PTC THERAPEUTICS, INC.
Form 10-Q
August 04, 2016
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2016

OR

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 001-35969

PTC Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**04-3416587**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
100 Corporate Court **South Plainfield, NJ**	**07080**
(Address of principal executive offices)	(Zip Code)

(908) 222-7000

(Registrant s telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

As of August 1, 2016 there were 34,247,719 shares of Common Stock, $0.001 par value per share, outstanding.

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PART I FINANCIAL INFORMATION

PART II OTHER INFORMATION

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form10-Q contains forward looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this Quarterly Report on Form10-Q, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward looking statements. The words anticipate, believe, estimate, expect, intend, may, might, plan, predict, project, target, potential, should, continue, and similar expressions are intended to identify forward looking statements, although not all forward looking statements contain these identifying words.

The forward looking statements in this Quarterly Report on Form 10-Q include, among other things, statements about:

- our ability to resolve the matters set forth in the Refuse to File letter we received from the United States Food and Drug Administration, or FDA, in connection with our New Drug Application, or NDA, for Translarna (ataluren) for the treatment of nonsense mutation Duchenne muscular dystrophy, or nmDMD, including whether the appeal we filed with the FDA results in successful reversal of the Refuse to File decision in a timely manner, or ever, and in the event that the Refuse to File decision is reversed, whether such reversal results in a timely or successful review of our NDA, and whether we will be required to perform additional clinical and non-clinical trials or analyses at significant cost and whether such trials, if successful, may enable FDA review of an NDA submission by us and, ultimately, may support approval of Translarna for nmDMD in the U.S.;

- the timing and outcome of the opinion of the European Medicines Agency s, or EMA s, Committee for Medicinal Products for Human Use, or CHMP, with respect to our request for renewal of our marketing authorization of Translarna for the treatment of nmDMD in the European Economic Area, or EEA, which is subject to annual review and renewal by the European Commission following reassessment of the risk-benefit balance of the authorization by the European Medicines Agency, among other things;

- our ability to design an acceptable new clinical trial in nmDMD with input from the EMA, including with respect to matters of scope, length, and conduct and, if successfully designed, our ability to enroll, fund, and complete such trial;

- the nature of any conditions or restrictions that may be placed on any renewal of the marketing authorization by the European Commission in the event that the CHMP issues a positive opinion with respect to renewal;

- our ability to commercialize Translarna in general and, specifically, as a treatment for nmDMD, including the timing of such commercialization and our ability to successfully negotiate adequate pricing and reimbursement

processes on a timely basis, or at all, in the countries in which we may obtain regulatory approval;

- when Translarna will be available to nmDMD patients in England;

- our ability to obtain additional and maintain existing reimbursed named patient and cohort early access programs for Translarna for the treatment of nmDMD on adequate terms, or at all;

- our estimates regarding the potential market opportunity for Translarna, including, in general, the size of eligible patient populations and our ability to identify such patients;

- our regulatory submissions, including with respect to timing and outcome of regulatory review and determinations in connection with our submission with the EMA related to a variation to our marketing authorization to include Translarna as a treatment for nonsense mutation cystic fibrosis, or nmCF, as well as our other submissions with regulatory bodies outside of the EEA;

- our estimates regarding expenses, future revenues, third party discounts and rebates, capital requirements and needs for additional financing, including our ability to maintain the level of our expenses consistent with our internal budgets and forecasts and to secure additional funds on favorable terms or at all;

- the timing and conduct of our clinical trials and studies of Translarna for the treatment of nmCF, nmDMD, mucopolysaccharidosis type I, or MPS I, aniridia, and Dravet syndrome/CDKL5, each caused by nonsense mutations, as well as our studies in spinal muscular atrophy and our cancer stem cell program, including statements regarding the timing of initiation, enrollment and completion of the trials and the period during which the results of the trials will become available;

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- the rate and degree of market acceptance and clinical utility of Translarna;

- the ability and willingness of patients and healthcare professionals to access Translarna through alternative means if pricing and reimbursement negotiations in the applicable territory do not have a positive outcome, including whether patients in Germany will continue to be able to access Translarna via a reimbursed importation pathway provided under German law and whether such pathway, if utilized, will minimize any access issues for German patients while maintaining a sustainable price;

- the timing of and our ability to obtain additional marketing authorizations for Translarna and our other product candidates, and the ability of Translarna and our other product candidates to meet existing or future regulatory standards;

- our ability to maintain the current label under the marketing authorization in the EEA or expand the approved product label of Translarna for the treatment of nmDMD, whether pursuant to our recently initiated Phase 2 study of Translarna for nmDMD in pediatric patients, or otherwise;

- the timing and scope of our commercial infrastructure expansion, including the growth of our international presence in Europe and in other territories;

- the potential receipt of revenues from future sales of Translarna and other product candidates, including our ability to earn a profit from sales or licenses of Translarna for the treatment of nmDMD;

- our sales, marketing and distribution capabilities and strategy, including the ability of our third party manufacturers to manufacture and deliver Translarna in clinically and commercially sufficient quantities and the ability of distributors to process orders in a timely manner and satisfy their other obligations to us;

- our ability to establish and maintain arrangements for the manufacture of Translarna and our other product candidates that are sufficient to meet clinical trial and commercial launch requirements;

- our plans to pursue development of Translarna for additional indications other than nmDMD, nmCF, MPS I, aniridia, and Dravet/CDKL5, caused by nonsense mutations;

- our ability to advance our earlier stage programs, including our cancer stem cell program;
- our plans to pursue research and development of other product candidates;
- the potential advantages of Translarna;
- our intellectual property position;
- the impact of government laws and regulations;
- our competitive position; and
- our expectations with respect to the development and regulatory status of our product candidates and program directed against spinal muscular atrophy in collaboration with F. Hoffmann La Roche Ltd and Hoffmann La Roche Inc., which we refer to collectively as Roche, and the Spinal Muscular Atrophy Foundation, or the SMA Foundation, and our estimates regarding future revenues from achievement of milestones in that program.

We may not actually achieve the plans, intentions or expectations disclosed in our forward looking statements, and you should not place undue reliance on our forward looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in Part II, Item 1A. Risk Factors that we believe could cause actual results or events to differ materially from the forward looking statements that we make. Our forward looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this Quarterly Report on Form 10-Q and the documents that we have filed as exhibits to this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2015 completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward

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looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

In this Quarterly Report on Form 10-Q, unless otherwise stated or the context otherwise requires, references to PTC, PTC Therapeutics, the Company, we, us, our, and similar references refer to PTC Therapeutics, Inc. and, where appropriate, its subsidiaries. The trademarks, trade names and service marks appearing in this Quarterly Report on Form 10-Q are the property of their respective owners.

All website addresses given in this Quarterly Report on Form 10-Q are for information only and are not intended to be an active link or to incorporate any website information into this document.

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PART I FINANCIAL INFORMATION

Item 1. Financial Statements.

PTC Therapeutics, Inc.

Consolidated Balance Sheets (unaudited)

In thousands (except per share data)

	June 30, 2016	December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents	$ 35,658	$ 58,022
Marketable securities	237,235	280,903
Prepaid expenses and other current assets	4,776	5,930
Trade receivables, net	19,765	11,094
Total current assets	297,434	355,949
Fixed assets, net	7,601	8,974
Deposits and other assets	528	358
Total assets	$ 305,563	$ 365,281
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable and accrued expenses	$ 42,183	$ 45,247
Deferred revenue	726	139
Total current liabilities	42,909	45,386
Long-term debt	94,936	91,848
Other long-term liabilities	2,094	2,046
Total liabilities	139,939	139,280
Stockholders equity:		
Common stock, $0.001 par value. Authorized 125,000,000 shares; issued and outstanding 34,083,319 shares at June 30, 2016. Authorized 125,000,000 shares; issued and outstanding 33,916,559 shares at December 31, 2015	34	34
Additional paid-in capital	837,850	820,165
Accumulated other comprehensive income (loss)	885	(1,200)
Accumulated deficit	(673,145)	(592,998)
Total stockholders equity	165,624	226,001
Total liabilities and stockholders equity	$ 305,563	$ 365,281

See accompanying unaudited notes.

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PTC Therapeutics, Inc.

Consolidated Statements of Operations (unaudited)

In thousands (except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	**2015**	**2016**	**2015**
Revenues:				
Net product revenue	$ 15,437	$ 6,161	$ 34,314	$ 11,230
Collaboration and grant revenue	196	613	214	3,026
Total revenues	15,633	6,774	34,528	14,256
Operating expenses:				
Research and development	28,827	28,190	60,226	56,128
Selling, general and administrative	23,366	17,210	49,304	34,825
Total operating expenses	52,193	45,400	109,530	90,953
Loss from operations	(36,560)	(38,626)	(75,002)	(76,697)
Interest (expense) income, net	(2,060)	498	(4,016)	1,022
Other expense, net	(387)	(88)	(1,107)	(456)
Loss before income tax expense	(39,007)	(38,216)	(80,125)	(76,131)
Income tax benefit (expense)	93	(145)	(22)	(145)
Net loss attributable to common stockholders	$ (38,914)	$ (38,361)	$ (80,147)	$ (76,276)
Weighted-average shares outstanding:				
Basic and diluted (in shares)	34,000,333	33,600,653	33,959,751	33,335,674
Net loss per share basic and diluted (in dollars per share)	$ (1.14)	$ (1.14)	$ (2.36)	$ (2.29)

See accompanying unaudited notes.

