrative support for these operations and protecting our intellectual property. We have funded our operations to date through sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we had received net proceeds of \$90.7 million from such transactions.

We are a development stage company and have not generated any revenue. We have incurred net losses in each year since our inception, and we have a deficit accumulated during the development stage of \$37.5 million as of March 31, 2014. Our net losses were \$9.6 million and \$18.3 million for the years ended December 31, 2012 and 2013, respectively, and \$5.8 million for the three months ended March 31, 2014. These losses have resulted principally from costs incurred in connection with research and development activities and general and administrative costs associated with our operations. We expect to incur significant expenses and increasing operating losses for the foreseeable future.

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We expect that our expenses will increase substantially in connection with our ongoing activities, as we:

advance clinical development of SAGE-547, our lead product candidate in our SE program, including completing the Phase 1/2 clinical trial currently underway and commencing other clinical trials thereafter;

advance development of SAGE-689, the first follow-on product candidate in our SE program, including filing an Investigational New Drug Application, or IND, in the second half of 2014 and conducting a Phase 1 clinical trial thereafter;

advance development of SAGE-217, the second follow-on product candidate in our SE program, including completing the IND-enabling toxicology and safety pharmacology testing currently underway;

continue our research and development efforts for other drug candidates in the treatment of CNS disorders;

continue to engage contract manufacturing organizations, or CMOs, to manufacture our clinical study materials and to develop large-scale manufacturing capabilities;

seek regulatory approvals for our product candidates;

add personnel, including personnel to support our product development and future commercialization;

add operational, financial and management information systems;

maintain, leverage and expand our intellectual property portfolio; and

operate as a public company.

As a result, we will need additional financing to support our continuing operations. Until such time that we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Arrangements with collaborators or others may require us to relinquish rights to certain of our technologies or product candidates. In addition, we may never successfully complete development of any of our product candidates, obtain adequate patent protection for our technology, obtain necessary regulatory approval for our product candidates or achieve commercial viability for any approved product candidates. Adequate additional financing may not be available to us on acceptable terms, or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

We expect that our existing cash and cash equivalents as of March 31, 2014 together with anticipated net proceeds from this offering, will enable us to fund our operating expenses and capital expenditures requirements for at least the next 12 months. See Liquidity and Capital Resources.

Financial Operations Overview

Revenue

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We have not generated any revenue from product sales since our inception and do not expect to generate any revenue from the sale of products in the near future. If our development efforts result in clinical success and regulatory approval or collaboration agreements with third parties for our product candidates, we may generate revenue from those product candidates.

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Operating Expenses

Our operating expenses since inception have consisted primarily of research and development activities and general and administrative costs.

Research and Development Expenses

Research and development expenses, which consist primarily of costs associated with our product research and development efforts, are expensed as incurred. Research and development expenses consist primarily of:

personnel costs, including salaries, related benefits, stock-based compensation and related travel expenses for employees engaged in scientific research and development functions;

expenses incurred under agreements with contract research organizations, or CROs, and investigative sites that conduct our non-clinical studies and clinical trials;

expenses associated with manufacturing clinical study materials and developing external manufacturing capabilities;

costs of outside consultants, including their fees, stock-based compensation and related travel expenses;

other expenses related to our non-clinical studies and expenses related to our regulatory activities; and

payments made under our third-party licensing agreements.

Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites.

We have been developing SAGE-547, SAGE-689 and SAGE-217 and focusing on other research and development programs related to exploratory efforts, target validation, and lead optimization for our earlier-validated programs. Our direct research and development expenses are tracked on a program-by-program basis and consist primarily of external costs, such as fees paid to investigators, central laboratories, CROs and CMOs in connection with our non-clinical studies and clinical trials; third-party license fees related to our product candidates; fees paid to outside consultants who perform work on our programs; and costs related to manufacturing or purchasing clinical trial materials. We do not allocate employee related costs and other indirect costs to specific research and development programs because these costs are deployed across multiple product programs under research and development and, as such, are separately classified as unallocated research and development expenses.

