

Sarepta Therapeutics, Inc.
Form 424B5
April 23, 2014
Table of Contents

Filed pursuant to Rule 424(b)(5)
Registration No. 333-184807

The information in this preliminary prospectus supplement and the accompanying prospectus, relating to an effective registration statement under the Securities Act of 1933, as amended, is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated April 22, 2014

Prospectus Supplement

(To prospectus dated November 7, 2012)

\$100,000,000

Sarepta Therapeutics, Inc.

Common Stock

We are offering up to \$100,000,000 of our common stock in this offering.

Our common stock is listed on The NASDAQ Global Select Market under the symbol SRPT. On April 21, 2014, the last reported sale price of our common stock was \$33.98 per share.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions	\$	\$
Proceeds, before expenses, to us	\$	\$

We have granted the underwriters an option to purchase up to \$15,000,000 of additional shares from us at the public offering price, less underwriting discounts and commissions, within 30 days of the date of this prospectus supplement. If the underwriters exercise this option in full, the total underwriting discounts and commissions will be \$ and

the total proceeds, before expenses, to us will be \$.

Investing in our common stock involves significant risks. See Risk Factors beginning on page S-7 of this prospectus supplement, page 10 of the accompanying prospectus and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, which is incorporated herein by reference.

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

The underwriters are offering the shares of our common stock as set forth under Underwriting. Delivery of the shares of common stock will be made on or about April , 2014.

BofA Merrill Lynch

The date of this prospectus supplement is April , 2014.

Morgan Stanley

Table of Contents

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

	Page
<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	S-i
<u>PROSPECTUS SUPPLEMENT SUMMARY</u>	S-1
<u>THE OFFERING</u>	S-6
<u>RISK FACTORS</u>	S-7
<u>FORWARD-LOOKING STATEMENTS</u>	S-8
<u>USE OF PROCEEDS</u>	S-10
<u>MATERIAL U.S. FEDERAL TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK</u>	S-11
<u>DILUTION</u>	S-15
<u>UNDERWRITING</u>	S-16
<u>LEGAL MATTERS</u>	S-22
<u>EXPERTS</u>	S-22
<u>WHERE YOU CAN FIND ADDITIONAL INFORMATION</u>	S-22
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	S-23
ACCOMPANYING PROSPECTUS	

	Page
<u>PROSPECTUS SUMMARY</u>	1
<u>RISK FACTORS</u>	10
<u>FORWARD-LOOKING STATEMENTS</u>	24
<u>USE OF PROCEEDS</u>	26
DILUTION	
UNDERWRITING	
<u>LEGAL MATTERS</u>	43
<u>EXPERTS</u>	43
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	43
<u>INFORMATION INCORPORATED BY REFERENCE</u>	44

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus, all information incorporated by reference herein and therein, as well as the additional information described under **Where You Can Find Additional Information** on page S-22 of this prospectus supplement. These documents contain information you should consider when making your investment decision. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectuses we may provide to you in connection with this offering. We have not, and the underwriters have not, authorized any other person to provide you with any information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all the information you should consider before investing in our common stock pursuant to this prospectus supplement and the accompanying prospectus. Before making an investment decision, to fully understand this offering and its consequences to you, you should carefully read this entire prospectus supplement and the accompanying prospectus, including Risk Factors beginning on page S-7 of this prospectus supplement, the financial statements, and related notes, and the other information that we incorporated by reference herein, including our Annual Report on Form 10-K.

Sarepta Therapeutics, Inc.

Overview

We are a biopharmaceutical company focused on the discovery and development of unique RNA-based therapeutics for the treatment of rare and infectious diseases. Applying our proprietary, highly-differentiated and innovative platform technologies, we are able to target a broad range of diseases and disorders through distinct RNA-based mechanisms of action. We are primarily focused on rapidly advancing the development of our potentially disease-modifying Duchenne muscular dystrophy (DMD) drug candidates, including our lead product candidate, eteplirsen. We are also focused on developing therapeutics for the treatment of infectious diseases, including our lead infectious disease program aimed at the development of a drug candidate for the Marburg hemorrhagic fever virus. By building our infectious disease programs which are primarily funded and supported by the U.S. Department of Defense (DoD), and leveraging our highly-differentiated, proprietary technology platforms, we are seeking to further develop our research and development competencies and identify additional product candidates.

Our highly-differentiated RNA-based technologies work at the most fundamental level of biology and potentially could have a meaningful impact across a broad range of human diseases and disorders. Our lead program focuses on the development of disease-modifying therapeutic candidates for DMD, a rare genetic muscle-wasting disease caused by the absence of dystrophin, a protein necessary for muscle function. Currently, there are no approved disease-modifying therapies for DMD. Eteplirsen is our lead therapeutic candidate for DMD. If we are successful in our development efforts, eteplirsen will address a severe unmet medical need. On April 21, 2014, we announced our plan to submit a New Drug Application (NDA) to the FDA by the end of 2014 for the approval of eteplirsen for the treatment of DMD.

Last year, we completed a U.S.-based Phase IIb clinical trial for eteplirsen that was initiated in August 2011. Following completion of this study in early 2012, we initiated an open label extension study with the same participants from the original Phase IIb placebo-controlled trial.

In April 2012, we announced the results from our DMD Phase IIb clinical trial which determined that treatment with eteplirsen met the primary efficacy endpoint in the Phase IIb study. Eteplirsen administered once weekly at 30mg/kg over 24 weeks resulted in a statistically significant ($p \leq 0.002$) increase in novel dystrophin (22.5% dystrophin-positive fibers as a percentage of normal) compared to no increase in the placebo group. Restoration of dystrophin expression and dystrophin positive fibers is believed to be critical for successful disease-modifying treatment of individuals with DMD. In the study, a shorter duration of eteplirsen treatment, 12 weeks, did not show a significant increase in novel dystrophin (0.79% dystrophin-positive fibers as a percentage of normal; p-value NS), despite administration of the drug at a higher dose (50mg/kg once weekly). No significant improvements in clinical outcomes in the treated groups were observed compared to placebo.

S-1

Table of Contents

On July 24, 2012, we announced interim results from our DMD open label extension study which indicated that treatment with eteplirsen over 36 weeks achieved a significant clinical benefit on the primary clinical outcome, the 6-minute walk test (6MWT), over a placebo/delayed treatment cohort in our Phase IIb open label extension study. Eteplirsen administered once weekly at 50mg/kg over 36 weeks resulted in a 69.4 meter benefit compared to patients who received placebo for 24 weeks followed by 12 weeks of treatment with eteplirsen. In the predefined prospective analysis of the study's intent-to-treat population on the primary clinical outcome measure, the change in 6MWT distance from baseline, eteplirsen-treated patients who received 50mg/kg of the drug weekly demonstrated a decline of 8.7 meters in distance walked from baseline (mean=396.0 meters), while patients who received placebo/delayed-eteplirsen treatment for 36 weeks showed a decline of 78.0 meters from baseline (mean=394.5 meters), for a statistically significant treatment benefit of 69.4 meters over 36 weeks ($p \leq 0.019$). There was no statistically significant difference in the 6MWT between the cohort of patients who received 30mg/kg weekly of eteplirsen and the placebo/delayed treatment cohort. The safety profile of eteplirsen was evaluated across all subjects through the 36 weeks eteplirsen was administered and there were no treatment-related adverse events, no serious adverse events and no discontinuations. Furthermore, no treatment-related changes were detected on any safety laboratory parameters, including several biomarkers for renal function.

On October 3, 2012, we announced 48-week results from our DMD open label extension study which indicated that treatment with eteplirsen met the primary efficacy endpoint, increase in novel dystrophin, and achieved a significant clinical benefit on the primary clinical outcome, the 6MWT, over the placebo/delayed treatment cohort in our Phase IIb extension trial. Eteplirsen administered once weekly at either 30 mg/kg or 50 mg/kg for 48 weeks (n=8) resulted in a statistically significant increase ($p < 0.001$) in dystrophin-positive fibers to 47.0% of normal. The placebo/delayed treatment cohort, which had received 24 weeks of eteplirsen at either 30 mg/kg or 50 mg/kg following 24 weeks of placebo (n=4), also showed a statistically significant increase in dystrophin-positive fibers to 38.3% of normal ($p < 0.009$). Eteplirsen administered once weekly at 50 mg/kg over 48 weeks resulted in an 89.4 meter benefit compared to patients who received placebo for 24 weeks followed by 24 weeks of treatment with eteplirsen in the open-label extension. In the predefined prospective analysis of the study's intent-to-treat population on the primary clinical outcome measure, the change in 6MWT distance from baseline, eteplirsen-treated patients who received 50 mg/kg of the drug weekly (n=4) demonstrated an increase of 21.0 meters in distance walked from baseline (mean=396.0 meters), while patients who received placebo/delayed-eteplirsen treatment (n=4) showed a decline of 68.4 meters from baseline (mean=394.5 meters), for a statistically significant treatment benefit of 89.4 meters over 48 weeks ($p = 0.016$, using analysis of covariance for ranked data). There was no statistically significant difference between the cohort of patients who received 30 mg/kg weekly of eteplirsen and the placebo/delayed treatment cohort. The safety profile of eteplirsen was evaluated across all subjects through 48 weeks and there were no treatment-related adverse events, no serious adverse events, and no discontinuations. Furthermore, no clinically significant treatment-related changes were detected on any safety laboratory parameters, including several biomarkers for renal function.

On December 7, 2012, we announced updated data from our DMD open label extension study. Patients treated with eteplirsen for 62 weeks and evaluable on ambulatory measures (modified Intent-to-Treat population) maintained a statistically significant clinical benefit on the primary clinical outcome measure, the 6-minute walk test (6MWT), compared to patients who received placebo for 24 weeks followed by 38 weeks of eteplirsen treatment. As reported previously, Study 202 met its primary endpoint of increased novel dystrophin as assessed in muscle biopsies at week 48 and is now in the long-term extension phase in which patients continue to be followed for safety and clinical outcomes.

In the modified Intent-to-Treat (mITT) population, which includes evaluable patients from both the 30mg/kg and 50mg/kg dose cohorts, patients treated with eteplirsen for 62 weeks demonstrated a statistically significant benefit of 62 meters over the placebo/delayed-treatment cohort using a mixed-model repeated measure statistical test. The mITT

consisted of 10 of the enrolled 12 patients (4 eteplirsen-treated patients receiving 50 mg/kg weekly, 2 eteplirsen-treated patients receiving 30 mg/kg weekly, and 4 placebo/delayed-

S-2

Table of Contents

treatment patients), and excludes two patients who showed signs of rapid disease progression and lost ambulation by week 24. The eteplirsen treatment cohort (n=6) continued to show disease stabilization and the cohort has shown less than a 5% decline in walking distance on the 6-minute walk test from baseline. The placebo/delayed-treatment cohort (n=4) also demonstrated stability in walking distance from week 36 through week 62 with a less than 10 meter change over this timeframe, the period in which dystrophin was likely produced, with confirmation of significant dystrophin levels at week 48 through analysis of muscle biopsies in these patients.

The safety profile of eteplirsen was evaluated across all patients through week 62 and there were no clinically significant treatment-related adverse events, no serious adverse events, and no discontinuations. One patient had a laboratory treatment-related adverse event, a transient elevation of urine protein on a urine dipstick test, however this elevation was not observed on a 24-hour urine protein measurement and resulted in no clinical symptoms or interruption of treatment. This patient did not show elevations of the specific renal markers of cystatin C or KIM-1. Across both the treatment and placebo/delayed treatment cohorts there is evidence of continued stabilization on pulmonary function tests, echocardiogram, muscle strength and clinical laboratory tests over the 62 weeks.

Results from the mITT population, which combines the evaluable eteplirsen-treated patients across the 30mg/kg and 50mg/kg cohorts, have previously been reported and will be used as the primary assessment of ambulatory clinical measures for the remainder of the study. Given there was no significant difference between the 30 mg/kg and 50 mg/kg arms on the production of dystrophin through 48 weeks, this mITT population is the most appropriate to assess dystrophin production and its potential predictive benefits on ambulatory clinical outcomes, such as the 6MWT.

On April 5, 2013, we announced further updated data from our DMD open label extension study. Patients treated with eteplirsen for 74 weeks showed a continued stabilization of walking ability evaluable on the 6MWT. After 74 weeks, patients in the 30 mg/kg and 50 mg/kg dose cohorts who were able to perform the 6MWT (mITT population; n=6) showed a statistically significant treatment benefit of 65.2 meters ($p \leq 0.004$) when compared to the placebo/delayed treatment cohort (n=4). The eteplirsen-treated patients in the mITT population demonstrated less than a 5 percent decline (13.4 meters) from the baseline in walking ability. After experiencing a substantial decline earlier in the study, the placebo/delayed-treatment cohort also demonstrated stabilization in walking ability from week 36 through 74, the period in which meaningful levels of dystrophin were likely produced, with a less than 10 meter decline over this timeframe. Through 74 weeks, eteplirsen was well tolerated and there were no clinically significant treatment-related adverse events, serious adverse events, hospitalizations or discontinuations.

On June 19, 2013, we announced that after 84 weeks, patients in the 30 mg/kg and 50 mg/kg dose cohorts in the mITT population (n=6) showed a statistically significant treatment benefit of 46.4 meters ($p \leq 0.045$) when compared to the placebo/delayed-treatment cohort (n=4). The eteplirsen-treated patients in the mITT population demonstrated less than a 6 percent decline (20.5 meters) from baseline in walking ability. The placebo/delayed-treatment cohort also demonstrated stabilization in walking ability from Week 36 through 84, the period from which meaningful levels of dystrophin were likely produced, with an increase of 3.3 meters over this timeframe. These analyses were based on the maximum 6MWT score when the test was performed on two consecutive days. Through 84 weeks, eteplirsen was well tolerated and there were no clinically significant treatment-related adverse events, no serious adverse events, hospitalizations or discontinuations. One boy in the placebo/delayed-treatment cohort was not able to perform the 6MWT at the Week 84 clinic visit due to a physical injury unrelated to treatment, and therefore had no 6MWT data captured at the Week 84 time point. The boy has recovered from the injury, continues to be ambulatory and is expected to be evaluated on the 6MWT at future clinic visits. Across all patients in the eteplirsen and placebo/delayed-treatment cohorts, there was evidence of continued stabilization on clinical laboratory tests, echocardiograms, pulmonary function tests and measures of muscle strength through 84 weeks of participating in Study 202.

S-3

Table of Contents

On September 26, 2013, we announced that after 96 weeks, patients in the 30 mg/kg and 50 mg/kg eteplirsen cohorts in the mITT population (n=6) experienced less than a 5 percent decline (17.5 meters) from baseline in walking ability. A statistically significant treatment benefit of 70.8 meters ($p \leq 0.001$) was observed for the mITT population compared with the placebo/delayed-treatment cohort (n=4). The placebo/delayed-treatment cohort also demonstrated stabilization in walking ability from Week 36 through 96, the period from which meaningful levels of dystrophin were likely produced, with a decline of 18.5 meters over this timeframe. These analyses were based on the maximum 6MWT score when the test was performed on two consecutive days. As previously reported, a boy in the placebo/delayed-treatment cohort was not able to perform the 6MWT at the Week 84 clinic visit due to a broken ankle assessed by the investigator as a treatment-unrelated adverse event. Although this boy received rehabilitation and was able to perform the 6MWT, his walking ability at the time of the test had not returned to the level observed prior to the injury, and this lower 6MWT distance contributed to the overall decline in the placebo/delayed-treatment cohort. The decline in walking distance observed in this cohort from Week 36 improves from a decline of 18.5 meters to a decline of 4.7 meters when this patient's 96-week test score is excluded from the analysis. Through 96 weeks, eteplirsen was well tolerated and there were no reported clinically significant treatment-related adverse events, no treatment-related serious adverse events, hospitalizations or discontinuations. Across patients in the eteplirsen and placebo/delayed-treatment cohorts, there is evidence of continued stabilization on clinical laboratory tests, echocardiograms, pulmonary function tests and measures of muscle strength through 84 weeks of participating in Study 202.

On January 15, 2014, we announced that at 120 weeks, patients in the 30 mg/kg and 50 mg/kg eteplirsen cohorts who were able to perform the 6MWT experienced a decline of 13.9 meters, or less than 5 percent, from baseline in walking ability. A statistically significant treatment benefit of 64.9 meters ($p \leq 0.006$) was observed for the mITT population compared with the placebo/delayed-treatment cohort (n=4). The placebo/delayed-treatment cohort also demonstrated stabilization in walking ability for more than 1.5 years, from Week 36 through 120, the period from which meaningful levels of dystrophin were likely produced, with a decline of 9.5 meters over this timeframe. These analyses were based on the maximum 6MWT score when the test was performed on two consecutive days. In addition, on February 5, 2014, we announced that results through more than two years of treatment showed stable pulmonary function in the Intent-to-Treat (ITT) study population (N=12). Through 120 weeks, eteplirsen was well tolerated and there were no reported clinically significant treatment-related adverse events and no treatment-related serious adverse events. In addition, there were no treatment-related hospitalizations or discontinuations.