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PTC Therapeutics, Inc.

Consolidated Statements of Comprehensive Loss (unaudited)

In thousands

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	**2015**	**2016**	**2015**
Net loss	$ (38,914)	$ (38,361)	$ (80,147)	$ (76,276)
Other comprehensive loss:				
Unrealized (loss) gain on marketable securities, net of tax	(40)	(224)	618	(99)
Foreign currency translation (loss) gain	(159)	465	1,467	341
Comprehensive loss	$ (39,113)	$ (38,120)	$ (78,062)	$ (76,034)

See accompanying unaudited notes.

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PTC Therapeutics, Inc.

Consolidated Statements of Cash Flows (unaudited)

In thousands

	Six months ended June 30,	
	2016	**2015**
Cash flows from operating activities		
Net loss	$ (80,147)	$ (76,276)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	1,664	1,319
Change in valuation of warrant liability	47	(72)
Non-cash interest expense	2,941	
Amortization of premiums on investments	1,140	915
Amortization of debt issuance costs	147	
Share-based compensation expense	17,651	18,076
Benefit for deferred income taxes	(244)	
Unrealized foreign currency transaction losses, net	963	
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	1,163	(356)
Trade receivables, net	(8,480)	(669)
Deposits and other assets	(170)	258
Accounts payable and accrued expenses	(3,435)	(6,039)
Other long-term liabilities	1	(46)
Deferred revenue	587	(3,354)
Net cash used in operating activities	(66,172)	(66,244)
Cash flows from investing activities		
Purchases of fixed assets	(275)	(1,177)
Purchases of marketable securities	(46,256)	(44,988)
Sale and redemption of marketable securities	89,645	83,468
Net cash provided by investing activities	43,114	37,303
Cash flows from financing activities		
Proceeds from exercise of options	34	8,072
Net cash provided by financing activities	34	8,072
Effect of exchange rate changes on cash	660	341
Net decrease in cash and cash equivalents	(22,364)	(20,528)
Cash and cash equivalents, beginning of period	58,022	49,748
Cash and cash equivalents, end of period	$ 35,658	$ 29,220
Supplemental disclosure of cash information		
Cash paid for interest	$ 2,263	$
Cash paid for income taxes	$ 264	$
Supplemental disclosures of non-cash information related to investing and financing activities		
Change in unrealized gain (loss) on marketable securities, net of tax	$ 618	$ (99)

See accompanying unaudited notes.

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PTC Therapeutics, Inc.

Notes to Consolidated Financial Statements (unaudited)

June 30, 2016

In thousands (except per share data unless otherwise noted)

1. The Company

PTC Therapeutics, Inc. (the Company or PTC) was incorporated as a Delaware corporation on March 31, 1998. PTC is a global biopharmaceutical company focused on the discovery, development and commercialization of orally administered, small molecule therapeutics targeting an area of RNA biology referred to as post transcriptional control. Post-transcriptional control processes are the regulatory events that occur in cells during and after a messenger RNA molecule is copied from DNA through the transcription process. PTC has discovered all of its compounds currently under development using its proprietary technologies. PTC plans to continue to develop these compounds both on its own and through selective collaboration arrangements with leading pharmaceutical and biotechnology companies. PTC s internally discovered pipeline addresses multiple therapeutic areas, including rare disorders and oncology.

PTC s lead product candidate is ataluren, an investigational new drug in the United States, for the treatment of patients with genetic disorders that arise from a type of genetic mutation known as a nonsense mutation. The Company holds worldwide commercialization rights to ataluren for all indications in all territories. The brand name of ataluren is Translarna .

The Company received conditional marketing authorization from the European Commission in August 2014 for Translarna for the treatment of nonsense mutation Duchenne muscular dystrophy, or nmDMD, in ambulatory patients aged five years and older in the 31 member states of the European Economic Area, or EEA. The marketing authorization is subject to annual review and renewal by the European Commission following reassessment by the European Medicines Agency, or EMA, of the risk-benefit balance of the authorization, or the annual EMA reassessment, as well as the Company s satisfaction of any conditions and obligations that have been or may be placed upon the marketing authorization. The Company has been informed that the annual EMA assessment procedure cannot be completed by mid-year 2016. During 2016, the Company s revenues have been and are expected to be primarily generated from sales of Translarna for the treatment of nmDMD in countries in the EEA where pricing and reimbursement approval is obtained at acceptable levels and in other territories where the Company is permitted to distribute Translarna under reimbursed early access programs, or EAPs. The Company is subject to a number of risks similar to those of other early stage companies, including dependence on key individuals, the difficulties inherent in the development of commercially usable products, the potential need to obtain additional capital necessary to fund the development of its products, and competition from other companies. As of June 30, 2016, the Company had an accumulated deficit of approximately $673.1 million. The Company has financed its operations to date primarily through the private offering in August 2015 of 3.00% convertible senior notes due 2022 (see Note 9), public offerings of common stock in February 2014 and October 2014, its initial public offering of common stock in June 2013, private placements of its convertible preferred stock, collaborations, bank debt, convertible debt financings, grant funding and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease area addressed by the Company s product candidates.

2. Summary of significant accounting policies

The Company s complete listing of significant accounting policies are described in Note 2 of the notes to the Company s audited financial statements as of December 31, 2015 included in the Company s Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on February 29, 2016 (2015 Form 10-K).

Basis of Presentation

The accompanying financial information as of June 30, 2016 and for the three and six months ended June 30, 2016 and 2015 has been prepared by the Company, without audit, pursuant to the rules and regulations of the SEC. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles in the United States (GAAP) have been condensed or omitted pursuant to such rules and regulations. These interim financial statements should be read in conjunction with the Company s audited financial statements as of December 31, 2015 and notes thereto included in the 2015 Form 10-K.

In the opinion of management, the unaudited financial information as of June 30, 2016 and for the three and six months ended June 30, 2016 and 2015 reflects all adjustments, which are normal recurring adjustments, necessary to present a fair statement of financial position, results of operations and cash flows. The results of operations for the three and six month periods ended June 30, 2016 are not necessarily indicative of the results to be expected for the year ended December 31, 2016 or for any other interim period or for any other future year.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant estimates in these consolidated financial statements have been made in connection with the calculation of net product sales, certain accruals related to the Company s research

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and development expenses, stock-based compensation, valuation procedures for the convertible notes and the provision for or benefit from income taxes. Actual results could differ from those estimates. Changes in estimates are reflected in reported results in the period in which they become known.

Inventories and cost of product revenue

In 2014, the Company was notified that the European Commission, or EC, granted marketing authorization for Translarna for the treatment of nmDMD in ambulatory patients aged five years and older. The conditional marketing authorization allows the Company to market Translarna for the treatment of nmDMD in the 31 member states of European Economic Area. The launch in these countries is on a country by country basis. This marketing authorization is subject to annual review and renewal by the EC following reassessment by the European Medicines Agency, or EMA, of the risk benefit balance of the authorization, which the Company refers to as the annual EMA reassessment. In the third quarter of 2015, the EMA approved the annual renewal of the marketing authorization for Translarna for the treatment of nmDMD. The authorization was further conditioned on the Company s submission of the final report, including additional efficacy and safety data, from ACT DMD and the Company s ability to implement measures, including pharmacovigilance plans that are detailed in the risk management plan for Translarna that was submitted to EMA. In January 2016, the Company submitted the final ACT DMD report to the EMA. The Company made this submission as a type II variation request that sought to have this initial condition to its marketing authorization removed and a full marketing authorization granted. In February 2016, the Company also submitted a marketing authorization renewal request with the EMA.

While the Company has been informed that the renewal assessment procedure cannot be completed by mid-year 2016, it expects that, pursuant to applicable regulations, its current marketing authorization status will remain valid while the annual EMA reassessment is ongoing and until it is concluded with an opinion from the European Commission with respect to renewal of its marketing authorization. Based on its interpretation of applicable regulatory timeframes, the Company believes the annual EMA reassessment could be completed, at the earliest, by the end of 2016.

The Company plans to seek to renew the marketing authorization on an annual basis until the Company s obligations have been fulfilled and the approval is converted from a conditional approval into a full approval. If the Company fails to satisfy such requirements, or if it is determined that the balance of risks and benefits of using Translarna changes materially, the EC could, at the EMA s recommendation, vary, suspend, withdraw or refuse to renew the marketing authorization for Translarna or require additional clinical trials.

There continues to be substantial risk that regulators could suspend or not renew the Company s marketing authorization in the future. As such, as of the date of this filing, the Company has not capitalized inventory given the near term uncertainty with respect to the long term utilization of Translarna finished product for commercial use. Had the Company capitalized as inventory all of the its Translarna product that is available for commercial sale on hand as of June 30, 2016, the value of that inventory would have been approximately $1.2 million. In addition, had the Company expensed the cost of Translarna product sold as a cost of sales, the gross profit margin would have been greater than 90%, which the Company believes is consistent with the cost of producing small molecule therapeutics for orphan drug diseases in the pharmaceutical industry. The Company will continue to assess the appropriateness of inventory capitalization based on the outcome of applicable regulatory approvals which are expected later this year.