The following table summarizes our research and development expenses by program:

	Year Ended December 31,		Three Months Ended March 31,		Cumulative Period From Inception (April 16, 2010) to March 31, 2014
	2012	2013	2013 (in thousands)	2014	
SAGE-547	\$ 125	\$ 3,918	\$ 400	\$ 1,174	\$ 5,217
SAGE-689	1,047	2,772	792	860	5,024

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SAGE-217		1,129		667		1,796
Other research and development programs	3,495	3,388	771	273		8,338
Unallocated expenses	2,562	3,150	620	1,199		7,893
Total research and development expenses	\$ 7,229	\$ 14,357	\$ 2,583	\$ 4,173	\$	28,268

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Research and development activities are central to our business. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase in the foreseeable future as we initiate clinical trials for certain product candidates and pursue later stages of clinical development of our product candidates.

We cannot determine with certainty the duration and completion costs of the current or future clinical trials of our product candidates or if, when, or to what extent we will generate revenue from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory 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 scope, rate of progress, and expense of our ongoing as well as any additional non-clinical studies, clinical trials and other research and development activities;

future clinical trial results;

uncertainties in clinical trial enrollment rate or design;

significant and changing government regulation; and

the timing and receipt of any regulatory approvals.

A change in the outcome of any of these 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, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development of a product candidate, 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 primarily of personnel costs, consisting of salaries, related benefits, stock-based compensation and related travel expenses of our executive, finance, business and corporate development and other administrative functions. General and administrative expenses also include facilities and other expenses, including rent, depreciation, maintenance of facilities, insurance and supplies; and professional fees for auditing, tax and legal services, including legal expenses to pursue patent protection of our intellectual property.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support the expected growth in our research and development activities and the potential commercialization of our product candidates. We also anticipate increased expenses associated with being a public company, including costs related to audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums, and investor relations costs. Additionally, if and when we believe that a regulatory approval of the first product candidate appears likely, we anticipate an increase in payroll and related expenses as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidates.

Other Income (Expense)

Interest income (expense), net. Interest income (expense), net consists of interest earned on our cash and cash equivalents and interest expense on prior debt. Our interest income has not been significant due to low interest earned on invested balances. We anticipate that our interest income will

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increase in the future due to increased balances from the net proceeds of \$53.0 million we received from our Series B and Series C preferred stock financings in the first quarter of 2014 and from the anticipated net proceeds from this offering.

Interest expense consisted of interest incurred on our outstanding convertible promissory notes at the stated interest rates. As of September 30, 2011, all of our outstanding convertible promissory notes and accrued interest had been converted into shares of our redeemable convertible preferred stock. As a result, we no longer incur interest expense related to this debt.

Other income (expense), net. Other income (expense), net consists of the realized and unrealized net gains and losses from foreign currency-denominated vendor payables.

Critical Accounting Policies and Significant Judgments and Estimates

Our financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. The preparation of our financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amount of assets, liabilities, revenue, costs and expenses, and related disclosures. We believe that the estimates and assumptions involved in the accounting policies described below may have the greatest potential impact on our financial statements and, therefore, consider these to be our critical accounting policies. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions.

While our significant accounting policies are described in more detail in the notes to our financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Accrued Research and Development Expenses

As part of the process of preparing our financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing open contracts and purchase orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated costs incurred for the services when we have not yet been invoiced or otherwise notified of the actual costs. The majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advanced payments. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. Examples of estimated accrued research and development expenses include fees paid to:

CROs in connection with performing research and development services on our behalf;

investigative sites or other providers in connection with clinical trials;

vendors in connection with non-clinical development activities; and

vendors related to product manufacturing, development and distribution of clinical supplies.

We base our expenses related to clinical trials on our estimates of the services received and efforts expended pursuant to contracts with multiple CROs that conduct and manage non-clinical studies and clinical trials on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the clinical expense. Payments under some of these contracts depend on factors

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such as the successful enrollment of patients and the completion of clinical trial milestones. In accruing service fees, we estimate the time period over which services will be performed, enrollment of patients, number of sites activated and level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or prepaid accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our 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 us reporting expenses that are too high or too low in any particular period. To date, we have not made any material adjustments to our prior estimates of accrued research and development expenses.

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 equivalent to the fair 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 value of our common stock and updated assumptions in the Black-Scholes option-pricing model and using, for restricted stock, the then-current fair value of our common stock.