We are also leveraging the capabilities of our RNA-based technology platforms to develop therapeutics for the treatment of infectious diseases. The DoD has provided significant financial support in the past for the development of therapeutics against Ebola, Marburg, Dengue and influenza viruses. We have attracted DoD's support based in part on our ability to rapidly respond to pathogenic threats by quickly identifying, manufacturing and evaluating novel therapeutic candidates. Our current arrangement with DoD supports development of our Marburg drug candidate, AVI-7288, including activities necessary to obtain approval of an NDA by the FDA, if DoD exercises all of its options under the arrangement. On August 29, 2012, we entered into an additional agreement with DoD related to the Marburg virus to evaluate the feasibility of an intramuscular route of administration using AVI-7288 and completed the performance of our obligations under this agreement in the third quarter of 2013. Under a separate arrangement, DoD similarly provided funding to advance the development of our H1N1 influenza drug candidate, AVI-7100, through an IND application with the FDA and to preclinically evaluate its therapeutic potential against H5N1 (avian flu), Tamiflu® resistant H1N1 (pandemic flu) and H3N2 (seasonal flu) which concluded in 2011. In December 2012, we entered into an agreement with NIAID to support further development of AVI-7100. Under the agreement, NIAID researchers are allowed to proceed with a Phase I, study to assess the safety, tolerability and pharmacokinetics of single and multiple doses of AVI-7100 in healthy volunteers. Per the terms of the agreement, we provided AVI-7100 to NIAID and in return, we will have the right to use the data from this clinical study to support future development of AVI-7100.

S-4

Table of Contents

Recent Developments

On April 21, 2014, we announced that we plan to submit an NDA to the FDA by the end of 2014 for the approval of eteplirsen for the treatment of DMD. The plan to submit an NDA for eteplirsen by the end of 2014 is based on a guidance letter from the FDA that proposed a strategy regarding the submission of an NDA for eteplirsen under potential Accelerated Approval pathways and served as the final meeting minutes for four meetings that took place between November 2013 and March 2014. Based on the FDA's guidance, we plan to initiate several additional clinical studies with eteplirsen later this year in exon-51 amenable genotypes. These studies will include a clinical trial with predefined efficacy endpoints for ambulatory patients between the ages of 7 to 16 years who can walk a minimum distance, and two additional clinical trials that will evaluate safety and biomarkers in DMD patients younger than 7 years and DMD patients who have advanced in their disease progression to a point they cannot walk a minimum distance or have become non-ambulant. Additionally, we plan to initiate a placebo-controlled study with one or more of our follow-on DMD exon-skipping drug candidates by the end of the year.

Preliminary Financial Information

We have not yet closed our books for our first quarter ended March 31, 2014, and our independent registered public accounting firm has not completed its review of our results for the first quarter. Set forth below are certain preliminary estimates that we expect to report for our first quarter. Our actual results may differ materially from these estimates due to the completion of our financial closing procedures, final adjustments and other developments that may arise between now and the time the financial results for our first quarter are finalized.

In light of the above, we estimate that our cash, cash equivalents and invested cash as of March 31, 2014 was approximately \$233.1 million, consisting of approximately \$49.1 million of cash and cash equivalents, approximately \$176.1 million of short term investments and approximately \$7.9 million of restricted investments. As discussed above, based on guidance we received from the FDA, we recently announced that we plan to submit an NDA to the FDA by the end of 2014 for the approval of eteplirsen for the treatment of DMD. We also plan to initiate several additional clinical trials to further evaluate the safety and efficacy of eteplirsen in various patient populations. Given the acceleration of our anticipated NDA filing and our proposed commencement of numerous additional clinical trials, we expect our cash used in operating activities to increase significantly from our previous estimates.

Corporate Information

We were incorporated in the State of Oregon on July 22, 1980 and reincorporated into the State of Delaware on June 6, 2013. Our executive office is located at 215 First Street, Suite 7, Cambridge, MA 02142 and our telephone number is (857) 242-3700. We maintain an Internet website at www.sarepta.com. We have not incorporated the information on our website by reference into this prospectus supplement, and you should not consider it to be a part of this prospectus supplement.

We carry on our business directly and through our subsidiaries. Throughout this prospectus supplement, unless the context specifies or implies otherwise, the terms Company, Sarepta, we, us and our refer to Sarepta Therapeutics and its subsidiaries.

Table of Contents

The Offering

Common stock offered by us	shares
Option to purchase additional shares of common stock	shares
Common stock to be outstanding immediately after this offering	shares (or shares if the underwriters exercise in full their option to purchase additional shares)
Use of proceeds	We intend to use the net proceeds from the sale of our common stock from time to time hereunder for business development, manufacturing, the continued development of eteplirsen and other product candidates and other general corporate purposes. Please see <u>Use of Proceeds</u> on page S-10.
Risk factors	See <u>Risk Factors</u> beginning on page S-7 of this prospectus supplement for a discussion of factors that you should read and consider before investing in our securities.

NASDAQ Global Select Market symbol SRPT

The number of shares of our common stock to be outstanding immediately after this offering as shown above is based on 37,751,920 shares outstanding as of December 31, 2013. This number of shares excludes the following:

791,508 shares of our common stock reserved for issuance upon the exercise of outstanding warrants with a weighted average exercise price of \$10.05 per share;

4,190,367 shares of our common stock issuable upon the exercise of stock options outstanding at December 31, 2013 under our 2002 Equity Incentive Plan, our 2011 Equity Incentive Plan and certain non-plan option grants;

6,507 shares of restricted stock units issuable upon vesting under our 2011 Equity Incentive Plan;

170,000 shares subject to stock appreciation rights under our 2011 Equity Incentive Plan; and

2,879,000 shares of our common stock available for future issuance under our 2011 Equity Incentive Plan.

S-6

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. Investors should carefully consider the risks described in our Annual Report on Form 10-K, as well as other information in this prospectus supplement and the documents incorporated by reference herein before deciding whether to invest in our securities. The risks described below are not the only ones we face. If any of the following risks actually occurs, our business, financial condition or results of operations could be adversely affected. In such case, the trading price of our common stock could decline and you could lose all or part of your investment. Our actual results could differ materially from those anticipated in the forward-looking statements made throughout this prospectus supplement as a result of different factors, including the risks we face described below.

Risks Related to this Offering

Management will have broad discretion over the use of the net proceeds to us from this offering and may apply it to uses that do not improve our operating results or the value of your securities.

Our management will have broad discretion to use the net proceeds to us from this offering, and investors will be relying solely on the judgment of our board of directors and management regarding the application of these proceeds. Although we expect to use the net proceeds from this offering for business development, manufacturing, the continued development of eteplirsen and other product candidates and other general corporate purposes, we have not allocated these net proceeds for specific purposes. Investors will not have the opportunity, as part of their investment decision, to assess whether the proceeds are being used appropriately. Our use of the proceeds may not improve our operating results or increase the value of the securities being offered hereby.

A substantial number of shares of common stock may be sold in the market following this offering, which may depress the market price for our common stock.

Sales of a substantial number of shares of our common stock in the public market following this offering could cause the market price of our common stock to decline. A substantial majority of the outstanding shares of our common stock are, and the shares of common stock sold in this offering upon issuance will be, freely tradable without restriction or further registration under the Securities Act of 1933, as amended (the Securities Act).

Investors in this offering will experience immediate and substantial dilution.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. Based on a net tangible book value of our common stock of \$6.41 per share as of December 31, 2013, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of \$25.70 per share in the net tangible book value of common stock. See the section entitled

Dilution below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

Our ability to use net operating loss and tax credit carryforwards and certain built-in losses to reduce future tax payments is limited by provisions of the Internal Revenue Code, and it is possible that certain transactions or a combination of certain transactions may result in material additional limitations on our ability to use our net operating loss and tax credit carryforwards.

As of December 31, 2013, the Company had U.S. federal and state net operating loss carryforwards of \$260.9 million and \$237.7 million, respectively, available to reduce future taxable income, which expire 2014 through 2033. These net operating losses have been fully offset by a valuation allowance due to uncertainties surrounding our ability to realize these tax benefits. In general, if we experience a greater than 50 percent aggregate change in ownership of certain significant stockholders over a three-year period, or a Section 382 ownership change, utilization of our pre-change NOL carryforwards will be subject to an annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended, and similar state laws. Such limitations may result in expiration of a portion of the NOL carryforwards before utilization and may be substantial. If we experience a Section 382 ownership change in connection with this offering or as a result of future changes in our stock ownership, some of which changes are outside our control, the tax benefits related to the NOL carryforwards may be limited or lost.

S-7

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus supplement and the SEC filings that are incorporated by reference into this prospectus supplement contain or incorporate by reference forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You can generally identify these forward-looking statements by forward-looking words such as believe, anticipate, expect, intend, plan, will, may, seek and other similar expressions. You should read statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other forward-looking information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. These forward-looking statements include, but are not limited to, statements about:

our expectations regarding the development and clinical benefits of our product candidates;

the results of our research and development efforts and the efficacy of our RNA-based technology;

our expectations regarding our ability to become a leading developer and marketer of RNA-based therapeutics;

the efficacy, potency and utility of our product candidates in the treatment of rare and infectious diseases, and their potential to treat a broad number of human diseases;

our expectations regarding the results of preclinical and clinical testing of our product candidates;

our expectations regarding the timing, completion and receipt of results from our ongoing development programs;

the receipt of any required approval from the FDA or other regulatory approval for our products;

the effect of regulation by FDA and other agencies;

our expectations regarding the markets for our products;

acceptance of our products, if introduced, in the marketplace;

the impact of competitive products, product development, commercialization and technological difficulties;

our expectations regarding partnering opportunities and other strategic transactions;

the extent of protection that our patents provide and our pending patent applications may provide, if patents issue from such applications, to our technologies and programs;

our plans to file additional patent applications to enhance and protect our existing intellectual property portfolio;

our ability to invalidate some or all of the claims covered by patents issued to competitors;

our estimates regarding our future revenues, research and development expenses, other expenses, payments to third parties and changes in staffing levels;

our estimates regarding how long our currently available cash and cash equivalents will be sufficient to finance our operations and statements about our future capital needs; and

our expectations about funding from the government and other sources.

All forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement, the risk factors set forth under the heading "Risk Factors" in this prospectus supplement, and in the section entitled "Risk Factors" incorporated herein by reference to our most recent Annual Report on Form 10-K. These forward-looking statements speak only as of the date of this prospectus supplement. Except to the extent

Table of Contents

required by applicable laws and regulations, we undertake no obligation to update these forward-looking statements to reflect new information, events or circumstances after the date of this prospectus supplement or to reflect the occurrence of unanticipated events. In light of these risks and uncertainties, the forward-looking events and circumstances described in this prospectus supplement may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements. Accordingly, you are cautioned not to place undue reliance on these forward-looking statements.

S-9

Table of Contents

USE OF PROCEEDS

We anticipate that the net proceeds to us, after deducting underwriting discounts and commissions and estimated expenses payable by us, from the assumed sale of 2,942,908 shares of our common stock offered hereby, at an assumed public offering price of \$33.98 per share, the closing price on the Nasdaq Global Select Market on April 21, 2014, will be approximately \$94.8 million, or approximately \$109.1 million if the underwriters exercise in full their option to purchase an assumed 441,436 additional shares of common stock.

We intend to use the net proceeds from this offering for business development, manufacturing, the continued development of eteplirsen and other product candidates and other general corporate purposes. The amounts and timing of our actual expenditures for each purpose may vary significantly depending upon numerous factors, including the status of our product development and clinical trial efforts, regulatory approvals, competition, our ability to obtain government funding or other non-dilutive financing for the development of certain of our product candidates and our evaluation of opportunities to further the development efforts for our lead product candidate, eteplirsen. We reserve the right to change the use of proceeds as a result of certain contingencies such as competitive developments, opportunities to acquire technologies or products and other factors. Pending application of the proceeds of sale of the securities, we intend to invest the net proceeds of the sale in short-term, investment-grade, interest-bearing instruments.

Table of Contents

**MATERIAL U.S. FEDERAL TAX CONSIDERATIONS FOR
NON-U.S. HOLDERS OF COMMON STOCK**

The following is a summary of certain material U.S. federal income and estate tax considerations relating to the purchase, ownership and disposition of our common stock by Non-U.S. Holders (defined below), but does not purport to be a complete analysis of all the potential tax considerations. This summary is based upon the Internal Revenue Code of 1986, as amended (the Code), the Treasury regulations promulgated or proposed thereunder and administrative and judicial interpretations thereof, all as of the date hereof and all of which are subject to change at any time, possibly on a retroactive basis. This summary is limited to the tax consequences to those persons who hold our common stock as capital assets within the meaning of Section 1221 of the Code.

This summary does not purport to deal with all aspects of U.S. federal income and estate taxation that might be relevant to particular Non-U.S. Holders in light of their particular investment circumstances or status, nor does it address specific tax considerations that may be relevant to particular persons (including, for example, financial institutions, broker-dealers, insurance companies, partnerships or other pass-through entities, certain U.S. expatriates, tax-exempt organizations, controlled foreign corporations, passive foreign investment companies, corporations that accumulate earnings to avoid U.S. federal income tax, or persons in special situations, such as those who have elected to mark securities to market or those who hold common stock as part of a straddle, hedge, conversion transaction or other integrated investment). In addition, this summary does not address U.S. federal alternative minimum, the unearned income Medicare contribution tax, certain estate and gift tax considerations or considerations under the tax laws of any state, local or non-U.S. jurisdiction.

This summary is for general information only. Non-U.S. Holders are urged to consult their tax advisors concerning the U.S. federal income and estate taxation, state, local and non-U.S. taxation and other tax consequences to them of the purchase, ownership and disposition of our common stock, as well as the application of state, local and non-U.S. income and other tax laws.

For purposes of this summary, a Non-U.S. Holder means a beneficial owner of common stock that for U.S. federal income tax purposes is not:

an individual who is a citizen or resident of the U.S.,

a corporation (or other entity taxable as a corporation) created or organized under the laws of the U.S., any state thereof, or the District of Columbia,

an estate the income of which is subject to U.S. federal income tax regardless of its source, or

a trust if (a) a court within the U.S. is able to exercise primary supervision over the administration of the trust, and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (b) a valid election to be treated as a U.S. person is in effect with respect to such trust.

If a partnership, or an entity or arrangement treated as a partnership for U.S. federal income tax purposes, holds common stock, the tax treatment of a partner in the partnership generally will depend upon the partner's tax status and

upon the activities of the partnership. Accordingly, partnerships and other entities that are classified as partnerships for U.S. federal income tax purposes that hold our common stock and partners in such partnerships should consult their tax advisors.

Distributions on Our Common Stock

As discussed under **Dividends** above, we do not currently expect to pay dividends. In the event that we do make a distribution of cash or property with respect to our common stock, any such distributions will be treated as a dividend for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated first as a tax-free return of capital to the extent of the

S-11

Table of Contents

Non-U.S. Holder's tax basis in our common stock and thereafter as capital gain from the sale or exchange of such stock. Any such distribution would also be subject to the discussion below under the section titled "Additional Withholding and Information Reporting Requirements." Dividends paid to a Non-U.S. Holder generally will be subject to a 30% U.S. federal withholding tax unless such Non-U.S. Holder provides us or our agent, as the case may be, with a properly executed:

1. U.S. Internal Revenue Service (IRS) Form W-8BEN or W-8BEN-E (or successor form) claiming, under penalties of perjury, a reduction in withholding under an applicable income tax treaty, or
2. IRS Form W-8ECI (or successor form) stating that a dividend paid on common stock is not subject to withholding tax because it is effectively connected with a U.S. trade or business of the Non-U.S. Holder (in which case such dividend generally will be subject to regular graduated U.S. tax rates as described below).

The certification requirement described above also may require a Non-U.S. Holder that provides an IRS form or that claims treaty benefits to provide its U.S. taxpayer identification number. Special certification and other requirements apply in the case of certain Non-U.S. Holders that are intermediaries or pass-through entities for U.S. federal income tax purposes.

Each Non-U.S. Holder is urged to consult its tax advisor about the specific methods for satisfying these requirements. A claim for exemption will not be valid if the person receiving the applicable form has actual knowledge or reason to know that the statements on the form are false.

If dividends are effectively connected with a U.S. trade or business of the Non-U.S. Holder (and, if required by an applicable income tax treaty, attributable to a U.S. permanent establishment), the Non-U.S. Holder, although exempt from the withholding tax described above (provided that the certifications described above are satisfied), will be subject to U.S. federal income tax on such dividends on a net income basis in the same manner as if it were a resident of the United States. In addition, if such Non-U.S. Holder is a non-U.S. corporation and dividends are effectively connected with its U.S. trade or business (and, if required by an applicable income tax treaty, attributable to a U.S. permanent establishment), such Non-U.S. Holder may be subject to an additional branch profits tax equal to 30% (unless reduced by an applicable income treaty) in respect of such effectively-connected income.