Revenue Recognition

The Company recognizes revenue when amounts are realized or realizable and earned. Revenue is considered realizable and earned when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the price is fixed or determinable; and (4) collection of the amounts due are reasonably assured.

Net Product Sales

The Company s net product sales have consisted solely of sales of Translarna for the treatment of nmDMD in territories outside of the U.S. The Company began recognizing revenue for payments received under the reimbursed EAPs for Translarna in nmDMD patients in select countries in the third quarter of 2014. The Company has now established a pattern of collectability and, since January 2015, the Company recognizes revenue from product sales when there is persuasive evidence that an arrangement exists, title to product and associated risk of loss has passed to the customer, the price is fixed or determinable, collectability is reasonably assured and the Company has no further performance obligations in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Subtopic 605-15, Revenue Recognition Products.

The Company has recorded revenue on sales where Translarna is available either on a commercial basis or through a reimbursed EAP program. Orders for Translarna are generally received from hospital and retail pharmacies and, in some cases, one of the Company s third-party partner distributors. The Company s third-party distributors act as intermediaries between the Company and end users and do not typically stock significant quantities of Translarna. The ultimate payor for Translarna is typically a government authority or institution or a third-party health insurer.

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The Company records revenue net of estimated third party discounts and rebates. Allowances are recorded as a reduction of revenue at the time revenues from product sales are recognized. These allowances are adjusted to reflect known changes in factors and may impact such allowances in the quarter those changes are known.

Collaboration and Grant Revenue

The terms of these agreements typically include payments to the Company of one or more of the following: nonrefundable, upfront license fees; milestone payments; research funding and royalties on future product sales. In addition, the Company generates service revenue through agreements that generally provide for fees for research and development services and may include additional payments upon achievement of specified events.

The Company evaluates all contingent consideration earned, such as a milestone payment, using the criteria as provided by the Financial Accounting Standards Board (FASB), guidance on the milestone method of revenue recognition. At the inception of a collaboration arrangement, the Company evaluates if a milestone payment is substantive. The criteria requires that (1) the Company determines if the milestone is commensurate with either its performance to achieve the milestone or the enhancement of value resulting from our activities to achieve the milestone; (2) the milestone be related to past performance; and (3) the milestone be reasonable relative to all deliverable and payment terms of the collaboration arrangement. If these criteria are met then the contingent milestones can be considered a substantive milestone and will be recognized as revenue in the period that the milestone is achieved. The Company recognizes royalties as earned in accordance with the terms of various research and collaboration agreements. If not substantive, the contingent consideration is allocated to the existing units of accounting based on relative selling price and recognized following the same basis previously established for the associated unit of accounting.

The Company recognizes revenue for reimbursements of research and development costs under collaboration agreements as the services are performed. The Company records these reimbursements as revenue and not as a reduction of research and development expenses as the Company has the risks and rewards as the principal in the research and development activities.

Recently issued accounting standards

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606) . ASU No. 2014-09 will eliminate transaction- and industry-specific revenue recognition guidance under current GAAP and replace it with a principle-based approach for determining revenue recognition. ASU No. 2014-09 includes the required steps to achieve the core principle that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU will also require additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. With the issuance of ASU No. 2015-14 in August 2015, the FASB deferred the effective date of the revenue recognition guidance to reporting periods beginning after December 15, 2017. Early adoption of the standard is permitted but not before the original effective date, which was for reporting periods beginning after December 15, 2016. With the issuance of ASU No. 2016-08 in March 2016 and ASU No. 2016-10 in April 2016, the FASB further amended guidance on recording revenue on a gross versus a net basis and on identifying performance obligations and licensing, respectively. The Company expects to adopt this guidance when effective and continues to evaluate the effect that the updated standard, as well as additional amendments, may have on its consolidated financial statements and accompanying notes.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity s Ability to Continue as a Going Concern , which defines management s responsibility to assess an entity s ability to continue as a going concern, and to provide related footnote disclosures if there is substantial doubt about its ability to continue as a going concern. The pronouncement is effective for annual reporting periods ending after December 15, 2016 with early adoption permitted. The adoption of this guidance is not expected to have a significant impact on the Company s financial statements.

In April 2015, the FASB issued ASU No. 2015-03, Interest Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs topic of the Codification . This standard provides a simplified presentation of debt issuance costs and requires that debt issuance costs related to a recognized debt liability to be presented on the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. The standard is effective for public companies for annual periods beginning after December 15, 2015. The Company adopted the guidance on January 1, 2016 on a retrospective basis and reclassed $2.8 million from Deposits and other assets to Long-term debt on the balance sheet as of December 31, 2015. The Company s unamortized debt issuance cost at June 30, 2016 was $2.6 million which is included within Long-term debt on the consolidated balance sheet.

In November 2015, the FASB issued ASU No. 2015-17, Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes . This standard requires all deferred tax assets and liabilities to be classified as non-current on the balance sheet instead of separating deferred taxes into current and non-current amounts. In addition, valuation allowance allocations between current and non-current deferred tax assets are no longer required because those allowances also will be classified as non-current. This standard is effective for public companies for annual periods beginning after December 15, 2016. Earlier application is permitted as of the beginning of an interim or annual reporting period. The Company s deferred tax assets is provided with full valuation allowance as of June 30, 2016. As such, the Company does not expect that this standard will have a significant impact upon adoption.

In January 2016, the FASB issued ASU No. 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities . This standard enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. The new guidance affects all

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reporting organizations (whether public or private) that hold financial assets or owe financial liabilities. ASU 2016-01 is effective for years beginning after December 15, 2017, including interim periods within those fiscal years. The Company expects to adopt this guidance when effective and is currently assessing what effect the adoption of ASU No. 2016-01 will have on its consolidated financial statements and accompanying notes.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) . This standard will require organizations that lease assets with lease terms of more than 12 months to recognize assets and liabilities for the rights and obligations created by those leases on their balance sheets. The ASU will also require new qualitative and quantitative disclosures to help investors and other financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The standard is effective for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. The Company expects to adopt this guidance when effective and is currently assessing what effect the adoption of ASU No. 2016-02 will have on its consolidated financial statements and accompanying notes.

In March 2016, the FASB issued ASU No. 2016-09, Compensation Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting . This standard requires the recognition of all income tax effects of awards in the income statement when the awards vest or are settled, with Additional Paid in Capital (APIC) pools to be eliminated. In addition, the standard will increase the amount an employer can withhold to cover income taxes on awards and still qualify for the exception to liability classification for shares used to satisfy the employer s statutory income tax withholding obligation as well as allowing companies to elect whether to account for forfeitures of share-based payments by recognizing forfeitures of awards as they occur or estimating the number of awards expected to be forfeited and adjusting the estimate when it is likely to change, as is currently required. This standard is effective for public companies for fiscal years beginning after December 15, 2016 and interim periods within those years, with early adoption permitted but only if all of the guidance is adopted in the same period. The Company expects to adopt this guidance when effective and is currently assessing what effect the adoption of ASU No. 2016-09 will have on its consolidated financial statements and accompanying notes.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments . This standard requires financial assets measured at amortized cost basis to be presented at the net amount expected to be collected. This standard is effective for public companies who are SEC filers for fiscal years beginning after December 15, 2019, including interim periods within those years. The Company expects to adopt this guidance when effective and is assessing what effect the adoption of ASU 2016-13 will have on its consolidated financial statements and accompanying notes.

3. Fair value of financial instruments and marketable securities

The Company follows the fair value measurement rules, which provides guidance on the use of fair value in accounting and disclosure for assets and liabilities when such accounting and disclosure is called for by other accounting literature. These rules establish a fair value hierarchy for inputs to be used to measure fair value of financial assets and liabilities. This hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three levels: Level 1 (highest priority), Level 2, and Level 3 (lowest priority).

- Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the balance sheet date.

- Level 2 Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (i.e., interest rates, yield curves, etc.), and inputs that are derived principally from or corroborated by observable market data by correlation or other means (market corroborated inputs).

- Level 3 Inputs are unobservable and reflect the Company s assumptions as to what market participants would use in pricing the asset or liability. The Company develops these inputs based on the best information available.

Cash equivalents and investments are reflected in the accompanying financial statements at fair value. The carrying amount of grant and collaboration receivables, accounts payable and accrued expenses, and debt approximates fair value due to the short-term nature of those instruments.

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Fair value of certain marketable securities is based upon market prices using quoted prices in active markets for identical assets quoted on the last day of the period. In establishing the estimated fair value of the remaining investments, the Company used the fair value as determined by its investment advisors using observable inputs other than quoted prices.

The Company reviews its investments on a periodic basis for other-than-temporary impairments. This review is subjective, as it requires management to evaluate whether an event or change in circumstances has occurred in that period that may have a significant adverse effect on the fair value of the investment.