The fair value of each stock option grant is estimated using the Black-Scholes option-pricing model. We historically have been 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 U.S. 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 (we did not grant any stock options to employees or directors during the year ended December 31, 2012 or during the three months ended March 31, 2013):

	Year Ended December 31, 2013	Three Months Ended March 31, 2014
Risk-free interest rate	1.66%	1.98%
Expected term (in years)	6.04	5.98
Expected volatility	99.89%	99.85%
Expected dividend yield	0.00%	0.00%

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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.

During the year ended December 31, 2013, we recognized stock-based compensation expense of \$61,000, of which \$38,000 was recorded as research and development expense and \$23,000 was recorded as general and administrative expense in our statement of operations. During the year ended December 31, 2012 and the three months ended March 31, 2013, we did not record any stock-based compensation expense, as the amounts were inconsequential. For the three months ended March 31, 2014, we recognized stock-based compensation expense of \$160,000, of which \$106,000 was recorded as research and development expense and \$54,000 was recorded as general and administrative expense in our statements of operations.

Determination of the Fair Value of Common Stock

We are a privately held company with no active public market for our common stock. Therefore, our board of directors has estimated the fair 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 estimate the fair value of our common stock in connection with our accounting for granted stock options and shares of restricted stock, as the fair value of our common stock will be its trading price on The NASDAQ Global Market.

In the absence of a public trading market for our common stock, our determination of the fair value of our common stock was performed using methodologies, approaches and assumptions consistent with the *American Institute of Certified Public Accountants Audit and Accounting Practice Aid Series: Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, or the Practice Aid. We performed these contemporaneous valuations, with the assistance of a third-party specialist, as of December 31, 2012, November 30, 2013, March 12, 2014 and April 25, 2014, which resulted in valuations of our common stock of \$0.45, \$1.36, \$8.01 and \$8.92 per share, respectively, as of those dates. In addition, our board of directors considered various objective and subjective factors, along with input from management, to determine its best estimate of the fair value of our common stock as of each grant date, including the following:

the prices at which we sold shares of preferred stock and the superior rights and preferences of the 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;

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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.

There are significant judgments and estimates inherent in these valuations. These judgments and estimates include assumptions regarding our future operating performance, the stage of development of our product candidates, the timing of a potential IPO or other liquidity event, and the determination of the appropriate valuation methodology at each valuation date. If we had made different assumptions, our stock-based compensation expense, net loss attributable to common stockholders, and net loss per share attributable to common stockholders could have been significantly different.

Valuation methodologies

Our common stock valuations as of December 31, 2012 and November 30, 2013 were prepared utilizing the option-pricing method, or OPM. Our common stock valuation as of March 12, 2014 was prepared utilizing a hybrid of the probability-weighted expected return method, or PWERM, and the OPM, which we refer to as the hybrid method. Our common stock valuation as of April 25, 2014 was prepared utilizing the PWERM, in which we considered three scenarios: an IPO, a sale at an equity value representing a premium to the IPO equity value and a sale at an equity value representing a discount to the IPO equity value.

OPM. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeds the value of the liquidation preferences at the time of a liquidity event, such as a strategic sale or merger. The common stock is modeled as a call option on the underlying equity value at a predetermined exercise price. In the model, the exercise price is based on a comparison with the total equity value rather than, as in the case of a regular call option, a comparison with a per share stock price. Thus, common stock is considered to be a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after the preferred stock liquidation preference is paid.

The OPM uses the Black-Scholes option-pricing model to price the call options. This model defines the securities' fair values as functions of the current fair value of a company and uses assumptions, such as the anticipated timing of a potential liquidity event and the estimated volatility of the equity securities.

The OPM backsolve approach was used to estimate enterprise value under the OPM. The OPM backsolve approach uses the OPM to derive the implied equity value for one type of equity security from a contemporaneous sale transaction involving another type of the company's equity securities. In the OPM, the assumed volatility factor was based on the historical trading volatility of our publicly traded peer companies. At each valuation date, a determination was made by us as to the appropriate volatility to be used, considering such factors as the expected time to a liquidity event and our stage of development.