If a Non-U.S. Holder is eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty, such holder may obtain a refund or credit of any excess amount withheld by timely filing an appropriate claim for refund with the IRS.

Disposition of Our Common Stock

Subject to the discussion below under the section titled "Additional Withholding and Information Reporting Requirements", in general, a Non-U.S. Holder will not be subject to U.S. federal income tax or withholding tax on gain recognized on a sale, exchange or other taxable disposition of a share of our common stock, unless:

the gain is effectively connected with a trade or business of the Non-U.S. Holder in the United States (and, if required by an applicable income tax treaty, attributable to a U.S. permanent establishment);

the Non-U.S. Holder is a nonresident alien who is present in the United States for 183 days or more in the taxable year of the disposition and meets certain other conditions; or

we are or have been a United States real property holding corporation, as defined in the Code (a USRPHC), at any time within the shorter of the five-year period preceding the disposition and the Non-U.S. Holder's holding period in the share of our common stock.

S-12

Table of Contents

We believe we are not, and do not anticipate becoming, a USRPHC. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, a Non-U.S. Holder would not be subject to U.S. federal income tax on a sale, exchange or other taxable disposition of our common stock so long as our common stock continues to be regularly traded on an established securities market and such Non-U.S. Holder does not own and is not deemed to own (directly, indirectly or constructively) more than 5% of our common stock at any time during the shorter of the five year period ending on the date of disposition and the holder's holding period.

If a Non-U.S. Holder is engaged in a trade or business in the U.S. and gain recognized by the Non-U.S. Holder on a sale or other disposition of our common stock is effectively connected with the conduct of such trade or business, the Non-U.S. Holder will generally be subject to regular U.S. income tax as if the Non-U.S. Holder were a U.S. person, subject to an applicable income tax treaty providing otherwise. Additionally, a non-U.S. corporation may also, under certain circumstances, be subject to an additional branch profits tax imposed at a rate of 30% (or, if applicable, a lower income tax treaty rate). Non-U.S. Holders whose gain from dispositions of our common stock may be effectively connected with the conduct of a trade or business in the United States are urged to consult their tax advisors with respect to the U.S. tax consequences of the purchase, ownership and disposition of our common stock.

A nonresident alien who is subject to U.S. federal income tax because such individual was present in the United States for 183 days or more in the taxable year of the taxable disposition of our common stock will be subject to a flat 30% tax on the gain derived from such disposition, which may be offset by U.S. source capital loss.

Backup Withholding and Information Reporting

Generally, we must report annually to the IRS and to each Non-U.S. Holder certain information including the Non-U.S. Holder's name, address and taxpayer identification number, the aggregate amount of distributions on our common stock paid to that Non-U.S. Holder during the calendar year and the amount of tax withheld, if any.

Backup withholding tax is imposed on dividends and certain other types of payments to certain U.S. persons (currently at a rate of 28%). In general, backup withholding tax will not apply to payments of dividends on common stock or proceeds from the sale of common stock payable to a Non-U.S. Holder if the certification described above under "Distributions on Our Common Stock" is duly provided by such Non-U.S. Holder or the Non-U.S. Holder otherwise establishes an exemption, provided that the payor does not have actual knowledge or reason to know that the Non-U.S. Holder is a U.S. person or that the conditions of any claimed exemption are not satisfied. Certain information reporting may still apply to distributions even if an exemption from backup withholding is established. Copies of any information returns reporting the distributions to a Non-U.S. Holder and any withholding also may be made available to the tax authorities in the country in which a Non-U.S. Holder resides under the provisions of an applicable income tax treaty.

Backup withholding is not an additional tax and any amounts withheld under the backup withholding tax rules from a payment to a Non-U.S. Holder will be allowed as a refund or a credit against such Non-U.S. Holder's U.S. federal income tax liability, provided that the requisite procedures are followed.

Non-U.S. Holders are urged to consult their tax advisors regarding their particular circumstances and the availability of and procedure for obtaining an exemption from backup withholding.

Table of Contents

Additional Withholding and Information Reporting Requirements

Legislation enacted in March 2010 and related Treasury guidance (commonly referred to as FATCA) will impose, in certain circumstances, U.S. federal withholding at a rate of 30% on payments of (1) dividends on our common stock on or after July 1, 2014, and (2) gross proceeds from the sale or other disposition of our common stock on or after January 1, 2017. In the case of payments made to a foreign financial institution as defined under FATCA (including, among other entities, an investment fund), as a beneficial owner or as an intermediary, the tax generally will be imposed, subject to certain exceptions, unless such institution (1) enters into (or is otherwise subject to) and complies with an agreement with the U.S. government, or a FATCA Agreement, or (2) complies with applicable foreign law enacted in connection with an intergovernmental agreement between the United States and a foreign jurisdiction, or an IGA, in either case to, among other things, collect and provide to the U.S. or other relevant tax authorities certain information regarding U.S. account holders of such institution. In the case of payments made to a foreign entity that is not a foreign financial institution (as a beneficial owner), the tax generally will be imposed, subject to certain exceptions, unless such foreign entity provides the withholding agent with a certification that it does not have any substantial U.S. owner (generally, any specified U.S. person that directly or indirectly owns more than a specified percentage of such entity) or that identifies its substantial U.S. owners. If our common stock is held through a foreign financial institution that enters into (or is otherwise subject to) a FATCA Agreement, such foreign financial institution (or, in certain cases, a person paying amounts to such foreign financial institution) generally will be required, subject to certain exceptions, to withhold such tax on payments of dividends and proceeds described above made to (1) a person (including an individual) that fails to comply with certain information requests or (2) a foreign financial institution that has not entered into (and is not otherwise subject to) a FATCA Agreement and is not required to comply with FATCA pursuant to applicable foreign law enacted in connection with an IGA.

Prospective investors should consult their tax advisors regarding the possible impact of these rules on their investment in our common stock, and the entities through which they hold our common stock, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of this 30% withholding tax under FATCA.

U.S. Federal Estate Tax

Common stock owned or treated as owned by an individual who is a Non-U.S. Holder at the time of death generally will be included in the individual's gross estate for U.S. federal estate tax purposes and may be subject to U.S. federal estate tax unless an applicable estate or other tax treaty provides otherwise.

Table of Contents**DILUTION**

Purchasers of common stock offered by this prospectus supplement and the accompanying prospectus will suffer immediate and substantial dilution in the net tangible book value per share of common stock. Our net tangible book value as of December 31, 2013 was approximately \$242.2 million, or approximately \$6.41 per share of common stock. Net tangible book value per share represents the amount of total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of December 31, 2013.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the assumed sale of 2,942,908 shares of common stock in this offering at an assumed public offering price of \$33.98 per share (the last reported sale price on the Nasdaq Global Select Market on April 21, 2014), and after deduction of the estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2013 would have been approximately \$337.0 million, or \$8.28 per share of common stock. This represents an immediate increase in net tangible book value of \$1.87 per share of common stock to our existing shareholders and an immediate dilution in net tangible book value of \$25.70 per share of common stock to investors participating in this offering. The following table illustrates this per share dilution:

Public offering price per share	\$ 33.98
Net tangible book value per share as of December 31, 2013	\$ 6.41
Increase per share attributable to this offering	\$ 1.87
As adjusted net tangible book value per share as of December 31, 2013, after giving effect to this offering	\$ 8.28
Dilution per share to new investors participating in this offering	\$ 25.70

The above table is based on 37,751,920 shares of our common stock outstanding as of December 31, 2013 and excludes the following:

791,508 shares of our common stock reserved for issuance upon the exercise of outstanding warrants with a weighted average exercise price of \$10.05 per share;

4,190,367 shares of our common stock issuable upon the exercise of stock options outstanding at December 31, 2013 under our 2002 Equity Incentive Plan, our 2011 Equity Incentive Plan and certain non-plan option grants;

6,507 shares of restricted stock units issuable upon vesting under our 2011 Equity Incentive Plan;

170,000 shares subject to stock appreciation rights under our 2011 Equity Incentive Plan; and

2,879,000 shares of our common stock available for future issuance under our 2011 Equity Incentive Plan.

To the extent that any options or warrants are exercised, new options are issued under our equity incentive plans, or we otherwise issue additional shares of common stock in the future, there will be further dilution to new investors.

If the underwriters exercise in full their option to purchase an assumed 441,436 additional shares of common stock at an assumed public offering price of \$33.98 per share, the pro forma as adjusted net tangible book value after this offering would be \$8.54 per share, representing an increase in net tangible book value of \$2.12 per share to existing stockholders and immediate dilution in net tangible book value of \$25.44 per share to investors purchasing our common stock in this offering at the public offering price.

Table of Contents**UNDERWRITING**

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus supplement, the underwriters named below, for whom Merrill Lynch, Pierce, Fenner & Smith Incorporated and Morgan Stanley & Co. LLC are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them the number of shares indicated below:

Name	Number of Shares
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Morgan Stanley & Co. LLC	
Total	

The underwriters and the representatives are collectively referred to as the underwriters and the representatives, respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' option to purchase additional shares described below.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of \$. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

The underwriters have an option to buy up to an additional \$15,000,000 of shares of common stock from us and have 30 days from the date of this prospectus to exercise such option. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of common stock.

Per Share	Total No Exercise
--------------	----------------------

			Full Exercise
Public offering price	\$	\$	\$
Underwriting discounts and commissions to be paid by us	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately \$200,000. We have agreed to reimburse the underwriters for expense relating to clearance of this offering with the Financial Industry Regulatory Authority up to \$25,000.

S-16

Table of Contents

No Sales of Similar Securities

We and our executive officers and directors have agreed, with certain limited exceptions, not to sell or transfer any of our common stock or any securities convertible into or exercisable or exchangeable for our common stock for 90 days after the date of this prospectus supplement without first obtaining the prior written consent of Merrill Lynch, Pierce, Fenner & Smith Incorporated and Morgan Stanley & Co. LLC. Specifically, we and these individuals have agreed not to, directly or indirectly:

offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant for the sale of, or otherwise dispose of or transfer any shares of our common stock or any securities convertible into or exchangeable or exercisable for our common stock;

file, or cause to be filed, any registration statement under the Securities Act related to our common stock or any securities convertible into or exchangeable or exercisable for our common stock; or

enter into any swap or other agreement or transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of any of our common stock or any securities convertible into or exchangeable or exercisable for our common stock, whether any such swap or transaction is to be settled by delivery of shares of our common stock or other securities, in cash or otherwise.

In the event that either (x) during the last 17 days of the lock-up period referred to above, we issue an earnings release or material news or a material event relating to us occurs or (y) prior to the expiration of the lock-up period, we announce that we will release earnings results or become aware that material news or a material event will occur during the 16-day period beginning on the last day of the lock-up period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

In addition, we and each such person agrees that, without the prior written consent of Merrill Lynch, Pierce, Fenner & Smith Incorporated and Morgan Stanley & Co. LLC on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

NASDAQ Global Select Market Listing

The shares are listed on the NASDAQ Global Select Market under the symbol SRPT.

Short Positions

In connection with this offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than it is required to purchase in this offering. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in this

offering.

Similar to other purchase transactions, the underwriters' purchases to cover short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the NASDAQ Global Select Market, in the over-the-counter market or otherwise.

S-17

Table of Contents

Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor the underwriters make any representation that the underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Passive Market Making

In connection with this offering, the underwriters may engage in passive market making transactions in the common stock on the NASDAQ Global Select Market in accordance with Rule 103 of Regulation M under the Exchange Act during a period before the commencement of offers or sales of common stock and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded. Passive market making may cause the price of our common stock to be higher than the price that otherwise would exist in the open market in the absence of those transactions. The underwriters are not required to engage in passive market making and may end passive market making activities at any time.

Electronic Distribution

In connection with this offering, the underwriters may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

The underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. The underwriters have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a Relevant Member State), no offer of shares may be made to the public in that Relevant Member State other than:

- A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- B. to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the underwriters; or
- C. in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of shares shall require the Company or the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus

Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

S-18

Table of Contents

Each person in a Relevant Member State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed that it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive. In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

This prospectus supplement has been prepared on the basis that any offer of shares in any Relevant Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly any person making or intending to make an offer in that Relevant Member State of shares which are the subject of the offering contemplated in this prospectus supplement may only do so in circumstances in which no obligation arises for the Company or the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the Company nor the underwriters has authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the Company or the underwriters to publish a prospectus for such offer.

For the purpose of the above provisions, the expression an offer to the public in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase or subscribe the shares, as the same may be varied in the Relevant Member State by any measure implementing the Prospectus Directive in the Relevant Member State and the expression Prospectus Directive means Directive 2003/71/EC (including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member States) and includes any relevant implementing measure in the Relevant Member State and the expression 2010 PD Amending Directive means Directive 2010/73/EU.

Notice to Prospective Investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are qualified investors (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to this offering. This prospectus supplement does not constitute a prospectus, product disclosure statement or other disclosure document under the

Corporations Act 2001 (the Corporations Act), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

S-19

Table of Contents

Any offer in Australia of the shares may only be made to persons (the Exempt Investors) who are sophisticated investors (within the meaning of section 708(8) of the Corporations Act), professional investors (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under this offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus supplement contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus supplement is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to professional investors as defined in the Securities and Futures Ordinance

(Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a prospectus as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the securities has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, Japanese Person shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus supplement has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of Non-CIS Securities may not be circulated or distributed, nor may the

Non-CIS Securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (SFA), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

S-20

Table of Contents

Where the Non-CIS Securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Non-CIS Securities pursuant to an offer made under Section 275 of the SFA except:
 - (a) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

 - (b) where no consideration is or will be given for the transfer;

 - (c) where the transfer is by operation of law;

 - (d) as specified in Section 276(7) of the SFA; or

 - (e) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or this offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to this offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective

investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus supplement relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority (DFSA). This prospectus supplement is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for this prospectus supplement. The shares to which this prospectus supplement relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus supplement you should consult an authorized financial advisor.

S-21

Table of Contents

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon by Ropes & Gray LLP, Boston, Massachusetts. Certain legal matters in connection with this offering will be passed upon for the underwriters by Latham & Watkins LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements of Sarepta Therapeutics, Inc. (a developmental stage enterprise) as of December 31, 2013 and 2012, and for each of the years in the three-year period ended December 31, 2013 and the information included in the cumulative from inception presentations for the period January 1, 2002 to December 31, 2013 (not separately presented), and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2013 have been incorporated by reference herein and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audit report on the effectiveness of internal control over financial reporting as of December 31, 2013, expresses an opinion that Sarepta Therapeutics, Inc. did not maintain effective internal control over financial reporting as of December 31, 2013 because of the effect of a material weakness on the achievement of the objectives of the control criteria and contains an explanatory paragraph that states that a material weakness was identified relating to the Company's design and implementation of controls to adequately review and consider the recognition and measurement of new significant research and development contracts.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge on our website at <http://www.sarepta.com> under the Investor Relations SEC Filings caption. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on our website is not part of this prospectus supplement.

You should rely only on the information provided in, and incorporated by reference in, this prospectus supplement and the accompanying prospectus and the registration statement to which this prospectus supplement and accompanying prospectus form a part. We have not authorized anyone else to provide you with different information. Our securities are not being offered in any jurisdiction where the offer is not permitted. The information contained in documents that are incorporated by reference in this prospectus supplement is accurate only as of the dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

Table of Contents

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus supplement and the accompanying prospectus. We incorporate by reference the following information or documents that we have filed with the SEC:

our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, filed with the SEC on March 3, 2014;

our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 30, 2013;

our Current Report on Form 8-K filed with the SEC on January 10, 2014; and

the description of our common stock contained in our Current Report on Form 8-K12B filed with the SEC on June 6, 2013.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and accompanying prospectus and deemed to be part of this prospectus supplement and accompanying prospectus from the date of the filing of such reports and documents.

Any statement contained in any document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus supplement and accompanying prospectus to the extent that a statement contained in this prospectus supplement or accompanying prospectus modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement and accompanying prospectus.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus supplement and accompanying prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus supplement and accompanying prospectus, but not delivered with the prospectus supplement and accompanying prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus supplement and accompanying prospectus incorporates. You should direct written requests to: Sarepta Therapeutics, Inc., 215 First Street, Suite 7, Cambridge, MA 02142, or you may call us at (857) 242-3700.

Table of Contents

PROSPECTUS

Sarepta Therapeutics, Inc.

Common Stock, Preferred Stock, Debt Securities, Warrants and Units

Sarepta Therapeutics, Inc. or certain selling securityholders may, from time to time offer, in one or more classes or series, separately or together, and in amounts, at prices and on terms to be set forth in one or more supplements to this prospectus, common stock, preferred stock, debt securities, warrants to purchase common stock, preferred stock or debt securities, or any combination of the foregoing, either individually or as units comprised of two or more other securities.

We refer to the common stock, preferred stock, debt securities, warrants and units registered hereunder collectively as the securities in this prospectus. We will offer our securities in amounts, at prices and on terms determined at the time of the offering of any such security.