The following represents the fair value using the hierarchy described above for the Company s financial assets and liabilities that are required to be measured at fair value on a recurring basis as of June 30, 2016 and December 31, 2015:

	June 30, 2016			
	Total	Quoted prices in active markets for identical assets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)
Marketable securities	$ 237,235	$	$ 237,235	$
Warrant liability	$ 1	$	$	$ 1
Stock appreciation rights liability	$ 140	$	$	$ 140

	December 31, 2015			
	Total	Quoted prices in active markets for identical assets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)
Marketable securities	$ 280,903	$	$ 280,903	$
Warrant Liability	$ 48	$	$	$ 48
Stock appreciation rights liability	$	$	$	$

No transfers of assets between Level 1 and Level 2 of the fair value measurement hierarchy occurred during the periods ended June 30, 2016 and December 31, 2015.

The following is a summary of marketable securities accounted for as available-for-sale securities at June 30, 2016 and December 31, 2015:

	June 30, 2016			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial paper	$ 11,969	$ 21	$	$ 11,990
Corporate debt securities	210,640	274	(26)	210,888
Government obligations	14,353	4		14,357
	$ 236,962	$ 299	$ (26)	$ 237,235

	December 31, 2015			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Commercial paper	$ 26,877	$ 80	$	$ 26,957
Corporate debt securities	226,959		(640)	226,319
Government obligations	27,656	3	(32)	27,627
	$ 281,492	$ 83	$ (672)	$ 280,903

At June 30, 2016 and December 31, 2015, the Company held securities with an unrealized loss position that were not considered to be other-than-temporarily impaired as the Company has the ability to hold such investments until recovery of their fair value. Unrealized gains and losses are reported as a component of accumulated other comprehensive (loss) income in stockholders equity. As of June 30, 2016 and December 31, 2015, the Company did not have any realized gains/losses from the sale of marketable securities.

Marketable securities on the balance sheet at June 30, 2016 and December 31, 2015 mature as follows:

	June 30, 2016	
	Less Than 12 Months	More Than 12 Months
Commercial paper	$ 11,990	$
Corporate debt securities	159,714	51,174
Government obligations	14,357	
Total Marketable securities	$ 186,061	$ 51,174

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	December 31, 2015	
	Less Than 12 Months	More Than 12 Months
Commercial paper	$ 26,957	$
Corporate debt securities	140,831	85,488
Government obligations	18,994	8,633
Total Marketable securities	$ 186,782	$ 94,121

The Company classifies all of its securities as current as they are all available for sale and are available for current operations.

Level 3 valuation

The warrant liability is classified in Other long-term liabilities on the Company s consolidated balance sheets. The warrant liability is marked-to-market each reporting period with the change in fair value recorded as a gain or loss within Other expense, net, on the Company s consolidated statements of operations until the warrants are exercised, expire or other facts and circumstances lead the warrant liability to be reclassified as an equity instrument. The fair value of the warrant liability is determined at each reporting period by utilizing the Black-Scholes option pricing model.

The stock appreciation rights (SARs) liability is classified in Other long-term liabilities on the Company s consolidated balance sheets. The SARs liability is marked-to-market each reporting period with the change in fair value recorded as compensation expense on the Company s consolidated statements of operations until the SARS vest. The fair value of the SARs liability is determined at each reporting period by utilizing the Black-Scholes option pricing model.

The table presented below is a summary of changes in the fair value of the Company s Level 3 valuations for the warrant liability and SARs liability for the period ended June 30, 2016:

	Level 3 liabilities	
	Warrants	SARs
Beginning balance as of December 31, 2015	$ 48	$
Change in fair value	(47)	140
Ending balance as of June 30, 2016	$ 1	$ 140

Fair value of the warrant liability is estimated using an option-pricing model, which includes variables such as the expected volatility based on guideline public companies, the stock fair value, and the estimated time to a liquidity event. The significant assumptions used in preparing the option pricing model for valuing the Company s warrants as of June 30, 2016 include (i) volatility (75% 77%), (ii) risk free interest rate (0.45% 0.71%), (iii) strike price ($128.00-$2,520.00), (iv) fair value of common stock ($7.02), and (v) expected life (0.96 3.23 years). The significant assumptions used in preparing the option pricing model for valuing the Company s warrants as of December 31, 2015 include (i) volatility (62%-70%), (ii) risk free interest rate (0.86% 1.54%), (iii) strike price ($128.00 $2,520.00), (iv) fair value of common stock ($32.40), and (v) expected life (1.50 3.70 years).

Fair value of the SARs liability is estimated using an option-pricing model, which includes variables such as the expected volatility based on guideline public companies, the stock fair value, and the estimated time to a liquidity event. The significant assumptions used in preparing the option pricing model for valuing the Company s SARs as of June 30, 2016 include (i) volatility (70%), (ii) risk free interest rate (0.36% 0.86%), (iii) strike price ($6.76-$30.86), (iv) fair value of common stock ($7.02), and (v) expected life (0.52 3.52 years).

4. Other comprehensive income (loss) and accumulated other comprehensive items

Other comprehensive income (loss) includes changes in equity that are excluded from net income (loss), such as unrealized gains and losses on marketable securities.

The following tables summarize other comprehensive income (loss) and the changes in accumulated other comprehensive items for the three and six months ended June 30, 2016:

	Unrealized Gains/(Losses) On Marketable Securities, net of tax	Foreign Currency Translation	Total Accumulated Other Comprehensive Items
Balance at March 31, 2016	$ 69	$ 1,015	$ 1,084
Other comprehensive loss before reclassifications	(40)	(159)	(199)
Amounts reclassified from other comprehensive items			
Other comprehensive loss	(40)	(159)	(199)
Balance at June 30, 2016	$ 29	$ 856	$ 885

	Unrealized Gains/(Losses) On Marketable Securities, net of tax	Foreign Currency Translation	Total Accumulated Other Comprehensive Items
Balance at December 31, 2015	$ (589)	$ (611)	$ (1,200)
Other comprehensive income before reclassifications	618	1,467	2,085
Amounts reclassified from other comprehensive items			
Other comprehensive income	618	1,467	2,085
Balance at June 30, 2016	$ 29	$ 856	$ 885

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5. Accounts payable and accrued expenses

Accounts payable and accrued expenses at June 30, 2016 and December 31, 2015 consist of the following:

	June 30, 2016	December 31, 2015
Employee compensation, benefits, and related accruals	$ 4,688	$ 11,187
Consulting and contracted research	12,846	13,753
Professional fees	1,638	2,523
Accounts payable	16,800	11,940
Accrued severance	995	
Other	5,216	5,844
	$ 42,183	$ 45,247

6. Warrants

All of the Company s outstanding warrants were classified as liabilities as of June 30, 2016 and December 31, 2015 because they contained non-standard antidilution provisions.

The following is a summary of the Company s outstanding warrants as of June 30, 2016 and December 31, 2015:

	Warrant shares	Exercise price	Expiration
Common stock	6,250	$ 128.00	2017
Common stock	7,030	$ 128.00	2019
Common stock	130	$ 2,520.00	2019

7. Net loss per share

Basic earnings per share is computed by dividing net income (loss) by the weighted-average number of common shares outstanding. Diluted earnings per share is computed by dividing net income (loss) by the weighted-average number of common shares plus the effect of dilutive potential common shares outstanding during the period.

The following tables set forth the computation of basic and diluted net loss per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Numerator				
Net loss	$ (38,914)	$ (38,361)	$ (80,147)	$ (76,276)
Denominator				
Denominator for basic and diluted net loss per share	34,000,333	33,600,653	33,959,751	33,335,674
Net loss per share:				
Basic and diluted	$ (1.14)*	$ (1.14)*	$ (2.36)*	$ (2.29)*

*In the three and six months ended June 30, 2016 and 2015, the Company experienced a net loss and therefore did not report any dilutive share impact.

The following table shows historical dilutive common share equivalents outstanding, which are not included in the above historical calculation, as the effect of their inclusion is anti-dilutive during each period.

	As of June 30,	
	2016	2015
Stock Options	5,969,382	4,663,852
Unvested restricted stock awards and units	274,490	353,135
Total	6,243,872	5,016,987

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8. Stock award plan

On March 5, 2013, the Company s Board of Directors approved the 2013 Stock Incentive Plan, which provides for the granting of stock option awards, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards in the aggregate of 739,937 shares of common stock. On March 5, 2013, the Board approved a grant of 735,324 shares of restricted stock and 4,613 stock options. There are no additional shares available for issuance under this plan.

In May 2013, the Company s Board of Directors and stockholders increased by 2,500,000 the number of shares authorized under the 2009 Equity and Long Term Incentive Plan, which provides for the granting of stock option awards, restricted stock awards, and other stock-based and cash-based awards.

In May 2013, the Company s Board of Directors and stockholders approved the 2013 Long Term Incentive Plan, which became effective upon the closing of the Company s IPO. The 2013 Long Term Incentive Plan provides for the grant of incentive stock options, nonstatutory stock options, restricted stock awards and other stock-based awards. The number of shares of common stock reserved for issuance under the 2013 Long Term Incentive Plan is the sum of (1) 122,296 shares of common stock available for issuance under the Company s 2009 Equity and Long Term Incentive Plan and 2013 Stock Incentive Plan, (2) the number of shares (up to 3,040,444 shares) equal to the sum of the number of shares of common stock subject to outstanding awards under the Company s 1998 Employee, Director and Consultant Stock Option Plan, 2009 Equity and Long Term Incentive Plan and 2013 Stock Incentive Plan that expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right plus (3) an annual increase, to be added on the first day of each fiscal year until the expiration of the 2013 Long Term Incentive Plan, equal to the lowest of 2,500,000 shares of common stock, 4% of the number of shares of common stock outstanding on the first day of the fiscal year and an amount determined by the Company s Board of Directors. As of June 30, 2016, awards for 326,101 shares of common stock are available for issuance.