To derive the fair value of the common stock using the OPM, the proceeds to the common stockholders were calculated based on the preferences and priorities of the preferred stock and common stock, including the participation features of certain series of the preferred stock. We then

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applied a discount for lack of marketability to the common stock to account for the lack of access to an active public market. The aggregate value of the common stock derived from the OPM was then divided by the number of shares of common stock outstanding to arrive at the per share value.

PWERM. Under the PWERM methodology, the fair value of common stock is estimated based upon an analysis of future values for the company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock.

Hybrid Method. The hybrid method is a PWERM where the equity value in one of the scenarios is calculated using an OPM. In the hybrid method used by us, two types of future-event scenarios were considered: an IPO and an unspecified liquidity event. The enterprise value for the IPO scenario was determined using a market approach. The enterprise value for the unspecified liquidity event scenario was determined using the OPM backsolve approach. The relative probability of each type of future-event scenario was determined by our board of directors based on an analysis of market conditions at the time, including then-current IPO valuations of similarly situated companies, and expectations as to the timing and likely prospects of the future-event scenarios.

To determine the enterprise value for the IPO scenario, we used the guideline public company method, which includes comparisons to publicly traded companies in the biopharmaceutical industry that recently completed IPOs. That enterprise value was then discounted back to the valuation date at an appropriate risk-adjusted discount rate.

To derive the fair value of the common stock for each scenario under the hybrid method, the proceeds to the common stockholders were calculated based on the conversion rights and preferences of the preferred stock. We then applied a discount for lack of marketability to the common stock to account for the lack of access to an active public market.

Options and restricted stock granted

The following table summarizes by grant date the number of shares of common stock subject to options and restricted stock granted from January 1, 2013 through May 31, 2014, the per share exercise price of the award, the fair value of our common stock on each grant date, and the per share estimated fair values of the options and restricted stock common stock:

Date of Issuance	Type of Award	Number of Shares	Exercise Price of Award per Share ⁽¹⁾	Fair Value of Common Stock per Share on Grant Date	Per Share Estimated Fair Value of Award ⁽²⁾⁽³⁾
January 6, 2013	Restricted stock	15,873	\$ 0.04	\$ 0.45	\$ 0.41
April 18, 2013	Restricted stock	79,365	\$ 0.45	\$ 0.45	\$
April 18, 2013	Option	74,122	\$ 0.45	\$ 0.45	\$ 0.35
July 23, 2013	Option	322,221	\$ 0.45	\$ 0.45	\$ 0.35
August 12, 2013	Option	701,587	\$ 0.45	\$ 0.45	\$ 0.35
September 24, 2013	Option	41,269	\$ 0.45	\$ 0.45	\$ 0.35
November 5, 2013	Restricted stock	34,920	\$ 0.45	\$ 0.45	\$
December 13, 2013	Option	67,457	\$ 1.36	\$ 1.36	\$ 1.08
January 22, 2014	Option	173,011	\$ 1.36	\$ 8.01 ⁽⁴⁾	\$ 6.75
March 26, 2014	Option	168,249	\$ 8.01	\$ 8.01	\$ 6.93
May 22, 2014	Option	241,268	\$ 8.92	\$ 8.92	\$ 7.19
May 22, 2014	Option	98,412	\$ 8.92	\$ 8.92	\$ 7.19 ⁽⁵⁾

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- (1) The Exercise Price of Award per Share represents the fair value of our common stock on the date of grant, as determined by our board of directors, after taking into account our most recently available contemporaneous valuations of our common stock as well as additional factors that may have changed since the date of such contemporaneous valuation through the date of grant.
- (2) In the case of options, the Per Share Estimated Fair Value of Award reflects the weighted average fair value of options as estimated at the date of grant using the Black-Scholes option-pricing model. In the case of restricted stock, the Per Share Estimated Fair Value of Award reflects, at the date of grant, the intrinsic value of restricted common stock, which is the difference, if any, between the price paid for the award and the fair value of the common stock.
- (3) For the purposes of recording stock-based compensation for grants of options or restricted stock to nonemployees, we measure the fair value of the award on the service completion date (vesting date). At the end of each reporting period prior to completion of the services, we re-measure the value of any unvested portion of the award based on the then-current fair value of the award and adjust expense accordingly. Amounts in this column reflect only the grant date fair value of awards to nonemployees.
- (4) At the time of the option grants on January 22, 2014, our board of directors determined that the fair value of our common stock of \$1.36 per share calculated in the contemporaneous valuation as of November 30, 2013 reasonably reflected the per share fair value of our common stock as of the grant date. However, as described below, the fair value of common stock at the date of these grants was adjusted to \$8.01 per share in connection with a retrospective fair value assessment for accounting purposes.
- (5) The fair values of the awards are subject to remeasurement upon commencement of employment.