The prospectus provides a general description of the securities we or any selling securityholder may offer. The specific terms of each series or class of the securities will be set forth in the applicable prospectus supplement and will include, as applicable: (i) in the case of common stock, any public offering price; (ii) in the case of preferred stock, the specific title and any dividend, liquidation, redemption, conversion, voting and other rights and any public offering price; (iii) in the case of debt securities, the specific terms of such debt securities; (iv) in the case of warrants, the duration, offering price, exercise price and detachability; and (v) in the case of units, the constituent securities comprising the units, the offering price and detachability.

We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as the documents incorporated by reference before you invest in any of our securities. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

Our common stock is listed on The NASDAQ Global Market under the symbol SRPT. On November 6, 2012, the last reported sale price on The NASDAQ Global Market was \$23.86 per share. There is currently no market for the other securities we may offer.

Investing in our securities involves a high degree of risk. Please carefully read the information under the headings Risk Factors beginning on page 10 and Forward-Looking Statements, on page 24 of this prospectus before you invest in our securities. This information may also be included in any supplement, any related free writing prospectus and/or any other future filings we make with the Securities and Exchange Commission that are incorporated by reference into this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Edgar Filing: Sarepta Therapeutics, Inc. - Form 424B5

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. In addition, certain selling securityholders may offer and sell our securities from time to time. We will provide specific information about any selling securityholders in one or more supplements to this prospectus. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names, and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections entitled *Plan of Distribution* and *About This Prospectus* for more information. The price to the public of those securities and the net proceeds we or any selling securityholders expect to receive from that sale will also be set forth in a prospectus supplement. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such series of securities.

The date of this prospectus is November 7, 2012.

Table of Contents

TABLE OF CONTENTS

	Page
<u>Prospectus Summary</u>	1
<u>Risk Factors</u>	10
<u>Forward-Looking Statements</u>	24
<u>Ratio of Earnings to Fixed Charges</u>	26
<u>Use of Proceeds</u>	26
<u>Description of the Warrants</u>	39
<u>Plan of Distribution</u>	40
<u>Legal Matters</u>	43
<u>Experts</u>	43
<u>Where You Can Find More Information</u>	43
<u>Information Incorporated by Reference</u>	44
<u>Disclosure of Commission Position on Indemnification for Securities Act Liabilities</u>	44

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf process, we or any selling securityholder may, from time to time, offer or sell any combination of the securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities offered by us or any selling securityholder. Each time we or any selling securityholder sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information about the terms of that offering. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add to, update or change information contained in the prospectus or in any documents that we have incorporated by reference into this prospectus, and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement or the related free writing prospectus.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or any related free writing prospectus. We have not authorized any other person to provide you with different information. You should read the entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement, before making an investment decision. The prospectus and the accompanying prospectus supplement, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and any accompanying prospectus supplement constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should assume that the information in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security. We do not imply or represent by delivering this prospectus that Sarepta Therapeutics, Inc., or its business, financial condition or results of operations, are unchanged after the date on the front of this prospectus or that the information in this prospectus is correct as any time after such date.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus or incorporated herein by reference. This summary is not complete and does not contain all of the information that you should consider before deciding to invest in our securities. We urge you to read this entire prospectus and the information incorporated by reference herein carefully, including the Risk Factors section. In this prospectus, unless the context indicates otherwise, the terms company, we, us, and our refer to Sarepta Therapeutics, Inc. and its subsidiaries.

Sarepta Therapeutics, Inc.

Overview

We are a biopharmaceutical company focused on the discovery and development of unique RNA-based therapeutics for the treatment of rare and infectious diseases. Applying our proprietary, highly-differentiated and innovative platform technologies, we are able to target a broad range of diseases and disorders through distinct RNA-based mechanisms of action. We are primarily focused on rapidly advancing the development of our potentially disease-modifying Duchenne muscular dystrophy drug candidates, including our lead product candidate, eteplirsen. We are also focused on developing therapeutics for the treatment of infectious diseases, including our lead infectious disease program aimed at the development of a drug candidate for the Marburg hemorrhagic fever virus. By building our infectious disease program funded by the U.S. government and leveraging our highly-differentiated, proprietary technology platforms, we are seeking to further develop our research and development competencies and identify additional product candidates.

Our highly-differentiated RNA-based technologies work at the most fundamental level of biology and potentially could have a meaningful impact across a broad range of human diseases and disorders. Our lead program focuses on the development of disease-modifying therapeutic candidates for Duchenne muscular dystrophy, or DMD, a rare genetic muscle-wasting disease caused by the absence of dystrophin, a protein necessary for muscle function. Currently, there are no disease-modifying therapies available for DMD. Eteplirsen is our lead therapeutic candidate for DMD and if we are successful in our development efforts, eteplirsen will address a severe unmet medical need. We recently completed a U.S.-based Phase IIb clinical trial for eteplirsen that was initiated in August 2011. Following completion of this study, we initiated an open label extension study with the same participants from the original Phase IIb placebo controlled trial.

In April 2012, we announced the results from our DMD Phase IIb clinical trial which determined that treatment with eteplirsen met the primary efficacy endpoint in the Phase IIb study. Eteplirsen administered once weekly at 30mg/kg over 24 weeks resulted in a statistically significant (p £ 0.002) increase in novel dystrophin (22.5% dystrophin-positive fibers as a percentage of normal) compared to no increase in the placebo group. Restoration of dystrophin expression and dystrophin positive fibers is believed to be critical for successful disease-modifying treatment of individuals with DMD. In the study, a shorter duration of eteplirsen treatment, 12 weeks, did not show a significant increase in novel dystrophin (0.79% dystrophin-positive fibers as a percentage of normal; p-value NS), despite administration of the drug at a higher dose (50mg/kg once weekly). No significant improvements in clinical outcomes in the treated groups were observed compared to placebo.

On July 24, 2012, we announced interim results from our DMD open label extension study which indicated that treatment with eteplirsen over 36 weeks achieved a significant clinical benefit on the primary clinical outcome, the 6-minute walk test (6MWT), over a placebo/delayed treatment cohort in our Phase IIb open label extension study. Eteplirsen administered once weekly at 50mg/kg over 36 weeks resulted in a 69.4 meter benefit compared to patients who received placebo for 24 weeks followed by 12 weeks of treatment with eteplirsen. In the predefined prospective analysis of the study's intent-to-treat population on the primary clinical outcome

Table of Contents

measure, the change in 6MWT distance from baseline, eteplirsen-treated patients who received 50mg/kg of the drug weekly demonstrated a decline of 8.7 meters in distance walked from baseline (mean=396.0 meters), while patients who received placebo/delayed-eteplirsen treatment for 36 weeks showed a decline of 78.0 meters from baseline (mean=394.5 meters), for a statistically significant treatment benefit of 69.4 meters over 36 weeks ($p \leq 0.019$). There was no statistically significant difference in the 6MWT between the cohort of patients who received 30mg/kg weekly of eteplirsen and the placebo/delayed treatment cohort. The safety profile of eteplirsen was evaluated across all subjects through the 36 weeks eteplirsen was administered and there were no treatment-related adverse events, no serious adverse events and no discontinuations. Furthermore, no treatment-related changes were detected on any safety laboratory parameters, including several biomarkers for renal function.

On October 3, 2012, we announced 48-week results from our DMD open label extension study which indicated that treatment with eteplirsen met the primary efficacy endpoint, increase in novel dystrophin, and achieved a significant clinical benefit on the primary clinical outcome, the 6MWT, over the placebo/delayed treatment cohort in our Phase IIb extension trial. Eteplirsen administered once weekly at either 30 mg/kg or 50 mg/kg for 48 weeks (n=8) resulted in a statistically significant increase ($p < 0.001$) in dystrophin-positive fibers to 47.0% of normal. The placebo/delayed treatment cohort, which had received 24 weeks of eteplirsen at either 30 mg/kg or 50 mg/kg following 24 weeks of placebo (n=4), also showed a statistically significant increase in dystrophin-positive fibers to 38.3% of normal ($p < 0.009$). Eteplirsen administered once weekly at 50 mg/kg over 48 weeks resulted in an 89.4 meter benefit compared to patients who received placebo for 24 weeks followed by 24 weeks of treatment with eteplirsen in the open-label extension. In the predefined prospective analysis of the study's intent-to-treat population on the primary clinical outcome measure, the change in 6MWT distance from baseline, eteplirsen-treated patients who received 50 mg/kg of the drug weekly (n=4) demonstrated an increase of 21.0 meters in distance walked from baseline (mean=396.0 meters), while patients who received placebo/delayed-eteplirsen treatment (n=4) showed a decline of 68.4 meters from baseline (mean=394.5 meters), for a statistically significant treatment benefit of 89.4 meters over 48 weeks ($p = 0.016$, using analysis of covariance for ranked data). There was no statistically significant difference between the cohort of patients who received 30 mg/kg weekly of eteplirsen and the placebo/delayed treatment cohort. The safety profile of eteplirsen was evaluated across all subjects through 48 weeks and there were no treatment-related adverse events, no serious adverse events, and no discontinuations. Furthermore, no clinically significant treatment-related changes were detected on any safety laboratory parameters, including several biomarkers for renal function.

We anticipate initiating enrollment of a pivotal Phase III trial in late 2013.

We are also leveraging the capabilities of our RNA-based technology platforms to develop therapeutics for the treatment of infectious diseases. The U.S. Department of Defense, or DoD, has provided significant financial support for the development of therapeutics against Ebola, Marburg, and influenza viruses. As of September 30, 2012, we had completed all of our then-existing contracts with the U.S. government except for the July 2010 agreement for the development of therapeutics against Ebola and Marburg viruses (the ADHFVT contract). On August 29, 2012, we entered into an additional agreement with DoD related to the Marburg virus to evaluate the feasibility of an intramuscular route of administration using AVI-7288. On October 2, 2012, the Company received notice from DoD that the Ebola portion of the ADHFVT contract was terminated for the convenience of the government due to funding constraints. The Company previously received a stop-work order for the Ebola portion of the ADHFVT contract which was in effect from August 2, 2012 through the termination on October 2, 2012. The termination only applies to the Ebola portion of the ADHFVT contract and the Marburg portion remains in effect.

Reverse Stock Split

After obtaining requisite shareholder approvals at our annual meeting of shareholders, on July 11, 2012, we filed an amendment to our Fourth Restated and Amended Articles of Incorporation with the Secretary of State of the State of Oregon to (i) change our name from AVI BioPharma, Inc. to Sarepta Therapeutics, Inc. and

Table of Contents

(ii) effect a one-for-six reverse stock split of our common stock. Except as otherwise noted, all share and per share information presented in this prospectus reflects the effect of this reverse stock split.

As a result of the reverse stock split, every six shares of our pre-reverse split common stock were converted automatically into one share of common stock. Proportional adjustments were made to shares of our common stock subject to restricted stock units and issuable upon exercise or conversion of our outstanding warrants and stock options and the applicable per share exercise price or conversion price of such securities in accordance with their terms. As of September 30, 2012, and after giving effect to the reverse stock split, there were 24,302,261 shares of common stock outstanding, outstanding options to purchase 2,440,470 shares of common stock, restricted stock units representing 31,891 shares, stock appreciation rights representing 70,000 shares of common stock and outstanding warrants to purchase up to 4,882,090 shares of common stock. Additionally, as of September 30, 2012, there were 1,539,930 shares of common stock available for future issuance under our 2011 Equity Incentive Plan.

The following tables provide retroactive effect to the reverse stock split for Selected Financial Data, Financial Information by Quarter and Stock Price High and Low, by Quarter that was presented in our Annual Report for the year ended December 31, 2011 and our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2012, June 30, 2012 and September 30, 2012, as applicable.

Table of Contents**Selected Financial Data**

	2011	Year Ended December 31,			2007
		2010	2009	2008	
(in thousands, except per share data)					
As previously reported					
Net loss	\$ (2,138)	\$ (32,177)	\$ (25,159)	\$ (23,953)	\$ (27,168)
Net loss per share-basic and diluted	\$ (0.02)	\$ (0.29)	\$ (0.27)	\$ (0.34)	\$ (0.50)
Shares outstanding-basic and diluted	129,595	111,233	93,090	69,491	53,942
As adjusted for the 1 for 6 reverse stock split effected July 11, 2012					
Net loss	\$ (2,138)	\$ (32,177)	\$ (25,159)	\$ (23,953)	\$ (27,168)
Net loss per share-basic and diluted	\$ (0.10)	\$ (1.74)	\$ (1.62)	\$ (2.07)	\$ (3.02)
Shares outstanding-basic and diluted	21,599	18,539	15,515	11,582	8,990
As adjusted for adoption of Accounting Standards Update (ASU) 2011-05, Presentation of Comprehensive Income					
Net loss	\$ (2,138)	\$ (32,177)	\$ (25,159)	\$ (23,953)	\$ (27,168)
Comprehensive Income (Loss)	\$ (2,138)	\$ (32,177)	\$ (25,159)	\$ (23,953)	\$ (27,186)

Financial Information by Quarter (Unaudited)

	2012 Quarter Ended		
	September 30, (1)	June 30, (1)	March 31,
(in thousands, except per share data)			
As previously reported			
Net income (loss)	\$ (49,554)	\$ 8,038	\$ (17,704)
Net income (loss) per share basic	\$ (2.17)	\$ 0.36	\$ (0.13)
Net income (loss) per share diluted	\$ (2.17)	\$ 0.35	\$ (0.13)
Shares used in per share calculations basic	22,824	22,624	135,743
Shares used in per share calculations diluted	22,824	22,658	135,743
As adjusted for the 1 for 6 reverse stock split effected July 11, 2012 (1)			
Net income (loss)			\$ (17,704)
Net income (loss) per share basic			\$ (0.78)
Net income (loss) per share diluted			\$ (0.78)
Shares used in per share calculations basic			22,624
Shares used in per share calculations diluted			22,624

- (1) Amounts included in the Company's Quarterly Reports on Form 10-Q as of and for the periods ended June 30, 2012 and September 30, 2012 reflect the effect of the one-for-six reverse stock split.

Table of Contents

	December 31,	2011 Quarter Ended		March 31,
		September 30,	June 30,	
(in thousands, except per share data)				
As previously reported				
Net income (loss)	\$ (1,140)	\$ (4,020)	\$ 1,279	\$ 1,833
Net income (loss) per share basic	\$ (0.01)	\$ (0.03)	\$ 0.01	\$ 0.02
Net income (loss) per share diluted	\$ (0.01)	\$ (0.03)	\$ 0.01	\$ 0.02
Shares used in per share calculations basic	135,743	135,738	134,090	112,482
Shares used in per share calculations diluted	135,743	135,738	138,916	121,285

As adjusted for the 1 for 6 reverse stock split effected July 11, 2012

Net income (loss)	\$ (1,140)	\$ (4,020)	\$ 1,279	\$ 1,833
Net income (loss) per share basic	\$ (0.05)	\$ (0.18)	\$ 0.06	\$ 0.10
Net income (loss) per share diluted	\$ (0.05)	\$ (0.18)	\$ 0.06	\$ 0.09
Shares used in per share calculations basic	22,624	22,623	22,348	18,747
Shares used in per share calculations diluted	22,624	22,623	23,153	20,214

	December 31,	2010 Quarter Ended		March 31,
		September 30,	June 30,	
(in thousands, except per share data)				
As previously reported				
Net income (loss)	\$ (7,644)	\$ (7,293)	\$ (16,656)	\$ (584)
Net income (loss) per share basic	\$ (0.07)	\$ (0.07)	\$ (0.15)	\$ (0.01)
Net income (loss) per share diluted	\$ (0.07)	\$ (0.07)	\$ (0.15)	\$ (0.01)
Shares used in per share calculations basic	112,328	111,767	110,383	110,429
Shares used in per share calculations diluted	112,328	111,767	110,383	110,429

As adjusted for the 1 for 6 reverse stock split effected July 11, 2012

Net Income (loss)	\$ (7,644)	\$ (7,293)	\$ (16,656)	\$ (584)
Net income (loss) per share basic	\$ (0.41)	\$ (0.39)	\$ (0.91)	\$ (0.03)
Net income (loss) per share diluted	\$ (0.41)	\$ (0.39)	\$ (0.91)	\$ (0.03)
Shares used in per share calculations basic	18,721	18,628	18,397	18,405
Shares used in per share calculations diluted	18,721	18,628	18,397	18,405

Stock Price High and Low, by Quarter (2012)

Year Ended December 31, 2012	Post-Reverse Split (revised for one-for-six reverse split)	
	High	Low
First Quarter	\$ 9.84	\$ 4.20
Second Quarter	7.80	3.48
Third Quarter	16.44	3.30
Fourth Quarter (1)	45.00	14.84

(1) Through November 6, 2012.