From January 1, 2016 through June 30, 2016, the Company issued a total of 1,403,045 stock options to various employees. Of those, 93,100 were inducement grants for non-statutory stock options. The inducement grant awards were made pursuant to the NASDAQ inducement grant exception as a material component of our new hires employment compensation and not under the 2013 Long Term Incentive Plan.

A summary of stock option activity is as follows:

	Number of options	Weighted-average exercise price	Weighted-average remaining contractual term	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2015	4,826,477	$ 37.20		
Granted	1,403,045	$ 29.06		

Exercised	(3,125)	$	10.85			
Forfeited/Cancelled	(257,015)	$	47.36			
Outstanding at June 30, 2016	5,969,382	$	35.02	8.21 years	$	6
Vested or Expected to vest at June 30, 2016	3,361,980	$	35.89	8.66 years	$	5
Exercisable at June 30, 2016	2,357,502	$	33.60	7.50 years	$	

The fair value of grants made in the six months ended June 30, 2016 was contemporaneously estimated on the date of grant using the following assumptions:

	Six months ended June 30, 2016
Risk-free interest rate	1.31% 2.24%
Expected volatility	67% 71%
Expected term	5.05 10.00 years

The Company assumed no expected dividends for all grants. The weighted average grant date fair value of options granted during the six month period ended June 30, 2016 was $17.98 per share.

The Company uses the simplified method to determine the expected term of options. Under this method, the expected term represents the average of the vesting period and the contractual term. The expected volatility of share options was estimated based on a historical volatility analysis of peers that were similar to the Company with respect to industry, stage of life cycle, size, and financial leverage. The risk-free rate of the option is based on U.S. Government Securities Treasury Constant Maturities yields at the date of grant for a term similar to the expected term of the option.

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Restricted Stock Awards Restricted stock awards are granted subject to certain restrictions, including in some cases service or time conditions (restricted stock). The grant-date fair value of restricted stock awards, which has been determined based upon the market value of the Company s shares on the grant date, is expensed over the vesting period.

Restricted Stock Units Restricted stock units are granted subject to certain restrictions, including in some cases service or time conditions (restricted stock). The grant-date fair value of restricted stock units, which has been determined based upon the market value of the Company s shares on the grant date, is expensed over the vesting period.

The following table summarizes information on the Company s restricted stock awards and units:

	Restricted Stock Awards and Units	
	Number of Shares	Weighted Average Grant Date Fair Value
January 1, 2016	344,335	$ 10.85
Granted	141,185	$ 30.86
Vested	(163,635)	$ 10.85
Forfeited	(47,395)	$ 18.19
Unvested at June 30, 2016	274,490	$ 19.86

The Company recorded share-based compensation expense in the statement of operations related to incentive stock options, nonstatutory stock options, restricted stock awards and restricted stock units as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Research and development	$ 4,087	$ 3,957	$ 8,415	$ 8,624
Selling, general and administrative	4,649	4,371	9,236	9,452
Total	$ 8,736	$ 8,328	$ 17,651	$ 18,076

Stock Appreciation Rights Stock appreciation rights (SARs) entitle the holder to receive, upon exercise, an amount of Common Stock or cash (or a combination thereof) determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a share of Common Stock over the measurement price based on the exercise date.

In May 2016, a total of 897,290 SARs were granted to non-executive employees (the 2016 SARs). The 2016 SARs will vest annually in equal installments over four years and will be settled in cash on each vest date, requiring the Company to remeasure the SARs at each reporting period until vesting occurs. For the period ending June 30, 2016, the Company recorded $0.1 million in compensation expense related to the 2016 SARs.

As of June 30, 2016 there was approximately $78.2 million of total unrecognized compensation cost related to unvested share-based compensation arrangements granted under the 2009 Equity and Long Term Incentive Plan, the 2013 Long Term Incentive Plan and equity awards made pursuant to the NASDAQ inducement grant exception for new hires. This cost is expected to be recognized as share-based compensation expense over the weighted average remaining service period of approximately 2.56 years.

9. Convertible Senior Notes

In August 2015, the Company issued, at par value, $150.0 million aggregate principal amount of 3.0% convertible senior notes due 2022 (the Convertible Notes). The Convertible Notes bear cash interest at a rate of 3.0% per year, payable semi-annually on February 15 and August 15 of each year, beginning on February 15, 2016. The Convertible Notes will mature on August 15, 2022, unless earlier repurchased or converted. The net proceeds to the Company from the offering were $145.4 million after deducting the initial purchasers discounts and commissions and the offering expenses payable by the Company.

The Convertible Notes are governed by an indenture (the Convertible Notes Indenture) with U.S Bank National Association as trustee (the Convertible Notes Trustee).

Holders may convert their Convertible Notes at their option at any time prior to the close of business on the business day immediately preceding February 15, 2022 only under the following circumstances:

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- during any calendar quarter commencing on or after September 30, 2015 (and only during such calendar quarter), if the last reported sale price of the Company s common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;

- during the five business day period after any five consecutive trading day period (the measurement period) in which the trading price (as defined in the Convertible Notes Indenture) per $1,000 principal amount of Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company s common stock and the conversion rate on each such trading day;

- during any period after the Company has issued notice of redemption until the close of business on the scheduled trading day immediately preceding the relevant redemption date; or

- upon the occurrence of specified corporate events

On or after February 15, 2022, until the close of business on the business day immediately preceding the maturity date, holders may convert their Convertible Notes at any time, regardless of the foregoing circumstances. Upon conversion, the Company will pay cash up to the aggregate principal amount of the Convertible Notes to be converted and deliver shares of its common stock in respect of the remainder, if any, of its conversion obligation in excess of the aggregate principal amount of Convertible Notes being converted.

The conversion rate for the Convertible Notes was initially, and remains, 17.7487 shares of the Company s common stock per $1,000 principal amount of the Convertible Notes, which is equivalent to an initial conversion price of approximately $56.34 per share of the Company s common stock.

The Company may not redeem the Convertible Notes prior to August 20, 2018. The Company may redeem for cash all or any portion of the Convertible Notes, at its option, on or after August 20, 2018 if the last reported sale price of its common stock has been at least 130% of the conversion price then in effect on the last trading day of, and for at least 19 other trading days (whether or not consecutive) during, any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption, at a redemption price equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. No sinking fund is provided for the Convertible Notes, which means that the Company is not required to redeem or retire the Convertible Notes periodically.

If the Company undergoes a fundamental change (as defined in the Indenture governing the Convertible Notes Indenture), subject to certain conditions, holders of the Convertible Notes may require the Company to repurchase for cash all or part of their Convertible Notes at a repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Convertible Notes Indenture contains customary events of default with respect to the Convertible Notes, including that upon certain events of default (including the Company s failure to make any payment of principal or interest on the Convertible Notes when due and payable) occurring and continuing, the Convertible Notes Trustee by notice to the Company, or the holders of at least 25% in principal amount of the outstanding Convertible Notes by notice to the Company and the Convertible Notes Trustee, may, and the Convertible Notes Trustee at the request of such holders (subject to the provisions of the Convertible Notes Indenture) shall, declare 100% of the principal of and accrued and unpaid interest, if any, on all the Convertible Notes to be due and payable. In case of certain events of bankruptcy, insolvency or reorganization, involving the Company or a significant subsidiary, 100% of the principal of and accrued and unpaid interest on the Convertible Notes will automatically become due and payable. Upon such a declaration of acceleration, such principal and accrued and unpaid interest, if any, will be due and payable immediately.

The Company accounts for the Convertible Notes as a liability and equity component where the carrying value of the liability component will be valued based on a similar instrument. In accounting for the issuance of the Convertible Notes, the Company separated the Convertible Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the par value of the Convertible Notes as a whole. The excess of the principal amount of the liability component over its carrying amount, referred to as the debt discount, is amortized to interest expense over the seven-year term of the Convertible Notes. The equity component is not re-measured as long as it continues to meet the conditions for equity classification.

In accounting for the transaction costs related to the issuance of the Convertible Notes, the Company allocated the total costs incurred to the liability and equity components of the Convertible Notes based on their relative values. Transaction costs attributable to the liability component are amortized to interest expense over the seven-year term of the Convertible Notes, and transaction costs attributable

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to the equity component are netted with the equity components in stockholders equity. Additionally, the Company initially recorded a net deferred tax liability of $22.3 million in connection with the Notes.

The Convertible Notes consist of the following:

Liability component	June 30, 2016	December 31, 2015
Principal	$ 150,000	$ 150,000
Less: Debt issuance costs	(2,613)	(2,760)
Less: Debt discount, net(1)	(52,451)	(55,392)
Net carrying amount	$ 94,936	$ 91,848

(1) Included in the consolidated balance sheets within convertible senior notes (due 2022) and amortized to interest expense over the remaining life of the Convertible Notes using the effective interest rate method.

The fair value of the Convertible Notes was approximately $71.3 million as of June 30, 2016. The Company estimates the fair value of its Convertible Notes utilizing market quotations for debt that have quoted prices in active markets. As of June 30, 2016, the remaining contractual life of the Convertible Notes is approximately 6.1 years.