In the course of preparing for this offering, in March 2014, we performed a retrospective fair value assessment and concluded that the fair value of our common stock underlying stock options we granted during January 2014, with an exercise price of \$1.36 per share, was \$8.01 per share for accounting purposes. That value of \$8.01 per share, which we applied to determine the fair value of the January 2014 options for accounting purposes, was based upon our board of directors' determination of the fair value of our common stock as of March 26, 2014.

JOBS Act

On April 5, 2012, the Jumpstart Our Business Startups Act, or the JOBS Act, was signed into law. The JOBS Act contains provisions that, among other things, reduce certain reporting requirements for an emerging growth company. As an emerging growth company, we are electing not to 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, we 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. Section 107 of the JOBS Act provides that our decision not to take advantage of the extended transition period is irrevocable.

In addition, we are in the process of evaluating the benefits of relying on the other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, if as an emerging growth company we choose to rely on such exemptions, we may not be required to, among other things, (i) provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Wall Street Reform and Consumer Protection Act, (iii) 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 (auditor discussion and analysis), and (iv) disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of

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the Chief Executive Officer's compensation to median employee compensation. These exemptions will apply for a period of five years following the completion of our initial public offering or until we no longer meet the requirements of being an emerging growth company, whichever is earlier.

Results of Operations**Comparison of Three Months Ended March 31, 2013 and 2014**

The following table summarizes our results of operations for the three months ended March 31, 2013 and 2014:

	Three Months Ended March 31,		Increase (Decrease)
	2013	2014 (in thousands)	
Operating expenses:			
Research and development	\$ 2,583	\$ 4,173	\$ 1,590
General and administrative	806	1,617	811
Total operating expenses	3,389	5,790	2,401
Loss from operations	(3,389)	(5,790)	(2,401)
Interest income (expense), net			
Other income (expense), net			
Net loss	\$ (3,389)	\$ (5,790)	\$ (2,401)

Research and development expenses

	Three Months Ended March 31,		Increase (Decrease)
	2013	2014 (in thousands)	
SAGE-547	\$ 400	\$ 1,174	\$ 774
SAGE-689	792	860	68
SAGE-217		667	667
Other research and development programs	771	273	(498)
Direct research and development expenses	1,963	2,974	1,011
Personnel related expenses	550	1,116	566
Other expenses	70	83	13
Unallocated research and development expenses	620	1,199	579
Total research and development expenses	\$ 2,583	\$ 4,173	\$ 1,590

Research and development expenses for the three months ended March 31, 2013 were \$2.6 million, compared to \$4.2 million for the three months ended March 31, 2014. The increase of \$1.6 million period over period was primarily due to the following:

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an increase of \$0.8 million in expenses of our SAGE-547 program, consisting of expenses related to the completion of toxicology studies and the external clinical and drug supply costs associated with our ongoing Phase 1/2 clinical trial of SAGE-547 and the initiation of activities around studies in additional indications;

\$0.7 million of expenses of our SAGE-217 program, consisting primarily of costs for external drug discovery efforts;

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a net decrease \$0.5 million in expenses of our other research and development programs, reflecting the deprioritization of a research program; and

an increase of \$0.6 million in employee related spending to support the growth in our research and development activities, reflecting increases in salaries and bonus expenses, including the effects of hiring additional, full-time employees.