Table of Contents**Stock Price High and Low, by Quarter (2011 and 2010)**

	Pre Reverse Split (as previously reported)		Post Reverse Split (revised for one-for-six reverse split)	
	High	Low	High	Low
Year Ended December 31, 2011				
First Quarter	\$ 2.74	\$ 1.71	\$ 16.44	\$ 10.26
Second Quarter	1.88	1.33	11.28	7.98
Third Quarter	1.70	1.02	10.20	6.12
Fourth Quarter	1.11	0.50	6.66	3.00
Year Ended December 31, 2010				
First Quarter	\$ 1.80	\$ 1.16	\$ 10.80	\$ 6.96
Second Quarter	1.88	1.11	11.28	6.66
Third Quarter	2.24	1.44	13.44	8.64
Fourth Quarter	2.20	1.72	13.20	10.32

Corporate Information

We were incorporated in the State of Oregon on July 22, 1980. Our executive office is located at 3450 Monte Villa Parkway, Suite 101, Bothell, Washington 98021 and our telephone number is (425) 354-5038. We maintain an Internet website at www.sareptatherapeutics.com. We have not incorporated the information on our website by reference into this prospectus, and you should not consider it to be a part of this prospectus.

We carry on our business directly and through our subsidiaries. Throughout this prospectus, unless the context specifies or implies otherwise, the terms Company, Sarepta, we, us, and our refer to Sarepta Therapeutics, Inc. and its subsidiaries.

Table of Contents

The Securities We May Offer

We or any selling securityholder may offer shares of our common stock and preferred stock, various series of debt securities and warrants to purchase any of such securities, either individually or in units, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, in amounts, at prices and on terms to be determined by market conditions at the time of offering. If we issue any debt securities at a discount from their original stated principal amount, then, for purposes of calculating the total dollar amount of all securities issued under this prospectus, we will treat the initial offering price of the debt securities as the total original principal amount of the debt securities. Each time we or any selling securityholder offer securities under this prospectus, we will provide offerees with a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities being offered, including, to the extent applicable:

designation or classification;

aggregate principal amount or aggregate offering price;

maturity, if applicable;

original issue discount, if any;

rates and times of payment of interest or dividends, if any;

conversion or exchange prices or rates, if any, and if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;

ranking;

restrictive covenants, if any;

voting or other rights, if any; and

important United States federal income tax considerations.

The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

We or any selling securityholder may sell the securities to or through underwriters, dealers or agents or directly to purchasers or as otherwise set forth below under Plan of Distribution. We, as well as any agents acting on our behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them, details regarding any over-allotment option granted to them, and net proceeds to us. The following is a summary of the securities that we may offer with this prospectus.

Common Stock

We are authorized to issue 50,000,000 shares of common stock, par value \$0.0001 per share, of which 25,453,110 shares were issued and outstanding as of the date of this prospectus. Each shareholder of record is entitled to one vote for each outstanding share of our common stock owned by that shareholder on every matter properly submitted to the shareholders for their vote. Subject to the satisfaction of the dividend rights of holders of any shares of preferred stock issued hereafter, holders of common stock are entitled to any dividend declared

Table of Contents

by the board of directors out of funds legally available for this purpose. As an Oregon corporation, we are subject to statutory limitations on the declaration and payment of dividends. Currently, we do not pay a dividend. Subject to the satisfaction of any outstanding debts and the payment of liquidation preferences to holders of any shares of preferred stock issued hereafter, holders of our common stock are entitled to receive, on a pro rata basis, all of our remaining assets available for distribution to the shareholders in the event of our liquidation, dissolution or winding up. The holders of our common stock have no conversion, redemption, preemptive or cumulative voting rights. The preferences, limitations, relative rights and other terms that holders of our common stock are subject to may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. In this prospectus, we provide a general description of, among other things, the rights and restrictions that apply to holders of our common stock.

Preferred Stock

Our articles of incorporation allow us to issue, without shareholder approval, preferred stock having rights senior to those of our common stock. Our board of directors is authorized, without further shareholder approval, to issue up to 3,333,333 shares of preferred stock, par value \$0.0001 per share, of which no shares are issued and outstanding as of the date of this prospectus, in one or more series and to fix and designate the preferences, limitations, relative rights and other terms of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences. Our board of directors may fix the number of shares constituting any series of preferred stock and the designations of the series.

We will describe the specific terms of a particular series of preferred stock in the prospectus supplement relating to that series. The preferences, limitations, relative rights and other terms of the preferred stock of each series that we offer and sell under this prospectus and applicable prospectus supplements will be set forth in an articles of amendment relating to the series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the articles of amendment that describe the terms of any series of preferred stock we offer under this prospectus before the issuance of shares of that series of preferred stock. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of preferred stock being offered, as well as the articles of amendment that contain the terms of the applicable series of preferred stock.

Debt Securities

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series. The senior debt securities and the subordinated debt securities are together referred to in this prospectus as the debt securities. We may issue debt securities under an indenture to be entered between us and a trustee; the form of which is included as an exhibit to the registration statement of which this prospectus is a part. The indenture does not limit the amount of securities that may be issued under it and provides that debt securities may be issued in one or more securities. Our board of directors or a committee designated by the board will determine the terms of the debt securities being offered. This prospectus contains only general terms and provisions of the debt securities. The applicable prospectus supplement will describe the particular terms of the debt securities offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the debt securities being offered, as well as the complete indenture that contains the terms of the debt securities. The form of indenture has been filed as an exhibit to the registration statement of which this prospectus is a part, and any supplemental indenture or forms of debt securities containing the terms of debt securities we offer under this prospectus will be filed as an exhibit to the registration statement of which this prospectus is a part, or will be incorporated by reference from another report that we file with the SEC.

Table of Contents

Warrants

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. Our board of directors or a committee designated by the board will determine the terms of the warrants. This prospectus contains only general terms and provisions of the warrants. The applicable prospectus supplement will describe the particular terms of the warrants being offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of warrants being offered, as well as the complete warrant agreements that contain the terms of the warrants. Specific warrant agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each warrant agreement relating to warrants offered under this prospectus.

Units

We may issue units consisting of our common stock or preferred stock, debt securities and/or warrants to purchase any of these securities in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units. This prospectus contains only a summary of certain general features of the units. The applicable prospectus supplement will describe the particular features of the units being offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

Table of Contents

RISK FACTORS

Investment in any securities offered pursuant to this prospectus involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K, any subsequent Quarterly Reports on Form 10-Q and any Current Reports on Form 8-K we file after the date of this prospectus, together with any amendments or supplements thereto, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement or free writing prospectus, before acquiring any of such securities. The risks described below are not the only risks we face. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. Please also refer to the section below titled "Forward-Looking Statements." Additional risks not known to us or that we believe are immaterial may also significantly impair our business operations and could result in a loss of all or part of your investment in the offered securities.

Risks Relating to Our Business

Our product candidates are at an early stage of development, and it is possible that none of our product candidates will ever become commercial products.

Our product candidates are in relatively early stages of development. These product candidates will require significant further development, financial resources and personnel to obtain regulatory approval and develop into commercially viable products, if at all. Currently, eteplirsen in DMD and AVI-7288 in Marburg are in active clinical development. AVI-7537 in Ebola was in active clinical development until August 2012, when we received a stop-work order from DoD instructing us to cease all work and ordering of supplies in support of the development of this product candidate. On October 2, 2012, we received notice from DoD that the program for the development of AVI-7537 was terminated for the convenience of the government due to funding constraints. The clinical development of AVI-7100 in influenza is currently paused and the rest of our product candidates are in preclinical development. We expect that much of our effort and many of our expenditures over the next several years will be devoted to development activities associated with eteplirsen and other exon-skipping candidates as part of our larger pan-exon strategy in DMD and our antiviral candidates. With current resources, we may be restricted or delayed in our ability to develop other clinical and preclinical product candidates.

Our ability to commercialize any of our product candidates, including eteplirsen, depends on first receiving required regulatory approvals, and it is possible that we may never receive regulatory approval (including any accelerated approval by the U.S. Food and Drug Administration (the "FDA") under Subpart H "Accelerated Approval of New Drugs for Serious or Life-Threatening Illnesses") for any of our product candidates based on an inability to adequately demonstrate the safety and effectiveness of our product candidates, lack of funding, changes in the regulatory landscape, manufacturing or other reasons. Even if a product candidate receives regulatory approval, the resulting product may not gain market acceptance among physicians, patients, healthcare payers and the medical community. Assuming that any of our product candidates receives the required regulatory approvals, commercial success will depend on a number of factors, including:

establishment and demonstration of clinical efficacy and safety and acceptance of the same by the medical community;

cost-effectiveness of the product;

the availability of adequate reimbursement by third parties, including governmental payers such as the Medicare and Medicaid programs, managed care organizations, and private health insurers;

the product's potential advantage over alternative treatment methods;

whether the product can be produced in commercial quantities at acceptable costs;

marketing and distribution support for the product; and

any exclusivities applicable to the product.

Table of Contents

To date we have been granted orphan status for two of our product candidates in DMD and for AVI-6002 and AVI-7537 for the treatment of Ebola virus and AVI-6003 and AVI-7288 for the treatment of Marburg virus. We are not guaranteed to receive orphan status for other product candidates in development or product candidates we may develop in the future. Even though we have received orphan status for some of our product candidates, we would not enjoy orphan drug exclusivity for such product candidates in the event that another entity received approval of products with the same active ingredient for the same indication before we receive market approval. Further, application of the orphan drug regulations in the United States and Europe is uncertain and we cannot predict how the respective regulatory bodies will interpret and apply the regulations to our or our competitors' product candidates. If a competitor's product receives orphan drug status for an indication that we are targeting, and such product is approved for commercial sales before our product, regulators may interpret our product to be the same drug as the competing product and could prevent us from selling our product in the applicable territories for the competitor's orphan exclusivity period. Furthermore, pediatric exclusivity only applies if the product has another form of exclusivity.

If we are unable to develop and commercialize any of our product candidates, if development is delayed or if sales revenue from any product candidate that receives marketing approval is insufficient, we may never reach sustained profitability.

If we are unable to obtain or maintain required regulatory approvals, we will not be able to commercialize our product candidates, our ability to generate revenue will be materially impaired and our business will not be successful.

The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug products are subject to extensive regulation by the FDA in the United States, and other regulatory authorities in other countries, with regulations differing from country to country. Marketing of our product candidates in the United States or foreign countries is not permitted until we obtain marketing approval from the FDA or other foreign regulatory authorities, and we may never receive regulatory approval for the commercial sale of any of our product candidates. Obtaining marketing approval is a lengthy, expensive and uncertain process and approval is never assured. As of the date of this prospectus, we have not progressed to the point of preparing or filing the applications necessary to gain regulatory approvals. Further, the FDA and other foreign regulatory agencies have substantial discretion in the approval process, and determining when or whether regulatory approval will be obtained for any product candidate we develop. In this regard, even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA or any other foreign regulatory authority. In addition, the FDA or their advisors may disagree with our interpretations of data from preclinical studies and clinical trials. Regulatory agencies may approve a product candidate for fewer indications than requested or may grant approval subject to the performance of post-approval studies for a product candidate. Similarly, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates.

In addition, changes in regulatory requirements and guidance may occur and we may need to amend clinical trial protocols or other approval strategies to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to Institutional Review Boards (IRBs) or the FDA for review, which may impact the costs, timing or successful completion of a clinical trial. Changes in our approval strategies may require additional studies that were not originally planned. Other factors may also impact our ability to commercialize our product candidates, including, for example, the fact that a therapeutic commercial product utilizing our RNA-based technologies has never been approved by any regulatory authority. Due to these factors, our current product candidates or any of our other future product candidates could take a significantly longer time to gain regulatory approval than we expect or may never gain regulatory approval, which could delay or eliminate any potential product revenue by delaying or terminating the potential commercialization of our product candidates.

Table of Contents

If we receive regulatory approval for our product candidates, we will also be subject to ongoing FDA obligations and oversight, including adverse event reporting requirements, marketing restrictions and, potentially, other post-marketing obligations, all of which may result in significant expense and limit our ability to commercialize such products. The FDA's policies may also change and additional government regulations may be enacted that could prevent or delay regulatory approval of our product candidates or further restrict or regulate post-approval activities. We cannot predict the likelihood, nature or extent of adverse government regulation that may arise from future legislation or administrative action, either in the United States, or abroad. If we are not able to maintain regulatory compliance, we may be subject to civil and criminal penalties, we may not be permitted to market our products and our business could suffer. Any delay in, or failure to, receive or maintain regulatory approval for any of our product candidates could harm our business and prevent us from ever generating meaningful revenues or achieving profitability. We will need to obtain regulatory approval from authorities in foreign countries to market our product candidates in those countries. We have not filed for regulatory approval to market our product candidates in any foreign jurisdiction. Approval by one regulatory authority does not ensure approval by regulatory authorities in other jurisdictions. If we fail to obtain approvals from foreign jurisdictions, the geographic market for our product candidates would be limited.

Our preclinical and clinical trials may fail to demonstrate acceptable levels of safety and efficacy of our product candidates, which could prevent or significantly delay their regulatory approval.

To obtain the requisite regulatory approvals to market and sell any of our product candidates, we must demonstrate, through extensive preclinical and clinical studies, that the product candidate is safe and effective in humans. Ongoing and future preclinical and clinical trials of our product candidates may not show sufficient safety or efficacy to obtain regulatory approvals.

Phase I clinical trials generally are not designed to test the efficacy of a product candidate but rather are designed to test safety, to study pharmacokinetics and pharmacodynamics and to understand the product candidate's side effects at various doses and dosing schedules in healthy volunteers. Delays in establishing the appropriate dosage levels can lead to delays in the overall clinical development of a product candidate. As of the date of this prospectus, we do not believe that we have identified the preferred dose of eteplirsen for individuals with DMD. We plan to evaluate the appropriate dosage in a future confirmatory pivotal study. We recently completed a U.S.-based Phase IIb clinical trial for eteplirsen at 30 mg/kg and 50 mg/kg, higher doses than was initiated in August 2011. Following completion of this study, we initiated an open label extension study with the same participants from the original Phase IIb placebo controlled trial. These trials were initiated, in part, to further explore and identify a more consistently effective dose that may be more appropriate for future clinical trials. We cannot assure you that these efforts will be successful. If a consistently effective dose is found in the U.S.-based clinical trial, we will expect to engage in discussions with regulatory authorities about the design and subsequent execution of any further studies which may be required. Regulatory authorities might require more extensive preclinical or clinical trials than anticipated and conforming to any guidance regulatory authorities provide does not guarantee receipt of marketing approval, even if we believe our preclinical and clinical trials are successful. Such clinical trials might include additional open label extension studies for all participants who have previously received eteplirsen, as well as other participants (e.g., non-ambulatory participants) and any additional placebo-controlled pivotal study or studies. If we are not able to establish an optimal dosage in these trials we may need to conduct additional dose-ranging trials before conducting our pivotal trials of the product. Any such additional clinical trials required by regulatory authorities would increase our costs and delay commercialization of eteplirsen.

Furthermore, success in preclinical and early clinical trials does not ensure that later larger-scale trials will be successful nor does it predict final results. Acceptable results in early trials may not be reproduced in later trials. For example, pivotal trials for eteplirsen will likely involve a larger number of participants to achieve statistical significance, will be expensive and will take a substantial amount of time to complete. As a result, we may conduct lengthy and expensive clinical trials of our product candidates, only to learn that the product candidate is not an effective treatment or is not superior to existing approved therapies, or has an unacceptable safety profile, which could prevent or significantly delay regulatory approval for such product candidate.

Table of Contents

The Animal Rule is a new and seldom-used approach to seeking approval of a new drug and our infectious disease program may not meet the requirements for this ill-defined path to regulatory approval.

Clinical trials cannot be used to assess the efficacy of most biodefense countermeasures against rare and lethal pathogens due to ethical considerations and the relative infrequency of naturally occurring cases. In the United States, we plan to develop the therapeutic product candidate to treat Marburg virus using the Animal Rule regulatory mechanism. Pursuant to the Animal Rule, the sponsor of a drug product must demonstrate efficacy in animal models and safety in humans. There is no guarantee that the FDA will agree to this approach to the development of our infectious disease product candidate, considering that no validated animal model has been established as predicting human outcomes in the prevention or treatment of any filovirus disease. Animal models represent, at best, a rough approximation of efficacy in humans, and, as such, countermeasures developed using animal models will be untested until their use in humans during an emergency. We have yet to demonstrate the predictive value of our animal studies to the FDA's satisfaction. If we fail to do so, we will have to demonstrate efficacy of AVI-7288 through adequate well-controlled trials in humans in order to obtain regulatory approval of this product in the United States, which, if possible, will greatly add to the time and expense required to commercialize this product. Furthermore, the Animal Rule mechanism has been used only rarely and questions remain regarding the FDA's interpretation and implementation. No novel products have been approved using the Animal Rule. It has thus far been used to extend the indicated use of three previously licensed products which had considerable prior human experience. We do not have any experience successfully navigating this approach to drug approval. Even if the Animal Rule represents a viable approach to seeking approval of AVI-7288, it may present challenges for gaining final regulatory approval for this product candidate, including an extended timeline to approval and less predictable study requirements. In addition, the FDA would require post-marketing human efficacy studies if the countermeasure is used in humans, which would most likely be in the aftermath of a bioterrorist attack. The ability to reliably perform efficacy clinical trials in the midst of a national crisis is uncertain.