The following table sets forth total interest expense recognized related to the Convertible Notes:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Contractual interest expense	$ 1,125	$	$ 2,241	$
Amortization of debt issuance costs	75		147	
Amortization of debt discount	1,495		2,941	
Total	$ 2,695	$	$ 5,329	$
Effective interest rate of the liability component	11%		11%	

10. Restructuring

In March 2016, the Company commenced implementation of a reorganization of its operations intended to improve efficiency and better align the Company s costs and employment structure with its strategic plans. The Company completed its reorganization in June 2016 and recorded a one-time charge of $2.5 million for the six month period ended June 30, 2016. The total $2.5 million in one-time charges is related to work-force reduction, recorded in research and development and selling, general and administrative expenses in the accompanying statement of operations.

	Balance as of March 31, 2016	Expenses, net	Cash	Balance as of June 30, 2016
2016 workforce reduction	$ 1,903	$ 548	$ (1,456)	$ 995

11. Commitments and contingencies

Under various agreements, the Company will be required to pay royalties and milestone payments upon the successful development and commercialization of products. The Company has entered into funding agreements with The Wellcome Trust Limited (Wellcome Trust) for the research and development of small molecule compounds. To the extent that the Company develops and commercializes program intellectual property on a for-profit basis, it may become obligated to pay to Wellcome Trust development and regulatory milestone payments of up to an aggregate of $68.9 million and single-digit royalties on sales of any research program product. The Company s obligation to pay such royalties would continue on a country-by-country basis until the longer of the expiration of the last patent in the program intellectual property in such country covering the research program product and the expiration of market exclusivity of such product in such country. The Company s first such milestone payment of $0.8 million payable to Wellcome Trust occurred in the second quarter of 2016.

The Company has also entered into a collaboration agreement with the SMA Foundation. The Company may become obligated to pay the SMA Foundation single- digit royalties on worldwide net product sales of any collaboration product that we successfully develop and subsequently commercialize or, if we outlicense rights to a collaboration product, a specified percentage of certain payments we receive from our licensee. The Company is not obligated to make such payments unless and until annual sales of a collaboration product exceed a designated threshold. The Company s obligation to make such payments would end upon our payment to the SMA Foundation of a specified amount.

The Company has employment agreements with certain employees which require the funding of a specific level of payments, if certain events, such as a change in control or termination without cause, occur.

12. Subsequent events

The Company has evaluated all subsequent events and transactions through the filing date. There were no material events that impacted the unaudited consolidated financial statements or disclosures.

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Item 2. Management s Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion of our financial condition and results of operations should be read in conjunction with our financial statements and the notes to those financial statements appearing elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto and management s discussion and analysis of financial condition and results of operations for the year ended December 31, 2015 included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016. This discussion contains forward-looking statements that involve significant risks and uncertainties. As a result of many factors, such as those set forth in Part II, Item 1A. (Risk Factors) of this Quarterly Report on Form 10-Q, our actual results may differ materially from those anticipated in these forward-looking statements.

Our Company

We are a global biopharmaceutical company focused on the discovery, development and commercialization of orally administered, small molecule therapeutics targeting an area of RNA biology we refer to as post-transcriptional control. We have discovered all of our compounds currently under development using our proprietary technologies. We plan to continue to develop these compounds both on our own and through selective collaboration arrangements with leading pharmaceutical and biotechnology companies. Our internally discovered pipeline addresses multiple therapeutic areas, including rare disorders and oncology.

During the quarter ended June 30, 2016, we recognized $15.4 million in sales of Translarna (ataluren), our lead product, for the treatment of nonsense mutation Duchenne muscular dystrophy, or nmDMD. Translarna is currently available in over 20 countries on a commercial basis or through a reimbursed early access program, or EAP. Translarna is an investigational new drug in the United States, or U.S. We hold worldwide commercialization rights to Translarna for all indications in all territories.

Corporate Updates

Regulatory, clinical and marketing authorization matters for Translarna in nonsense mutation Duchenne muscular dystrophy

United States. We recently filed a formal appeal of the Refuse to File letter issued on February 22, 2016 by the U.S. Food and Drug Administration, or FDA, for our New Drug Application, or NDA, for Translarna for the treatment of nmDMD. The appeal was submitted in accordance with the formal dispute resolution process that exists within the FDA s Center for Drug Evaluation and Research.

The formal dispute resolution process exists to encourage open, prompt discussion of scientific and procedural disputes that arise during the drug development, new drug review, and post-marketing oversight processes of the FDA. We expect discussions on the refusal of the FDA s Division of Neurological Products, or DNP, to review Translarna s NDA to be escalated to the next level of FDA management via this process. Within the dispute resolution process, we are willing to consider multiple paths to advance a potential FDA approval, including the possibility of

conducting an additional clinical trial in connection with an accelerated approval.

There is substantial risk, notwithstanding any dialogue we have had or any further dialogue we may be able to initiate with the FDA, including pursuant to the formal dispute resolution process, that the agency will continue to disagree with our interpretation of the results of ACT DMD and the totality of clinical data from our trials and we may be required to perform additional clinical and non-clinical trials or complete additional analyses in order to enable FDA review of an NDA submission. Any such requirement for additional trials prior to approval, or otherwise, would result in significant additional costs and would most likely result in our inability to sell Translarna in the United States for a significant period of time, if ever.

For important information with respect to risks related to our ability to obtain marketing authorization for Translarna for the treatment of nmDMD in the U.S., see Item 1A. Risk Factors, including the risk factor titled, *There is substantial risk that we will not be successful in our appeal of the Refuse to File letter we received from the FDA regarding our NDA for Translarna for the treatment of nmDMD and, by determining to pursue the formal dispute resolution process with the FDA, we have postponed other available strategic pathways which may have proven to be more effective. If there are delays in obtaining regulatory approval in the United States, we will not be able to commercialize Translarna for nmDMD in that territory and our ability to generate revenue will be materially impaired.*

European Economic Area. We received marketing authorization from the European Commission in August 2014 for Translarna for the treatment of nmDMD in ambulatory patients aged five years and older in the 31 member states of the European Economic Area, or EEA. The marketing authorization is subject to annual review and renewal by the European Commission following reassessment by the European Medicines Agency, or EMA, of the risk-benefit balance of the authorization, which we refer to as the annual EMA reassessment, as well as our satisfaction of other conditions and obligations placed upon the marketing authorization.

In fulfillment of an initial condition to our marketing authorization, in January 2016 we submitted the final clinical study report from our Phase 3 ACT DMD trial to the EMA. We made this submission as a type II variation request that sought to have this initial condition to our marketing authorization removed and a full marketing authorization granted. In February 2016, we also submitted a marketing

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authorization renewal request with the EMA.

Over the last several months, we have been engaged in constructive discussions with the EMA s Committee for Medicinal Products for Human Use, or CHMP, regarding the continuation of our marketing authorization, including participation in a Scientific Advisory Group, or SAG, meeting and an oral explanation meeting with the CHMP, during the second quarter of 2016.

During the discussion at this CHMP meeting, it was determined that although the primary endpoint was not achieved in ACT DMD, the results of analyses suggested that the risk-benefit ratio of Translarna for the treatment of nmDMD remains positive, but there were still uncertainties about efficacy that needed to be addressed. In forming this conclusion, it was noted that Translarna has already received marketing authorization on an annual basis from the European Commission for the treatment of nmDMD and that there is severe unmet medical need for nmDMD treatment.

The CHMP has agreed to our proposal to submit a draft clinical trial protocol for further discussion, which includes seeking scientific advice from the EMA. We also recently received an additional request for supplemental information from the CHMP, including a request classified as a major objection that directs us to submit an adequate proposal for a clinical trial which will be able to demonstrate in a nmDMD patient population a robust and clinically meaningful effect of Translarna which confirms the positive risk-benefit ratio of Translarna and addresses outstanding uncertainties. The CHMP has noted that this trial must be deemed feasible in the post-authorization setting. In addition, the CHMP expressed an interest for further confirmation of the primary pharmacology of Translarna as part of this request. Generally speaking, a failure to adequately address a major objection would preclude a recommendation for renewal of a marketing authorization.

The CHMP s requests for supplementary information also included a number of other concerns, which do not rise to the level of major objections, including those related to risks associated with treatment. For example, as previously disclosed, changes in blood pressure and lipid profile were observed in a proportion of the Translarna-treated patients in ACT DMD. While the CHMP notes in its assessment report that the safety profile of Translarna could be considered acceptable, it further notes that Translarna is intended to be used chronically in boys with nmDMD who typically already have compromised cardiac function and are also being treated with corticosteroids that generally leads to increased blood pressure and lipid changes. As a result, we have been asked to discuss these topics in our Risk Management Plan and to propose relevant pharmacovigilance activities to collect further data regarding potential long term cardiovascular risks. The current warnings and precautions section of our approved Summary of Product Characteristics, or product label for Translarna, already notes that lipid levels and blood pressure should be monitored on a regular basis.