General and administrative expenses

	Three Months		Increase (Decrease)
	Ended March 31, 2013	Ended March 31, 2014 (in thousands)	
Personnel related	\$ 316	\$ 627	\$ 311
Professional fees	299	737	438
Facilities	77	98	21
Other	114	155	41
Total general and administrative expenses	\$ 806	\$ 1,617	\$ 811

General and administrative expenses for the three months ended March 31, 2013 were \$0.8 million, compared to \$1.6 million for the three months ended March 31, 2014. The increase of \$0.8 million in general and administrative expenses was primarily due to increased personnel related costs of \$0.3 million, which were principally due to employee salary and bonus increases of \$0.3 million, including the effects of hiring additional, full-time employees during 2013 to support corporate operations, finance and business development activities. The increase period over period in general and administrative expenses was also due to a \$0.4 million increase in professional fees.

Other income (expense)

Interest income (expense), net and other income (expense), net were in insignificant for the three months ended March 31, 2013 and 2014.

Comparison of Years Ended December 31, 2012 and 2013

The following table summarizes our results of operations for the years ended December 31, 2012 and 2013:

	Year Ended		Increase (Decrease)
	2012	December 31, 2013 (in thousands)	
Operating expenses:			
Research and development	\$ 7,229	\$ 14,357	\$ 7,128
General and administrative	2,402	3,922	1,520
Total operating expenses	9,631	18,279	8,648
Loss from operations	(9,631)	(18,279)	(8,648)
Interest income (expense), net		1	1
Other income (expense), net	(1)	(3)	(2)
Net loss	\$ (9,632)	\$ (18,281)	\$ (8,649)

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	Year Ended December 31, 2012		2013	Increase (Decrease)
	(in thousands)			
SAGE-547	\$ 125	\$ 3,918	\$ 3,793	
SAGE-689	1,047	2,772	1,725	
SAGE-217		1,129	1,129	
Other research and development programs	3,495	3,388	(107)	
Direct research and development expenses	4,667	11,207	6,540	
Personnel related expenses	2,116	2,718	602	
Other expenses	446	432	(14)	
Unallocated research and development expenses	2,562	3,150	588	
Total research and development expenses	\$ 7,229	\$ 14,357	\$ 7,128	

Research and development expenses for the year ended December 31, 2012 were \$7.2 million, compared to \$14.4 million for the year ended December 31, 2013. The increase of \$7.1 million year over year was primarily due to the following:

an increase of \$3.8 million in expenses of our SAGE-547 program, consisting primarily of external clinical and drug manufacturing costs associated with the preparation of our Phase 1/2 clinical trial of SAGE-547, as compared to only \$0.1 million being spent on the program in 2012;

an increase of \$1.7 million in expenses of our SAGE-689 program, consisting primarily of external costs related to IND-enabling toxicology and safety pharmacology testing and manufacturing activities that were incurred as that program progressed into non-clinical studies during the second half of 2013;

\$1.1 million of expenses of our SAGE-217 program, consisting primarily of costs for external drug discovery efforts;

a net decrease \$0.1 million in expenses of our other research and development programs, which consist of our chemistry platform-related work and other research programs; and

an increase of \$0.6 million in employee related spending to support the growth in our research and development activities, reflecting increases in salaries and bonus expenses, including the effects of hiring additional, full-time employees during 2013.

General and administrative expenses

	Year Ended December 31, 2012		2013	Increase (Decrease)
	(in thousands)			

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Personnel related	\$ 899	\$ 1,764	\$ 865
Professional fees	929	1,253	324
Facilities	266	364	98
Other	308	541	233
Total general and administrative expenses	\$ 2,402	\$ 3,922	\$ 1,520

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General and administrative expenses for the year ended December 31, 2012 were \$2.4 million, compared to \$3.9 million for the year ended December 31, 2013. The increase of \$1.5 million in general and administrative expenses was primarily due to increased personnel related costs of \$0.9 million, which were principally due to employee salary and bonus increases of \$0.5 million, including the effects of hiring additional, full-time employees during 2013 to support corporate operations, finance and business development activities. The increase year over year in general and administrative expenses was also due to a \$0.3 million increase in professional fees.

Other income (expense)

Interest income (expense), net and other income (expense), net were insignificant for the years ended December 31, 2012 and 2013.