The timing and conduct of animal studies may be further constrained given that filoviruses are classified for use only in BSL-4 laboratories. There are limited laboratories and staff world-wide that can work with these live viruses and companies will be competing for the limited availability of this critical infrastructure to test their countermeasures. Furthermore, we anticipate limits in conforming to Good Laboratory Practice (GLP) requirements given the requirement for BSL-4 containment.

We rely on U.S. government contracts to support certain research and development programs and substantially all of our revenue. If the U.S. government fails to fund such programs on a timely basis or at all, or such contracts are terminated, the results of our operations would be materially and adversely affected.

We rely on U.S. government contracts and awards to fund certain development programs, including the Marburg virus which accounts for substantially all of our current revenue. The funding of U.S. government programs is subject to Congressional appropriations. Congress generally appropriates funds on a fiscal year basis even though a program may extend over several fiscal years, as is the case with our DoD contract for the development of our Marburg product candidate. Consequently, programs are often only partially funded initially and additional funds are committed only as Congress makes further appropriations. If appropriations for one of our programs become unavailable, or are reduced or delayed, our contracts may be terminated or adjusted by the government, which could have a negative impact on our future revenue under such contract or subcontract. From time to time, when a formal appropriation bill has not been signed into law before the end of the U.S. government's fiscal year, Congress may pass a continuing resolution that authorizes agencies of the U.S. government to continue to operate, generally at the same funding levels from the prior year, but does not authorize new spending initiatives, during a certain period. During such a period, or until the regular appropriation bills are passed, delays can occur in government procurement due to lack of funding and such delays can affect our operations during the period of delay. Additionally, the DoD is planning on hundreds of billions of dollars in cuts to defense spending over the next decade and faces a possible sequestration of an additional \$600 billion over the same timeframe beginning in January 2013 unless Congress acts. These cuts would have widespread ramifications including on DoD's procurement and research and development programs.

Table of Contents

The 2004 Project BioShield Act which created the Special Reserve Fund for use by DHHS to purchase countermeasures over 10 years avoids the uncertainty of the annual appropriations process, but the \$5.6 billion appropriation is rapidly depleting and will expire in 2013. Thus, the viability of DHHS as a potential customer hinges in part on Congress taking action to replenish the Special Reserve Fund.

In addition, U.S. government contracts generally also permit the government to terminate the contract, in whole or in part, without prior notice, at the government's convenience or for default based on performance. From time to time, we receive communications from the U.S. government regarding our performance, including requests for us to provide additional information and/or take certain steps to remedy noted deficiencies. While we work closely with our contacts at the U.S. government and believe we can adequately address issues raised through such communications, there is no guarantee that we will be able to adequately respond to all requests or remedy all deficiencies cited. If one of our contracts is terminated for convenience, we would generally be entitled to payments for our allowable costs and would receive some allowance for profit on the work performed. If one of our contracts is terminated for default, we would generally be entitled to payments for our work that has been completed to that point. A termination arising out of our default could expose us to liability and have a negative impact on our ability to obtain future contracts. Furthermore, if we fail to satisfy certain performance or deliverable requirements or to adhere to development timelines, revenues associated with the satisfaction of such requirements or timelines may be delayed or may not be realized.

The termination of one or more of these government contracts, whether due to lack of funding, for convenience, for our failure to perform, or otherwise, or the occurrence of delays or product failures in connection with one or more of these contracts, could negatively impact our financial condition. For example, on October 2, 2012, we received notice from DoD that the program for the development of our Ebola product candidate was terminated for the convenience of the government due to funding constraints. We had previously received a stop-work order for the Ebola program which was in effect from August 2, 2012 through the termination on October 2, 2012. If the government terminates the Marburg development program or contract, our business could be materially and adversely affected. Furthermore, we can give no assurance that we would be able to procure new U.S. government contracts to offset the revenue lost as a result of termination of any of our existing contracts. Even if our Marburg contract is not terminated and is completed, there is no assurance that we will receive future government contracts.

Even if we successfully complete development of our Marburg product candidate, the major, if not only, potential purchaser is the U.S. government. The lack of a commercial market makes us reliant upon the U.S. government to determine and communicate the market for biodefense countermeasures and government purchasing is subject to evolving threat assessments and shifting political priorities, which exacerbate market uncertainties. Within the DoD, the war fighter has evolving requirements specifically related to route of administration and time to treat. Until future studies are completed, it is unclear whether our drug candidate will successfully meet these requirements. If it does not, DoD may choose to terminate the contract. With respect to the civilian sector, Marburg virus is among the top chemical, biological, radiological and nuclear threats to national security, yet DHHS has not defined the civilian requirement, making the broader demand for our drug candidate uncertain.

This expected dependence on government purchases presents additional challenges, since the government is incentivized to negotiate prices for countermeasures to just above their marginal cost of production, which would severely limit our profit potential. If companies resist low prices, governments can, in extreme cases, threaten compulsory licensing or purchase patent-breaching generics.

Our U.S. government contracts may be terminated and we may be liable for penalties under a variety of procurement rules and regulations and changes in government regulations or practices could adversely affect our profitability, cash balances or growth prospects.

We must comply with laws and regulations relating to the formation, administration and performance of U.S. government contracts, which affect how we do business with our customers. Such laws and regulations may

Table of Contents

potentially impose added costs on our business and our failure to comply with them may lead to penalties and the termination of our U.S. government contracts. Some significant regulations that affect us include:

the Federal Acquisition Regulation and supplements, which regulate the formation, administration and performance of U.S. government contracts;

the Truth in Negotiations Act, which requires certification and disclosure of cost and pricing data in connection with contract negotiations; and

the Cost Accounting Standards, which impose accounting requirements that govern our right to reimbursement under certain cost-based government contracts.

Our contracts with the U.S. government are subject to periodic review and investigation. If such a review or investigation identifies improper or illegal activities, we may be subject to civil or criminal penalties or administrative sanctions, including the termination of contracts, forfeiture of profits, the triggering of price reduction clauses, suspension of payments, fines and suspension or debarment from doing business with U.S. government agencies. We could also suffer harm to our reputation if allegations of impropriety were made against us, which would impair our ability to win awards of contracts in the future or receive renewals of existing contracts.

In addition, U.S. government agencies routinely audit and review their contractors' performance on contracts, cost structure, pricing practices and compliance with applicable laws, regulations and standards. They also review the adequacy of, and a contractor's compliance with, its internal control systems and policies, including the contractor's purchasing, property, estimating, compensation and management information systems. Such audits may result in adjustments to our contract costs, and any costs found to be improperly allocated will not be reimbursed. We have recorded contract revenues based upon costs we expect to realize upon final audit; however, we do not know the outcome of any future audits and adjustments and, if future audit adjustments exceed our estimates, our results of operations could be adversely affected. Additionally, we may be required to enter into agreements and subcontracts with third parties, including suppliers, consultants and other third party contractors in order to satisfy our contractual obligations pursuant to our agreements with the U.S. government. Negotiating and entering into such arrangements can be time-consuming and we may not be able to reach agreement with such third parties. Any such agreement also has to be compliant with the terms of our government grants. Any delay or inability to enter into such arrangements or entering into such arrangements in a manner that is non-compliant with the terms of our grants, may result in violations of our contracts with the U.S. government.

Clinical trials for our product candidates are expensive and time consuming, may take longer than we expect or may not be completed at all, and their outcomes are uncertain.

We have completed a Phase Ib/II clinical trial for eteplirsen in the UK and announced results in October 2010, which were published in The Lancet in July 2011. We have also completed a U.S.-based Phase IIb placebo controlled trial in eteplirsen and announced results in April 2012. Following completion of this study, we initiated an open label extension study with the same participants from the original Phase IIb placebo controlled trial and announced 48-week results on October 3, 2012. We expect to commence additional trials of eteplirsen and other product candidates in the future. Each of our clinical trials requires the investment of substantial planning, expense and time, and the timing of the commencement, continuation and completion of these clinical trials may be subject to significant delays relating to various causes, including scheduling conflicts with participating clinicians and clinical institutions, difficulties in identifying and enrolling participants who meet trial eligibility criteria, failure of participants to complete the clinical trial, delay or failure to obtain IRB or other regulatory approval to conduct a clinical trial at a prospective site, unexpected adverse events and shortages of available drug supply. Participant enrollment is a function of many factors, including the size of the relevant population, the proximity of participants to clinical sites, the eligibility criteria for the trial, the existence of competing clinical trials and the availability of alternative or new treatments.

Table of Contents

We depend on medical institutions and clinical research organizations, or CROs, to conduct our clinical trials in compliance with Good Clinical Practice, or GCP, and to the extent they fail to enroll participants for our clinical trials, fail to conduct the study to GCP standards or are delayed for a significant time in the execution of our trials, including achieving full enrollment, we may be affected by increased costs, program delays or both, which may harm our business. In addition, we have in the past conducted clinical trials in foreign countries and may do so again in the future, which may subject us to further delays and expenses as a result of increased drug shipment costs, additional regulatory requirements and the engagement of foreign CROs, as well as expose us to risks associated with less experienced clinical investigators who are unknown to the FDA, and different standards of medical care. Foreign currency transactions insofar as changes in the relative value of the U.S. dollar to the foreign currency where the trial is being conducted may impact our actual costs. In addition, for some programs (e.g., DMD and Marburg infection) there are currently no approved drugs to compare against and an agreement about how to measure efficacy has yet to be reached with the FDA and then demonstrated.

Clinical trials must be conducted in accordance with FDA or other applicable foreign government guidelines and are subject to oversight by the FDA, other foreign governmental agencies and IRBs at the medical institutions where the clinical trials are conducted. In addition, clinical trials must be conducted with supplies of our product candidates produced under current Good Manufacturing Practice, or cGMP, and other requirements in foreign countries, and may require large numbers of participants. The FDA or other foreign governmental agencies or we ourselves could delay, suspend or halt our clinical trials of a product candidate for numerous reasons, including:

deficiencies in the trial design;

deficiencies in the conduct of the clinical trial including failure to conduct the clinical trial in accordance with regulatory requirements or clinical protocols;

deficiencies in the clinical trial operations or trial sites resulting in the imposition of a clinical hold;

the product candidate may have unforeseen adverse side effects, including fatalities, or a determination may be made that a clinical trial presents unacceptable health risks;

the time required to determine whether the product candidate is effective may be longer than expected;

fatalities or other adverse events arising during a clinical trial that may not be related to clinical trial treatments;

the product candidate may appear to be no more effective than current therapies;

the quality or stability of the product candidate may fail to conform to acceptable standards;

our inability to produce or obtain sufficient quantities of the product candidate to complete the trials;

our inability to reach agreement on acceptable terms with prospective CROs and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;

our inability to obtain IRB approval to conduct a clinical trial at a prospective site;

our inability to obtain regulatory approval to conduct a clinical trial;

lack of adequate funding to continue the clinical trial, including the occurrence of unforeseen costs due to enrollment delays, requirements to conduct additional trials and studies and increased expenses associated with the services of our CROs and other third parties;

our inability to recruit and enroll individuals to participate in clinical trials for reasons including competition from other clinical trial programs for the same or similar indications; or

our inability to retain participants who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of efficacy or personal issues, or who are lost to further follow-up.

Table of Contents

In addition, we may experience significant setbacks in advanced clinical trials, even after promising results in earlier trials, such as unexpected adverse events that occur when our product candidates are combined with other therapies and drugs or given to larger populations, which often occur in later-stage clinical trials. In addition, clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals. Also, patient advocacy groups and parents of trial participants may demand additional clinical trials or continued access to drug even if our interpretation of clinical results received thus far leads us to determine that additional clinical trials or continued access are unwarranted. Any disagreement with patient advocacy groups or parents of trial participants may require management's time and attention and may result in legal proceedings being instituted against us, which could be expensive, time-consuming and distracting, and may result in delay of the program. Negative or inconclusive results or adverse medical events, including participant fatalities that may be attributable to our product candidates, during a clinical trial may necessitate that it be redesigned, repeated or terminated. Further, some of our clinical trials may be overseen by an independent data safety monitoring board, or DSMB, and the DSMB may determine to delay or suspend one or more of these trials due to safety or futility findings based on events occurring during a clinical trial. Any such delay, suspension, termination or request to repeat or redesign a trial could increase our costs and prevent or significantly delay our ability to commercialize our product candidates.

We have incurred operating losses since our inception and we may not achieve or sustain profitability.

We had an operating loss of \$19.3 million for the nine months ended September 30, 2012, and incurred an operating loss of \$35.9 million for the year ended December 31, 2011. As of September 30, 2012, our accumulated deficit was \$369.2 million. Our losses have resulted principally from expenses incurred in research and development of our technology and products, from general and administrative expenses that we have incurred while building our business infrastructure and acquired in-process research and development resulting from two acquisitions. We expect to continue to incur significant operating losses in the future as we continue our research and development efforts and seek to obtain regulatory approval of our products. Our ability to achieve profitability depends on our ability to raise additional capital, partner one or more programs, complete development of our products, obtain regulatory approvals and market our products. It is uncertain when, if ever, we will become profitable.

We will need additional funds to conduct our planned research and development efforts. If we fail to continue to attract significant capital or fail to enter into strategic relationships, we may be unable to continue to develop our product candidates.

We will require additional capital from time to time in the future in order to continue the development of product candidates in our pipeline and to expand our product portfolio. The actual amount of funds that we will need will be determined by many factors, some of which are beyond our control. These factors include the success of our research and development efforts, the status of our preclinical and clinical testing, costs relating to securing regulatory approvals and the costs and timing of obtaining new patent rights, regulatory changes and competitive and technological developments in the market. An unforeseen change in these factors, or others, might increase our need for additional capital.

We would expect to seek additional financing from the sale and issuance of equity or equity-linked or debt securities, and we cannot predict that financing will be available when and as we need financing or that, if available, the financing terms will be commercially reasonable. If we are unable to obtain additional financing, when and if we require or on commercially reasonable terms, it would have a material adverse effect on our business and results of operations.

If we are able to consummate such financings, the trading price of our common stock could be adversely affected and/or the terms of such financings may adversely affect the interests of our existing shareholders. To the extent we issue additional equity securities, our existing shareholders could experience substantial dilution in their economic and voting rights. For example, through November 6, 2012, we sold an aggregate of

Table of Contents

approximately 14.0 million shares of our common stock in connection with our December 2007, January 2009, August 2009 and April 2011 financings and September 2012 at-the-market equity offering program and issued warrants to purchase approximately 5.0 million additional shares of our common stock in connection with our December 2007, January 2009 and August 2009 financings, which warrants have been exercised for an aggregate of 0.7 million shares of common stock.

Further, we may also enter into relationships with pharmaceutical or biotechnology companies to perform research and development with respect to our RNA-based technologies, research programs or to conduct clinical trials and to market our product candidates. Other than pre-clinical collaborations with academic/research institutions and a U.S. government entity for the development of additional exon-skipping drug candidates for the treatment of DMD, we currently do not have a strategic relationship with a third party to perform research or development using our RNA-based technologies or assist us in funding the continued development and commercialization of any of our programs or drug candidates other than that with the U.S. government. If we are unable to enter into partnerships or strategic relationships with respect to our technologies or any of our programs or drug candidates on favorable terms it may impede our ability to discover, develop and commercialize our product candidates.

We currently rely on third-party manufacturers and other third parties for production of our drug products and our dependence on these manufacturers may impair the advancement of our research and development programs and the development of our product candidates.

We do not currently have the internal ability to manufacture the product candidates that we need to conduct our clinical trials and we rely upon a limited number of manufacturers to supply our product candidates and the components of our drug substance. We may also need to rely on manufacturers for the production of our product candidates to support our research and development programs. In addition, we rely on other third parties to perform additional steps in the manufacturing process, including filling and labeling of vials and storage of our product candidates. For the foreseeable future, we expect to continue to rely on contract manufacturers and other third parties to produce, fill vials and store sufficient quantities of our product candidates for use in our research and development programs and clinical trials. For each of our eteplirsen and Marburg development programs, based on limited capacity for our specialized manufacturing needs we have had to enter into a sole-source agreement with multinational manufacturing firms for the production of the API for eteplirsen and Marburg therapeutics. There are a limited number of companies that can produce phosphorodiamidate-linked morpholino oligomer, or PMO, in the quantities and with the quality and purity that we require for our development efforts. This might limit our ability to rapidly expand our programs or commercialize our products. If we are required to seek alternative supply arrangements, the resulting delays and potential inability to find suitable replacements or bring on-line new suppliers could materially and adversely impact our business.

Our product candidates require precise, high-quality manufacturing. The failure to achieve and maintain high quality standards, including failure to detect or control anticipated or unanticipated manufacturing errors could result in patient injury or death or product recalls. Contract drug manufacturers often encounter difficulties involving production yields, quality control and quality assurance and shortages of qualified personnel. If our contract manufacturers or other third parties fail to deliver our product candidates for our research and development programs and for clinical use on a timely basis, with sufficient quality, and at commercially reasonable prices, and we fail to find replacement manufacturers or to develop our own manufacturing capabilities, we may be required to delay or suspend clinical trials, research and development programs or otherwise discontinue development and production of our product candidates. In addition, we depend on certain sole-source third-party vendors for the supply of raw materials used to produce our product candidates. If the third-party suppliers were to cease production or otherwise fail to supply us with quality raw materials and we are unable to contract on acceptable terms for these raw materials with alternative suppliers, our ability to have our product candidates manufactured and to conduct preclinical testing and clinical trials of our product candidates would be adversely affected.