We are in the process of preparing our responses to the EMA s additional requests for supplementary information. We expect that, in connection with our proposal for a new clinical trial, we will obtain scientific advice from the Scientific Advice Working Party, or SAWP, and the SAG. The SAWP is a standing working party established by the CHMP with the sole remit of providing scientific advice and protocol assistance. The SAG is convened at the request of the CHMP to provide independent recommendations on scientific or technical matters relating to products under evaluation by the CHMP, or on any other scientific issue relevant to the work of the CHMP. We have not yet engaged in discussions with either the SAWP or SAG with respect to the design of a new clinical trial for Translarna in nmDMD.

We have been informed that the renewal assessment procedure cannot be completed by mid-year 2016, but we expect that, pursuant to applicable regulations and as confirmed in writing by the European Commission, our current marketing authorization status will remain valid while the annual EMA reassessment is ongoing and until it is concluded with an opinion from the European Commission with respect to renewal of our marketing authorization. Based on our interpretation of applicable regulatory timeframes, we believe the annual EMA reassessment could be completed, at the earliest, by the end of 2016.

While the EMA has not formally declined our type II variation request for full approval of our marketing authorization, we believe that it is unlikely that the EMA will recommend in favor of issuing us a marketing authorization that is not subject to an ongoing annual renewal requirement. We believe that if the CHMP determines to issue a positive opinion in favor of renewing our annual marketing authorization, such renewal, and any subsequent annual renewals, will be coupled with an obligation to conduct an agreed upon new clinical trial of Translarna for the treatment of nmDMD, designed with the scientific advice of the EMA. The EMA may also impose other new conditions to our marketing authorization, and may make other recommendations, including new label restrictions or the withdrawal of the marketing authorization. In addition, the EMA could determine that the balance of risks and benefits of using Translarna for the treatment of nmDMD has changed materially or that we have not or are unable to comply with any conditions that have been or may be placed on the marketing authorization. In such an event, the European Commission could, at the EMA s recommendation, vary, suspend, withdraw or refuse to renew the marketing authorization for Translarna. If our marketing authorization in the EEA is not renewed, or our product label is materially restricted, we would lose all, or a significant portion of, our ability to generate revenue from product sales, whether pursuant to a commercial or an EAP program and throughout all territories.

For additional information regarding the risks related to the renewal of our marketing authorization in the EEA, see the risk factor under Risks Related to Regulatory Approval of our Product and our Product Candidates titled, *Our marketing authorization in the EEA*

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requires annual renewal by the European Commission, which, as of the date of this filing, has not been granted, and there is substantial risk that the EMA will not determine that the risk-benefit balance of Translarna supports renewal of our marketing authorization, on the current label, or at all, and, even if the European Commission grants renewal of our marketing authorization, such renewal will likely be conditioned upon the results of a not yet designed trial for Translarna for the treatment of nmDMD, which will likely result in significant expense and uncertainty for us. If we are not able to obtain renewal of our marketing authorization, we will not be able to continue to commercialize Translarna for nmDMD and our ability to generate revenue will be materially impaired.

Phase 2 Pediatric Study. As part of our ongoing commitments under our marketing authorization in the EEA and to support the potential expansion of Translarna s label to younger patients, we initiated a Phase 2 pediatric clinical study of Translarna for the treatment of nmDMD in patients two to five years of age in June 2016. This Phase 2, open-label, multiple-dose study will evaluate the safety and pharmacokinetics of Translarna in pediatric patients.

Other territories. In March 2016, we withdrew our New Drug Submission, or NDS, with Health Canada for Translarna for nmDMD. We plan to resubmit the NDS with the results of the ACT DMD trial, however in light of the regulatory developments discussed above in the U.S. and EEA, we may determine to refile our NDS later than the second half of 2016. Many territories outside of the EEA reference and depend on the determinations by the EMA when considering the grant of a marketing authorization. While Translarna received marketing authorization for the treatment of nmDMD in Israel in August 2015 and South Korea in December 2015, maintenance of marketing authorization in these countries will depend on the renewal and approval by the EMA for Translarna in the EEA. In the event that the EMA determines not to renew or otherwise modifies or withdraws our marketing authorization in the EEA, we may not be able to maintain our marketing authorizations in these other territories.

Early Access Programs. We have been making Translarna for the treatment of nmDMD available through reimbursed early access programs, or EAP programs, in selected countries where funded named patient or cohort programs exist, both within the EEA and in other territories. All of these programs are supported by the EMA s assessment of Translarna and our marketing authorization in the EEA. As of today, Translarna is available under EAP or similar styled programs in Argentina, Brazil, Canada, Colombia, Cyprus, France, Greece, Israel, Italy, Portugal, Scotland, Spain, Sweden, Switzerland, and Turkey.

Commercial and market access matters for Translarna in nonsense mutation Duchenne muscular dystrophy

The biopharmaceutical industry, including PTC, has experienced significant pressure on pricing for pharmaceuticals and orphan drug pricing is also drawing significant attention. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Prices at which we or our customers seek reimbursement for our products can be subject to challenge, reduction or denial by the government and other payers. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. In addition, the price that is approved by local governmental authorities pursuant to commercial pricing and reimbursement processes may be significantly lower than the price charged for purchases of product in that country pursuant to a reimbursed early access program.

In some countries, such as France and Germany, EAP and commercial sales of a product can begin while pricing and reimbursement rates are under discussion with the applicable government health authorities. In the event that the negotiated price of the product is lower than the amount reimbursed for sales made prior to the conclusion of price negotiations, the company may become obligated to repay such excess amount to the applicable government health program. In certain countries, we record revenue net of estimated government and other third party discounts and rebates which will be finalized in the future. Allowances are recorded as a reduction of gross revenue at the time revenues from product sales are recognized. Our allowances may be adjusted over time to reflect known changes in factors which may impact revenue recognition in any given quarter.

Each country, including each member state of the EEA, has its own pricing and reimbursement regulations and many countries have other regulations related to the marketing and sale of pharmaceutical products in the applicable country. The pricing and reimbursement process varies from country to country and can take over 18 months from initiation to completion. As a result, our commercial launch will continue to be on a country-by-country basis. We generally will not be able to commence commercial sales of Translarna for the treatment of nmDMD pursuant to our marketing authorization in the EEA in any particular member state of the EEA until we conclude the applicable pricing and reimbursement negotiations and comply with any licensing, employment or related regulatory requirements in that country.

In July 2016, the National Institute for Health and Care Excellence, or NICE, issued final guidance recommending Translarna for nmDMD patients within the EMA-approval label when used in connection with a five-year managed access agreement. The managed access agreement has been entered into by us, NICE and National Health Services England, or NHS England as well as the NorthStar clinical network and the patient organisations Muscular Dystrophy UK and Action Duchenne. The managed access agreement establishes the clinical and commercial details surrounding the use of Translarna, including the terms and conditions of a confidential financial arrangement and the collection of further data on the efficacy of Translarna for the treatment of nmDMD over a five-year

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period with NICE guidance to be reviewed again at the end of that period, before future funding decisions are taken. As part of the managed access agreement, the usual three-month funding period under local regulation was waived by NHS England and Translarna is available to nmDMD patients in England. We have been engaged in market access discussions with NHS England and NICE since 2014.

In addition to England, final commercial reference pricing for Translarna is currently available in Austria, Czech Republic, Denmark, Hungary, Norway, and Slovakia. While we have submitted pricing and reimbursement dossiers with respect to Translarna for the treatment of nmDMD in other key EEA countries, we have not concluded pricing and reimbursement discussions in any of these key countries on terms that are acceptable to us. For example, during the first quarter of 2016, we were unable to achieve an acceptable agreement on pricing and reimbursement terms with the German Federal Association of the Statutory Health Insurances in the arbitration phase of the market access process in Germany. As a result, we determined to delist Translarna from the German pharmacy ordering system, effective April 1, 2016. It is our understanding that the majority of applicable patients and healthcare professionals in Germany have begun to access Translarna through a reimbursed importation pathway possible under German law. For any sales made directly in Germany from local pharmacies since December 2015, we are required to reimburse German payors the difference between the commercial price of Translarna in Germany and the price established by the German arbitration board. Any sales made to German patients via the reimbursed importation pathway are not subject to this arbitration price.

We expect that net product sales will fluctuate quarter-over-quarter. In some countries, including Brazil, orders for named patient sales are for multiple months of therapy which can lead to an unevenness in orders. Other factors may also contribute to fluctuations in quarterly net product sales including Translarna s availability in any particular territory, government actions, economic pressures, political unrest and other factors. Net product sales in general are impacted by many factors such as the timing of decisions by regulatory authorities, in particular the FDA and the EMA with respect to our ability to market or sell Translarna for the treatment of nmDMD, and our ability to successfully negotiate favorable pricing and reimbursement processes on a timely basis in the countries in which we have or may obtain regulatory approval, including the United States, EEA and other territories.

For important information regarding risks to our business arising as a result matters relating to pharmaceutical pricing and reimbursement see Item 1A. Risk Factors, including the risk factor titled *Our initial commercial launch of Translarna has begun in, and is expected to continue to take place in, countries that tend to impose strict price controls, which may adversely affect our revenues, if any. Failure to obtain and maintain acceptable pricing and reimbursement terms for Translarna in the European Economic Area and other jurisdictions would prevent us from marketing our products in such regions*.