Liquidity and Capital Resources

Since our inception in April 2010, we have not generated any revenue and have incurred recurring net losses. As of March 31, 2014, we had a deficit accumulated during the development stage of \$37.5 million. We have funded our operations since inception primarily through sales of redeemable convertible preferred stock and, to a lesser extent, the issuance of convertible notes. From our inception through March 31, 2014, we have received net proceeds of \$90.7 million from such transactions.

As of March 31, 2014, we had cash and cash equivalents totaling \$55.4 million. We invest our cash equivalents in money market accounts in order to preserve principal.

The following table summarizes our sources and uses of cash for each of the periods presented:

	Year Ended December 31,		Three Months Ended March 31,	
	2012	2013	2013	2014
	(in thousands)			
Cash used in operating activities	\$ (8,926)	\$ (17,516)	\$ (3,040)	\$ (5,616)
Cash used in investing activities	(111)	(3)	(3)	(3)
Cash provided by financing activities	8,997	22,783	5,000	52,978
Net increase (decrease) in cash and cash equivalents	\$ (40)	\$ 5,264	\$ 1,957	\$ 47,359

Net cash used in operating activities

During the three months ended March 31, 2014, operating activities used \$5.6 million of cash, primarily resulting from our net loss of \$5.8 million, partially offset by non-cash charges of \$0.3 million and cash used by changes in our operating assets and liabilities of \$0.1 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Our net non-cash charges during the three months ended March 31, 2014 primarily consisted of stock-based compensation expenses of \$0.2 million and non-cash licensing fees paid in shares of our common stock of \$0.1 million. Net cash used in changes in our operating assets and liabilities consisted primarily of increases in accounts payable and accrued expenses totaling \$0.1 million, offset by a \$0.1 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

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During the three months ended March 31, 2013, operating activities used \$3.0 million of cash, primarily resulting from our net loss of \$3.4 million, partially offset by cash provided by changes in our operating assets and liabilities of \$0.3 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Net cash provided by changes in our operating assets and liabilities for the three months ended March 31, 2013 consisted primarily of increases in accounts payable and accrued expenses totaling \$0.4 million, offset by a \$0.1 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

During the year ended December 31, 2013, operating activities used \$17.5 million of cash, primarily resulting from our net loss of \$18.3 million, partially offset by non-cash charges of \$0.2 million and by cash provided from changes in our operating assets and liabilities of \$0.6 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Our net non-cash charges during the year ended December 31, 2013 primarily consisted of stock-based compensation expenses of \$0.1 million and non-cash licensing fees paid in shares of our common stock of \$0.1 million. Net cash provided by changes in our operating assets and liabilities consisted primarily of increases in accounts payable and accrued expenses totaling \$0.9 million, partially offset by a \$0.3 million increase in prepaid expenses and other current assets. Our prepaid expenses and other current assets, accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

During the year ended December 31, 2012, operating activities used \$8.9 million of cash, primarily resulting from our net loss of \$9.6 million, partially offset by cash provided from changes in our operating assets and liabilities of \$0.7 million. Our net loss was primarily attributed to research and development activities related to our lead programs in development and our general and administrative expenses, as we had no revenue in the period. Net cash provided by changes in our operating assets and liabilities during the year ended December 31, 2012 consisted primarily of increases in accounts payable and accrued expenses totaling \$0.6 million. Our accounts payable and accrued expense balances were affected by the timing of vendor invoicing and payments.

Net cash used in investing activities

During each of the three months ended March 31, 2013 and 2014, we used \$3,000 of cash for purchases of property and equipment.

During the years ended December 31, 2012 and 2013, we used \$0.1 million and \$3,000 of cash, respectively, for purchases of property and equipment.

Net cash provided by financing activities

During the three months ended March 31, 2013 and 2014, net cash provided by financing activities was \$5.0 million and \$53.0 million, respectively, primarily resulting from the net proceeds received from the issuance of Series A redeemable convertible preferred stock during the three months ended March 31, 2013 and the net proceeds received from the issuance of Series B and Series C redeemable convertible preferred stock during the three months ended March 31, 2014.

During the years ended December 31, 2012 and 2013, net cash provided by financing activities was \$9.0 million and \$22.8 million, respectively, primarily resulting from the net proceeds we received from the issuance of Series A redeemable convertible preferred stock during each year.

Operating Capital Requirements

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from

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