Table of Contents

We do not yet have all of the agreements necessary for the supply of our product candidates in quantities sufficient for commercial sale and we may not be able to establish or maintain sufficient commercial manufacturing arrangements on commercially reasonable terms. Securing commercial quantities of our product candidates from contract manufacturers will require us to commit significant capital and resources. We may also be required to enter into long-term manufacturing agreements that contain exclusivity provisions and/or substantial termination penalties. In addition, contract manufacturers have a limited number of facilities in which our product candidates can be produced and any interruption of the operation of those facilities due to events such as equipment malfunction or failure or damage to the facility by natural disasters could result in the cancellation of shipments, loss of product in the manufacturing process or a shortfall in available product candidates.

Our contract manufacturers are required to produce our clinical product candidates under cGMP conditions in order to meet acceptable standards for our clinical trials. If such standards change, the ability of contract manufacturers to produce our product candidates on the schedule we require for our clinical trials may be affected. In addition, contract manufacturers may not perform their obligations under their agreements with us or may discontinue their business before the time required by us to successfully produce and market our product candidates. We and our contract manufacturers are subject to periodic unannounced inspection by the FDA and corresponding state and foreign authorities to ensure strict compliance with cGMP and other applicable government regulations and corresponding foreign standards. We do not have control over a third-party manufacturer's compliance with these regulations and standards. Any difficulties or delays in our contractors' manufacturing and supply of product candidates or any failure of our contractors to maintain compliance with the applicable regulations and standards could increase our costs, cause us to lose revenue, make us postpone or cancel clinical trials, prevent or delay regulatory approval by the FDA and corresponding state and foreign authorities, prevent the import and/or export of our product candidates, or cause our products to be recalled or withdrawn.

We may not be able to successfully scale-up manufacturing of our product candidates in sufficient quality and quantity, which would delay or prevent us from developing our product candidates and commercializing resulting approved drug products, if any.

To date, our product candidates have been manufactured in small quantities for preclinical studies and early stage clinical trials. In order to conduct larger or late-stage scale clinical trials for a product candidate and for commercialization of the resulting drug product if that product candidate is approved for sale, we will need to manufacture it in larger quantities. We may not be able to successfully increase the manufacturing capacity for any of our product candidates, whether in collaboration with third-party manufacturers or on our own, in a timely or cost-effective manner or at all. If a contract manufacturer makes improvements in the manufacturing process for our product candidates, we may not own, or may have to share, the intellectual property rights to those improvements. Significant scale-up of manufacturing may require additional validation studies, which are costly and which the FDA must review and approve. In addition, quality issues may arise during those scale-up activities because of the inherent properties of a product candidate itself or of a product candidate in combination with other components added during the manufacturing and packaging process, or during shipping and storage of the finished product or active pharmaceutical ingredients. If we are unable to successfully scale-up manufacture of any of our product candidates in sufficient quality and quantity, the development of that product candidate and regulatory approval or commercial launch for any resulting drug products may be delayed or there may be a shortage in supply, which could significantly harm our business.

In addition, in order to release product and demonstrate stability of product candidates for use in late stage clinical trials (and any resulting drug products for commercial use), our analytical methods must be validated in accordance with regulatory guidelines. We may not be able to successfully validate our analytical methods or demonstrate adequate stability of the product candidates in a timely or cost-effective manner or at all. If we are unable to successfully validate our analytical methods or to demonstrate adequate stability, the development of our product candidates and regulatory approval or commercial launch for any resulting drug products may be delayed, which could significantly harm our business.

Table of Contents

We rely on third parties to provide services in connection with our preclinical and clinical development programs. The inadequate performance by or loss of any of these service providers could affect our product candidate development.

Several third parties provide services in connection with our preclinical and clinical development programs, including in vitro and in vivo studies, assay and reagent development, immunohistochemistry, toxicology, pharmacokinetics, clinical assessments, data monitoring and management and statistical analysis and other outsourced activities. If these service providers do not adequately perform the services for which we have contracted or cease to continue operations and we are not able to quickly find a replacement provider or we lose information or items associated with our product candidates, our development programs may be delayed.

Our RNA-based, or antisense, technology has not been incorporated into a therapeutic commercial product and is still at a relatively early stage of development.

Our RNA-based platforms, utilizing proprietary PMO-based technology, have not been incorporated into a therapeutic commercial product and are still at a relatively early stage of development. This technology is used in all of our therapeutic candidates, including eteplirsen. We are conducting toxicology, pharmacology, pharmacokinetics and other preclinical studies and, although we have conducted Phase I clinical trials for AVI-6003 (we are now pursuing development of AVI-7288, one of the two component oligomers in AVI-6003) and AVI-7100 and conducted a Phase IIb clinical trial in eteplirsen, additional preclinical studies may be required for these product candidates and before other product candidates enter human clinical trials. In addition, preclinical models to study participant toxicity and activity of compounds are not necessarily predictive of toxicity or efficacy of these compounds in the treatment of human disease and there may be substantially different results in clinical trials from the results obtained in preclinical studies. Any failures or setbacks in utilizing our PMO-based technology, including adverse effects resulting from the use of this technology in humans, could have a detrimental impact on our internal product candidate pipeline and our ability to maintain and/or enter into new corporate collaborations regarding these technologies, which would negatively affect our business and financial position.

The relocation of our corporate headquarters and selected research and development activities may create unintended negative consequences, including increased costs and loss of personnel.

We plan to move our corporate headquarters from Bothell, Washington to Cambridge, Massachusetts and move selected research and development activities from Bothell to our existing site in Corvallis, Oregon and a yet to be selected site in Cambridge. This transition is in the early planning stage and we expect the transition will continue through mid-2013. While we believe the relocation will improve our business operations and enhance our ability to attract and retain industry talent in the Cambridge area, we cannot ensure that this relocation will not result in any or all of the following unintended negative consequences:

increased costs associated with the closing of our existing facility in Bothell, Washington including the moving of lab equipment and furniture to Cambridge and Corvallis;

increased costs associated with the relocation of personnel, including reimbursement of relocation expenses and cost of living adjustments to base salaries;

employee turnover due to relocation;

increased costs associated with retention and/or severance packages for Bothell based personnel;

business disruptions resulting from the relocation; and

inability to locate suitable administrative and laboratory space for a long-term lease arrangement in Cambridge at a reasonable cost.

Edgar Filing: Sarepta Therapeutics, Inc. - Form 424B5

If any of these unintended negative consequences occurs, the negative impact may outweigh any benefits related to the relocation, which could have an adverse effect on our business.

Table of Contents

If we fail to retain our key personnel or are unable to attract and retain additional qualified personnel, our future growth, ability to perform our U.S. government contracts and our ability to compete would suffer.

We are highly dependent on the efforts and abilities of the principal members of our senior management. Additionally, we have scientific personnel with significant and unique expertise in RNA-based therapeutics and related technologies and personnel with experience overseeing compliance with and execution of the terms of our U.S. government contracts. The loss of the services of any one of the principal members of our managerial, scientific or government contract compliance staff may prevent us from achieving our business objectives.

The competition for qualified personnel in the biotechnology field and for qualified personnel with government contracting experience is intense, and our future success depends upon our ability to attract, retain and motivate such personnel. In order to develop and commercialize our products successfully, we will be required to retain key managerial, scientific and government contract compliance staff. In certain instances, we may also need to expand our workforce and our management ranks. We face intense competition for qualified individuals from numerous pharmaceutical and biotechnology companies, as well as academic and other research institutions. If we are unable to attract, assimilate or retain such key personnel, our ability to advance our proprietary programs and perform our U.S. government contracts would be adversely affected. Any failure to perform under our U.S. government contracts could result in a termination of the agreement, which would harm our business.

Recent changes in our executive leadership and any similar changes in the future may serve as a significant distraction for our management and employees.

In January 2011, Christopher Garabedian, a member of our board of directors, was hired to serve as our president and chief executive officer. Since the beginning of 2011, there have been a number of changes to our executive leadership team. Most recently, in June 2012, our former senior vice president and chief scientific officer, Dr. Peter Linsley, resigned from his employment with us. Such changes, or any other future changes in our executive leadership, may disrupt our operations as we adjust to the reallocation of responsibilities and assimilate new leadership and, potentially, differing perspectives on our strategic direction. If the transition in executive leadership is not smooth, the resulting disruption could negatively affect our operations and impede our ability to execute our strategic plan.

We may engage in future acquisitions that increase our capital requirements, dilute our shareholders, cause us to incur debt or assume contingent liabilities and subject us to other risks.

We actively evaluate various strategic transactions on an ongoing basis, including licensing or acquiring complementary products, technologies or businesses. Any potential acquisitions may entail numerous risks, including increased operating expenses and cash requirements, assimilation of operations and products, retention of key employees, diversion of our management's attention and uncertainties in our ability to maintain key business relationships of the acquired entities. In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense.

Asserting, defending and maintaining our intellectual property rights could be challenging and costly, and our failure to do so could harm our ability to compete and impair the outcome of our operations. The pharmaceutical, biotechnology and academic environments are highly competitive and competing intellectual property could limit our ability to protect our products.

Our success will depend in significant part on our existing intellectual property rights and our ability to obtain additional patents and licenses in the future. As of October 31, 2012, we owned or controlled approximately 280 U.S. and corresponding foreign patents and 180 U.S. and corresponding foreign patent applications. We license patents from other parties for certain complementary technologies. We cannot be certain that pending patent applications will result in patents being issued in the United States or foreign countries. We

Table of Contents

cannot be certain that we were the first to make the inventions covered by any of our patents, if issued, or our pending patent applications. In addition, the patents that have been or will be issued may not afford meaningful protection for our technology and products. Competitors may develop products similar to ours that do not conflict with our patents. To protect our rights to any of our patents, if issued, and proprietary information, we may need to litigate against infringing third parties, or avail ourselves of the courts or participate in hearings to determine the scope and validity of those patents or other proprietary rights. These types of proceedings are often costly and could be very time-consuming to us, and we cannot assure you that the deciding authorities will rule in our favor. An unfavorable decision could allow third parties to use our technology without being required to pay us licensing fees or may compel us to license needed technologies to avoid infringing third-party patent and proprietary rights.

Pharmaceutical research and development is highly competitive; others may file patents first that cover our products or technology. For example, our competitor Prosensa has rights to patent families corresponding to WO2002/024906 and WO2004/083432, including issued US 7,973,015, US 7,534,879, and granted European Patent No. EP 1619249. We opposed EP 1619249 in the Opposition Division of the European Patent Office, or the Opposition Division, and in November 2011, we announced that, although we succeeded in invalidating some of the patent's claims, the Opposition Division maintained in amended form certain claims of this patent relating to the treatment of DMD by skipping dystrophin exons 51 and 46. We and Prosensa both have the right to appeal this decision; however, pending final resolution of this matter and any appeal thereof, the patent at issue may provide the basis for Prosensa or other parties that have rights to such patent to assert that our drug eteplirsén infringes on such patent. A final resolution of this opposition proceeding may take a number of years and the outcome cannot be predicted or determined as of the date of this prospectus. We are also aware of certain claims that have issued to Prosensa in Japan (JP 4846965) that may provide the basis for Prosensa or other parties that have rights to these claims to assert that our drug eteplirsén infringes on such claims. We believe we have a basis to invalidate some or all of these claims and are evaluating the potential initiation of invalidation proceedings. Because we have not yet initiated an invalidation proceeding in Japan, the outcome and timing of such proceeding cannot be predicted or determined as of the date of this prospectus. If we are unsuccessful in invalidating other of Prosensa's claims or if previously invalidated claims are restored on appeal, our ability to commercialize both eteplirsén and other therapeutic candidates for our pan-exon strategy could be materially impaired.

Our success will also depend partly on our ability to operate without infringing upon the proprietary rights of others as well as our ability to prevent others from infringing on our proprietary rights. We may be required at times to take legal action to protect our proprietary rights and, despite our best efforts, we may be sued for infringing on the patent rights of others. We have not received any communications or other indications from owners of related patents or others that such persons believe our products or technology may infringe on their patents. Patent litigation can involve complex factual and legal questions and its outcome is uncertain. Patent litigation is costly and, even if we prevail, the cost of such litigation could adversely affect our financial condition. If we do not prevail, in addition to any damages we might have to pay, we could be required to stop the infringing activity or obtain a license. If any patent related to our products or technology issues, and if our activities are determined to be covered by such a patent, we cannot assure you that we will be able to obtain or maintain a license, which could have a material adverse effect on our business, financial condition, ability to sell our products, operating results and ability to obtain and/or maintain our strategic business relationships.

Others may challenge our patents and, as a result, our patents could be narrowed or invalidated. The patent position of pharmaceutical and biotechnology firms, as well as academia, is generally highly uncertain, involves complex legal and factual questions, and has recently been the subject of much litigation. No consistent policy has emerged from the U.S. Patent and Trademark Office, or USPTO, or the courts regarding the breadth of claims allowed or the degree of protection afforded under biotechnology patents. In addition, there is a substantial backlog of pharmaceutical and biotechnology patent applications at the USPTO and the approval or rejection of patents may take several years.

Table of Contents

To help protect our proprietary rights in unpatented proprietary information, trade secrets and know-how, we require our employees, consultants and advisors to execute confidentiality agreements and invention assignment agreements. However, such agreements may not provide us with adequate protection if confidential information is used or disclosed improperly. In addition, in some situations these agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants or advisors have prior employment or consulting relationships. Further, others may independently develop substantially equivalent proprietary information and techniques, or otherwise gain access to our trade secrets.

Our research collaborators may publish data and information to which we have rights. If we cannot maintain the confidentiality of our technology and other confidential information in connection with our collaborations, then our ability to receive patent protection or protect our proprietary information may be impaired.

We face intense competition and rapid technological change, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The biotechnology and pharmaceutical industries are highly competitive and subject to significant and rapid technological change. We are aware of many pharmaceutical and biotechnology companies that are actively engaged in research and development in areas related to antisense technology and other RNA technologies or that are developing alternative approaches to or therapeutics for the disease indications on which we are focused. Some of these competitors are developing or testing product candidates that now, or may in the future, compete directly with our product candidates. For example, we believe that companies including Alnylam Pharmaceuticals, Isis Pharmaceuticals and Santaris share a focus on RNA-based drug discovery and development. Competitors with respect to our exon-skipping DMD program, or eteplirsen, include Prosensa and GlaxoSmithKline, or GSK, and other companies such as PTC Therapeutics and Summit plc have also been working on DMD programs.

Clinical trials evaluating the systemic administration of the Prosensa/GSK lead DMD drug candidate are currently ongoing, including a placebo-controlled global Phase III trial and two placebo-controlled Phase II trials, one based in the United States and one based outside the United States. The Prosensa/GSK drug candidate may, or may not, prove to be safer or more efficacious than our product candidate and it could gain marketing approval before our product candidate. This might affect our ability to successfully complete a clinical development program or market eteplirsen once approved. This competition may also extend to other exon-skipping drugs for DMD limiting our ability to gain market share.

Other potential competitors include large, fully integrated pharmaceutical companies and more established biotechnology companies that have significantly greater resources and expertise in research and development, manufacturing, testing, obtaining regulatory approvals and marketing. Also, academic institutions, government agencies and other public and private research organizations conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and marketing. It is possible that these competitors will succeed in developing technologies that are more effective than our product candidates or that would render our technology obsolete or noncompetitive. Our competitors may, among other things:

develop safer or more effective products;

implement more effective approaches to sales and marketing;

develop less costly products;

obtain quicker regulatory approval;

have access to more manufacturing capacity;

develop products that are more convenient and easier to administer;

form more advantageous strategic alliances; or

establish superior proprietary positions.

Table of Contents

We may be subject to clinical trial claims and our insurance may not be adequate to cover damages.

We currently have no products that have been approved for commercial sale; however, the current and future use of our product candidates by us and our corporate collaborators in clinical trials, and the sale of any approved products in the future, may expose us to liability claims. These claims might be made directly by consumers or healthcare providers or indirectly by pharmaceutical companies, our corporate collaborators or others selling such products. We may experience financial losses in the future due to product liability claims. We have obtained limited general commercial liability insurance coverage for our clinical trials. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for any of our product candidates. However, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against all losses. If a successful product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be impaired.

Our operations involve the use of hazardous materials, and we must comply with environmental laws, which can be expensive, and may affect our business and operating results.

Our research and development activities involve the use of hazardous materials, including organic and inorganic solvents and reagents. Accordingly, we are subject to federal, state, and local laws and regulations governing the use, storage, handling, manufacturing, exposure to, and disposal of these hazardous materials. In addition, we are subject to environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens, and the handling of biohazardous materials. Although we believe that our activities conform in all material respects with such environmental laws, there can be no assurance that violations of these laws will not occur in the future as a result of human error, accident, equipment failure, or other causes. Liability under environmental, health and safety laws can be joint and several and without regard to fault or negligence. The failure to comply with past, present or future laws could result in the imposition of substantial fines and penalties, remediation costs, property damage and personal injury claims, loss of permits or a cessation of operations, and any of these events could harm our business and financial conditions. We expect that our operations will be affected by other new environmental and health and workplace safety laws on an ongoing basis, and although we cannot predict the ultimate impact of any such new laws, they may impose greater compliance costs or result in increased risks or penalties, which could harm our business.

We rely significantly on information technology and any failure, inadequacy, interruption or security lapse of that technology, including any cybersecurity incidents, could harm our ability to operate our business effectively.

Despite the implementation of security measures, our internal computer systems and those of third parties with which we contract are vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in our operations, and could result in a material disruption of our clinical activities and business operations, in addition to possibly requiring substantial expenditures of resources to remedy. The loss of clinical trial data could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and our research and development programs and the development of our product candidates could be delayed.

FORWARD-LOOKING STATEMENTS

This prospectus and the SEC filings that are incorporated by reference into this prospectus contain or incorporate by reference forward-looking statements within the meaning of the Private Securities Litigation

Table of Contents

Reform Act of 1995. You can generally identify these forward-looking statements by forward-looking words such as believe, anticipate, expect, intend, plan, will, may, and other similar expressions. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other forward-looking information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. These forward-looking statements include, but are not limited to:

our expectations regarding the development and clinical benefits of our product candidates;

the results of our research and development efforts and the efficacy of our PMO-based chemistries and other RNA-based technology;

our expectations regarding the development and clinical benefits of our product candidates;

the results of our research and development efforts and the efficacy of our PMO-based chemistries and other RNA-based technology;

our expectations regarding our ability to become a leading developer and marketer of RNA-based therapeutics;

the efficacy, potency and utility of our product candidates in the treatment of rare and infectious diseases, and their potential to treat a broad number of human diseases;

our expectations regarding the results of preclinical and clinical testing of our product candidates;

our expectations regarding initiating enrollment of a pivotal Phase III trial in late 2013;

our expectations regarding the timing, completion and receipt of results from our ongoing development programs;

the receipt of any required approval from the U.S. Food and Drug Administration, or FDA, or other regulatory approval for our products;

the effect of regulation by FDA and other agencies;

our expectations regarding the markets for our products;

acceptance of our products, if introduced, in the marketplace;

the impact of competitive products, product development, commercialization and technological difficulties;

Edgar Filing: Sarepta Therapeutics, Inc. - Form 424B5

our expectations regarding partnering opportunities and other strategic transactions;

the extent of protection that our patents provide and our pending patent applications may provide, if patents issue from such applications, to our technologies and programs;

our plans to file additional patent applications to enhance and protect our existing intellectual property portfolio;

our ability to invalidate some or all of the claims covered by patents issued to competitors;

our estimates regarding our future revenues, research and development expenses, other expenses, payments to third parties and changes in staffing levels;

our estimates regarding how long our currently available cash and cash equivalents will be sufficient to finance our operations and statements about our future capital needs;

our expectations about funding from the government and other sources; and

other factors set forth above under the heading "Risk Factors" and in the section entitled "Risk Factors" incorporated by reference to our most recent Annual Report on Form 10-K, any subsequent Quarterly Reports on Form 10-Q and any Current Reports on Form 8-K we file after the date of this prospectus.

Table of Contents

All forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement and the risk factors incorporated by reference into this prospectus. These forward-looking statements speak only as of the date of this prospectus. Except to the extent required by applicable laws and regulations, we undertake no obligation to update these forward-looking statements to reflect new information, events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events. In light of these risks and uncertainties, the forward-looking events and circumstances described in this prospectus may not occur and actual results could differ materially from those anticipated or implied in the forward-looking statements. Accordingly, you are cautioned not to place undue reliance on these forward-looking statements

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth, for the periods presented, our ratio of earnings to fixed charges and our ratio of earnings to combined fixed charges and preferred stock dividends. For purposes of computing the ratio of earnings to fixed charges and the ratio of earnings to combined fixed charges and preferred stock dividends, earnings consist of income or loss from continuing operations before income taxes and fixed charges. Fixed charges consist of interest expense and an estimate of the interest component of rent expense. In each of the periods presented, earnings were insufficient to cover fixed charges and combined fixed charges and deemed dividends on preferred stock and the extent of such deficiencies in each period is shown below. You should read these ratios in connection with our consolidated financial statements, including the notes to those statements, incorporated by reference in this prospectus.

	Year Ended December 31,					Nine months ended
	2007	2008	2009	2010	2011	September 30, 2012
Ratio of earnings to fixed charges (1)						
Deficiency of earnings available to cover fixed charges	\$ (27,168)	\$ (23,953)	\$ (25,159)	\$ (32,177)	\$ (2,318)	\$ (59,220)
Ratio of earnings to combined fixed charges and preferred stock dividends (1)						
Deficiency of earnings available to cover combined fixed charges and preferred stock dividends	\$ (27,168)	\$ (23,953)	\$ (25,159)	\$ (32,177)	\$ (2,318)	\$ (59,220)

- (1) The ratio of earnings to fixed charges and the ratio of earnings to combined fixed charges and preferred stock dividends represent the number of times that fixed charges and combined fixed charges and preferred stock dividends, respectively, are covered by earnings. In each of the periods presented, earnings were negative and calculation of such ratios is not meaningful.

USE OF PROCEEDS

Unless we state otherwise in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities for one or more of the following purposes:

to fund research and development, including clinical trials and expansion of manufacturing capacity;

to finance capital expenditures and capacity expansions; and/or

for general corporate purposes and working capital.

Until we apply the proceeds from a sale of securities to their intended purposes, we may invest these proceeds in highly liquid, investment grade securities. We cannot predict whether the proceeds invested will yield a favorable return.

Table of Contents

The specific allocations of the proceeds we receive from the sale of our securities will be described in the applicable prospectus supplement.

DESCRIPTION OF OUR CAPITAL STOCK

The following description of our common stock and preferred stock, together with any additional information we include in any applicable prospectus supplement or any related free writing prospectus, summarizes the material terms and provisions of our common stock and preferred stock that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement. For the complete terms of our common stock and preferred stock, please refer to our articles of incorporation and bylaws that are incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any applicable prospectus supplement. The summary below and that contained in any applicable prospectus supplement or any related free writing prospectus are qualified in their entirety by reference to our articles of incorporation and bylaws, as in effect at the time of any offering of securities under this prospectus.

Common Stock

We are authorized to issue 50,000,000 shares of common stock, par value \$0.0001 per share, of which 25,453,110 shares were issued and outstanding as of the date of this prospectus. Each shareholder of record is entitled to one vote for each outstanding share of our common stock owned by that shareholder on every matter properly submitted to the shareholders for their vote. Subject to the satisfaction of the dividend rights of holders of any shares of preferred stock issued hereafter, holders of common stock are entitled to any dividend declared by the board of directors out of funds legally available for this purpose. As an Oregon corporation, we are subject to statutory limitations on the declaration and payment of dividends. Currently, we do not pay a dividend. Subject to the satisfaction of any outstanding debts and the payment of liquidation preferences to holders of any shares of preferred stock issued hereafter, holders of our common stock are entitled to receive, on a pro rata basis, all of our remaining assets available for distribution to the shareholders in the event of our liquidation, dissolution or winding up. The holders of our common stock have no conversion, redemption, preemptive or cumulative voting rights. The preferences, limitations, relative rights and other terms that holders of our common stock are subject to, may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Our articles of incorporation allow us to issue, without shareholder approval, preferred stock having rights senior to those of our common stock. Our board of directors is authorized, without further shareholder approval, to issue up to 3,333,333 shares of preferred stock, par value \$0.0001 per share, of which no shares are issued and outstanding as of the date of this prospectus, in one or more series and to fix and designate the preferences, limitations, relative rights and other terms of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences. Our board of directors may fix the number of shares constituting any series of preferred stock and the designations of the series.

We will fix the preferences, limitations, relative rights and other terms of the preferred stock of each series by the filing of an articles of amendment relating to each series. We will specify the terms of the preferred stock in a prospectus supplement, including:

the maximum number of shares in the series and the distinctive designation;

the terms on which dividends will be paid, if any;

the terms on which the shares may be redeemed, if at all;

Table of Contents

the liquidation preference, if any;

the terms of any retirement or sinking fund for the purchase or redemption of the shares of the series;

the terms and conditions, if any, on which the shares of the series will be convertible into, or exchangeable for, shares of any other class or classes of capital stock;

the voting rights, if any, on the shares of the series; and

any or all other preferences and relative, participating, operational or other special rights or qualifications, limitations or restrictions of the shares.

We will describe the specific terms of a particular series of preferred stock in the prospectus supplement relating to that series. The preferences, limitations, relative rights and other terms of the preferred stock of each series that we or any securityholder offer and sell under this prospectus and applicable prospectus supplements will be set forth in an articles of amendment relating to the series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the articles of amendment that describe the terms of any series of preferred stock we offer under this prospectus before the issuance of shares of that series of preferred stock. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of preferred stock being offered, as well as the articles of amendment that contain the terms of the applicable series of preferred stock.

Anti-Takeover Effect of Unissued Shares of Capital Stock

Common Stock. Our shares of authorized and unissued common stock are available for future issuance without additional shareholder approval. While these additional shares are not designed to deter or prevent a change of control, under some circumstances we could use the additional shares to create voting impediments or to frustrate persons seeking to effect a takeover or otherwise gain control by, for example, issuing those shares in private placements to purchasers who might side with our board of directors in opposing a hostile takeover bid.

Preferred Stock. Our articles of incorporation grant our board of directors the authority, without any further vote or action by our shareholders, to issue preferred stock in one or more series and to fix the number of shares constituting any such series and the preferences, limitations and relative rights, including dividend rights, dividend rate, voting rights, terms of redemption, redemption price or prices, conversion rights and liquidation preferences of the shares constituting any series. The existence of authorized but unissued preferred stock could reduce our attractiveness as a target for an unsolicited takeover bid since we could, for example, issue shares of preferred stock to parties who might oppose such a takeover bid or shares that contain terms the potential acquirer may find unattractive. This may have the effect of delaying or preventing a change in control, may discourage bids for the common stock at a premium over the market price of the common stock, and may adversely affect the market price of, and the voting and other rights of the holders of, common stock.

Oregon Anti-Takeover Law and Certain Provisions of Our Articles of Incorporation and Bylaws

Certain provisions of Oregon law and our articles of incorporation and bylaws could make it more difficult to acquire us by means of a tender offer, a proxy contest or otherwise and to remove our incumbent officers and directors. These provisions, summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because, among other things, negotiation of these proposals could result in an improvement of their terms.

Table of Contents

Oregon Business Combination Act. We are subject to the Oregon Business Combination Act, which prohibits an Oregon corporation from engaging in any business combination with any interested shareholder for three years after the date the shareholder became an interested shareholder, with the following exceptions:

before the combination or transaction date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the shareholder becoming an interested shareholder;

upon completion of the transaction that resulted in the shareholder becoming an interested shareholder, the interested shareholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested shareholder) (i) those shares owned by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or an exchange offer; or

on or after that date, the business combination is approved by the board of directors and authorized at an annual or a special meeting of the shareholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested shareholder.

In general, the Oregon Business Combination Act defines *business combination* to include the following:

any merger or consolidation involving the corporation or any direct or indirect majority owned subsidiary of the corporation and the interested shareholder or any other corporation, partnership, unincorporated association or other entity if the merger or consolidation is caused by the interested shareholder and as a result of such merger or consolidation the transaction is not excepted as described above;

any sale, transfer, pledge or other disposition (in one transaction or a series) of 10% or more of the assets of the corporation involving the interested shareholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested shareholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested shareholder; or

the receipt by the interested shareholder of the benefit of any losses, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, the Oregon Business Combination Act defines an *interested shareholder* as an entity or a person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested shareholder status owned, 15% or more of the outstanding voting stock of the corporation.

Oregon Control Share Act. We are subject to the Oregon Control Share Act, which regulates the process by which a person may acquire control of certain Oregon-based corporations without the consent and cooperation of the corporation's board of directors. Under the Oregon Control Share Act a person who acquires voting stock in a transaction that results in the person holding more than 20%, 33 1/3% or 50% of the total voting power cannot vote the shares it acquires in the acquisition. This restriction does not apply if voting rights are given to the control shares by:

the holders of a majority of the outstanding voting shares, excluding the control shares held by the acquirer and shares held by our officers and employee directors, and

the holders of a majority of the outstanding voting shares, including the control shares held by such person and shares held by our officers and employee directors.

Table of Contents

To retain the voting rights attached to acquired shares, these approvals are required at the time an acquirer's holdings first exceed 20% of the total voting power, and again at the times the acquiring person's holdings first exceed 33 1/3% and 50%. An acquiring person includes persons acting as a group.

The acquirer may, but is not required to, submit to the target company an acquiring person statement including specific information about the acquirer and its plans for the corporation. The acquiring person statement may also request that the corporation call a special meeting of shareholders to determine whether the control shares will be allowed to have voting rights. If the acquirer does not request a special meeting of shareholders, the issue of voting rights of control shares will be considered at the next annual or special meeting of shareholders that is held more than 60 days after the date of the acquisition of control shares. If the acquirer's control shares are allowed to have voting rights and represent a majority or more of all voting power, shareholders who do not vote in favor of voting rights for the control shares will have the right to receive the appraised fair value of their shares, which may not be less than the highest price paid per share by the acquirer for the control shares.

Shares are not deemed to be acquired in a control share acquisition if, among other things, they are acquired from the issuing corporation, or are issued pursuant to a plan of merger or exchange effected in compliance with the Oregon Business Corporation Act and the issuing corporation is a party to the merger or exchange agreement.

Articles of Incorporation and Bylaws. Our articles of incorporation and bylaws contain provisions that may delay or prevent a change in control of our company or changes in our management, including provisions that:

authorize blank check preferred stock, which could be issued without shareholder approval and could have voting, liquidation, dividend and other rights superior to our common stock;

create a classified board of directors whose members serve staggered two-year terms (which provision cannot be amended or repealed without the affirmative vote of the holders of not less than two-thirds of the shares entitled to vote);

require that any action required or permitted by law to be taken at a shareholders' meeting may be taken without a meeting only if the action is taken by all the shareholders entitled to vote on the action; and

require that special meetings of our shareholders may be called only by our president, the board of directors or at the request of holders of not less than one-tenth of all the outstanding shares of the Company entitled to vote at the meeting.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

Transfer Agent

The transfer agent for our common stock is Computershare, 480 Washington Blvd., Jersey City, New Jersey 07310, (866) 272-4615.

Listing

Our common stock is quoted on The NASDAQ Global Market under the trading symbol SRPT.

DESCRIPTION OF THE DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplement, summarizes certain general terms and provisions of the debt securities that we may offer under this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement to what extent the general terms and provisions described in this prospectus apply to a particular series of debt securities.

Table of Contents

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. In the summary below, we have included references to the section numbers of the indenture so that you can easily locate these provisions. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in a resolution of our board of directors, in an officer's certificate or by a supplemental indenture. (Section 2.2) The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. (Section 2.1) We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities, if applicable:

the title and ranking of the debt securities (including the terms of any subordination provisions);

the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;

any limit on the aggregate principal amount of the debt securities;

the date or dates on which the principal of the securities of the series is payable;

the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;

the place or places where principal of, and interest, if any, on the debt securities will be payable (and the method of such payment), where the securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities may be delivered;

the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem the debt securities;

any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

Edgar Filing: Sarepta Therapeutics, Inc. - Form 424B5

the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;

the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;

Table of Contents

whether the debt securities will be issued in the form of certificated debt securities or global debt securities;

the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;

the currency of denomination of the debt securities, which may be United States Dollars or any foreign currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;

the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;

if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;

the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies other than that in which the debt securities are denominated or designated to be payable or by reference to a commodity, commodity index, stock exchange index or financial index;

any provisions relating to any security provided for the debt securities;

any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;

any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;

any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities;

the provisions, if any, relating to conversion or exchange of any securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange; and

any other terms of the debt securities, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of the securities. (Section 2.2)

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

Edgar Filing: Sarepta Therapeutics, Inc. - Form 424B5

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Table of Contents

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or the Depository, or a nominee of the Depository (we will refer to any debt security represented by a global debt security as a book-entry debt security), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a certificated debt security) as set forth in the applicable prospectus supplement. Except as set forth under the heading Global Debt Securities and Book-Entry System below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. (Section 2.4) No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange. (Section 2.7)

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depository, and registered in the name of the Depository or a nominee of the Depository. Please see Global Securities.

Global Securities

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

be registered in the name of a depository, or its nominee, that we will identify in a prospectus supplement;