Prevalence estimates for rare diseases are typically provided in ranges due to the uncertainties associated with the methodologies used to derive estimates such as epidemiology assumptions. It can take many years of experience in rare disease market places before prevalence becomes well characterized. PTC is launching the first therapy specifically aimed at DMD patients and in particular DMD patients with nonsense mutation. Our experience to date suggests that there may be up to 7,000 nmDMD patients globally and that approximately 40% of such patients are qualified for treatment under our current product label in the EEA. Country specific epidemiology will continue to be refined and characterized over the coming years and we have determined that we are not able to provide or confirm prior prevalence estimates on a country or regional basis at this time. Our estimates of both the number of people who have DMD caused by a nonsense mutation, as well as the subset of people with nmDMD who are ambulatory and at least five years old, are based on our beliefs and estimates derived from a variety of sources and may prove to be incorrect. Prevalence estimates vary given some degree of variation in the incidence of live male births, the incidence of DMD, the incidence nonsense mutations and other factors.

Translarna for nonsense mutation cystic fibrosis

We anticipate top-line results from our global, confirmatory Phase 3 clinical trial of Translarna for the treatment of cystic fibrosis caused by nonsense mutations, or nmCF, in early 2017. We refer to this trial as ACT CF.

During the third quarter of 2015, we submitted to the EMA a type II variation to our marketing authorization of Translarna in the EEA for the treatment of nmDMD, described above, to request approval of Translarna for the treatment of nmCF. Our variation submission was primarily based on the data from our prior Phase 3 clinical trial in nmCF completed in 2011, including a post-hoc analysis of the results. We believe that the collective data from our prior Phase 3 trial, including retrospective and subgroup analyses that we have performed, provide strong support for concluding that Translarna was active and showed clinically meaningful improvements over placebo; however, the primary efficacy endpoint in the intent to treat, or ITT, population did not achieve statistical significance.

At its December 2015 meeting, the CHMP discussed the safety and efficacy of Translarna in nmCF patients as a whole and in a subgroup of patients without concomitant treatment with inhaled aminoglycosides and Translarna s potential for renal and urinary toxicity. At the meeting the CHMP adopted a request for supplementary information with respect to our variation submission and we have submitted our initial response. During the second quarter of 2016, we received additional requests for supplemental information from the CHMP with respect to our type II variation request, including requests characterized as major objections related to the efficacy and safety of

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Translarna for the treatment of nmCF. We are in the process of preparing our response to the CHMP s requests.

Approval of the variation to our marketing authorization will depend on the EMA s assessment of the relative benefits and risks of approval. If we are unable to demonstrate the required relative risk-benefit profile, there is substantial risk that the EMA will not grant us a variation approving Translarna for the treatment of nmCF. Based on recent interactions with the CHMP, we believe that the results from our ongoing ACT CF trial may be required prior to any grant of marketing authorization and we no longer expect a recommendation from the CHMP with respect to our type II variation submission in 2016.

Even if the variation is approved, we expect that the EMA will require us, as a post approval measure, to provide comprehensive clinical data from ACT CF to the EMA. In addition, such variation, if granted, will be subject to annual review and renewal by the European Commission following reassessment by the EMA of the risk-benefit balance of the authorization, unless and until we are granted full marketing authorization for our primary marketing authorization in the EEA for Translarna for the treatment of nmDMD.

Translarna for additional indications

Based on its understood mechanism of action, we believe Translarna may have benefit in the treatment of patients with any genetic disorder that arises as a result of a nonsense mutation. We are pursuing proof of concept studies for Translarna in additional indications, including mucopolysaccharidosis type I caused by nonsense mutation, or nmMPS I, nonsense mutation aniridia, and nonsense mutation Dravet syndrome/CDKL5.

Spinal muscular atrophy program

Two compounds are currently in clinical development within the SMA program, RG7800 and RG7916. A Phase 1 study for RG7916 in healthy volunteers to investigate the safety, tolerability, pharmacokinetics and pharmacodynamics has been completed. Preliminary results indicate that RG7916 was well tolerated and treatment resulted in increases of full length SMN2 mRNA. A clinical study of RG7916 in SMA patients is expected to begin in 2016. RG7800 is the subject of a Phase 2 randomized, double blind, placebo controlled trial called Moonfish in adult and pediatric patients with SMA. Dosing in the Moonfish trial was suspended in April 2015 and the trial was placed on clinical hold to investigate a non-clinical safety finding observed in a longer term animal study. We and our collaboration partners expect to utilize data from completed and ongoing studies to continue to compare the profiles of the RG7800 and RG7916 compounds to determine the best path forward for our SMA program.

Cancer stem cell program

A Phase 1 first-in-human, dose-escalation safety and pharmacokinetic open-label clinical study for our product candidate, PTC596, in advanced cancer patients with solid tumors initiated in April 2015 and is ongoing.

Funding

Since 2015, our revenues have been primarily generated from sales of Translarna for the treatment of nmDMD in territories where we are permitted to distribute Translarna under our early access programs, or EAPs, and in countries in the EEA where we were able to obtain acceptable pricing and reimbursement terms.

To date, we have financed our operations primarily through our offering of 3.00% convertible senior notes due August 15, 2022, or the Convertible Notes offering, our public offerings of common stock in February 2014 and in October 2014, our initial public offering of common stock in June 2013, private placements of our preferred stock, collaborations, bank debt and convertible debt financings and grants and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease areas addressed by our product candidates.

As of June 30, 2016, we had an accumulated deficit of $673.1 million. We had a net loss of $80.1 million and $76.3 million for the six months ended June 30, 2016 and 2015, respectively.

Our ongoing ability to generate revenue is almost entirely dependent upon our ability to maintain our marketing authorization in the EEA for Translarna for the treatment of nmDMD in ambulatory patients aged five years and older. We expect to incur significant costs in connection with our efforts to maintain our marketing authorization. If our marketing authorization is not renewed, or our product label is materially restricted, we would lose all, or a significant portion of, our ability to generate revenue from product sales, whether pursuant to a commercial or an EAP program and throughout all territories.

In addition, in connection with our ongoing dialogue with the EMA with respect to the renewal of our marketing authorization in the EEA, the CHMP has agreed to our proposal to submit for further discussion a draft clinical trial protocol regarding a new trial evaluating

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Translarna in nmDMD patients, which will include input from the EMA in the form of scientific advice. Designing, enrolling, conducting and completing a clinical trial is a time-consuming, expensive and uncertain process that takes years to complete, and we expect that we will incur material ongoing costs related to the development of such a trial in the short-term, as well as the implementation of the trial in the longer term.

We also recently initiated a formal dispute resolution with the FDA, seeking to reverse the FDA s Refuse to File decision with respect to our NDA for Translarna for the treatment of nmDMD and we may incur significant costs in connection with our efforts to resolve the matters set forth in the Refuse to File letter.

We anticipate that our expenses will further increase in connection with the expansion of our global infrastructure as we continue to establish an international presence and commercialize Translarna for the treatment of nmDMD, including sales and marketing, legal and regulatory, distribution and manufacturing and administrative and employee-based expenses. In addition to the foregoing, we expect to continue to incur significant costs in connection with our ongoing confirmatory Phase 3 ACT CF clinical trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF as well as our Phase 2 proof-of-concept studies for nmMPS I, nonsense mutation aniridia and nonsense mutation Dravet syndrome/CDKL5. We also expect to incur ongoing research and development expenses for our other product candidates, including our ongoing Phase 1 clinical study under our cancer stem cell program. In addition, we may incur substantial costs in connection with our efforts to advance our regulatory submissions, including our submission with the EMA that seeks to include Translarna for the treatment of nmCF. We have begun seeking and intend to continue to seek marketing authorization for Translarna for the treatment of nmDMD in territories outside of the EEA and we may also seek marketing authorization for Translarna for other indications. These efforts may significantly impact the timing and extent of our commercialization expenses.

With respect to our outstanding Convertible Notes, cash interest payments are payable on a semi-annual basis in arrears, which will require total funding of $4.5 million annually. Furthermore, as a result of our initial public offering in June 2013, we have incurred and expect to continue to incur additional costs associated with operating as a public company. These costs include significant legal, accounting, investor relations and other expenses that we did not incur as a private company. Additionally, we could be forced to expend significant resources in the defense of the pending securities class action lawsuits brought against us and certain of our executives, as described under Part II, Item 1. Legal Proceedings in this Quarterly Report on Form 10-Q. See also, *The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock and lawsuits against us and our officers and directors* under Part II, Item 1A. Risk Factors - Risks Related to Our Common Stock.

We will need to generate significant revenues to achieve and sustain profitability, and we may never do so. Accordingly, we may need to obtain substantial additional funding in connection with our continuing operations. Adequate additional financing may not be available to us on acceptable terms, or at all. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or our commercialization efforts.

Financial operations overview

To date, our net product sales have consisted solely of sales of Translarna for the treatment of nmDMD in territories outside of the U.S. Our process for recognizing revenue is described below under Critical accounting policies and significant judgments and estimates Revenue recognition .

Roche and the SMA Foundation Collaboration. In November 2011, we entered into a license and collaboration agreement, or licensing agreement, with Roche and the SMA Foundation pursuant to which we are collaborating with Roche and the SMA Foundation to further develop and commercialize compounds identified under our spinal muscular atrophy program with the SMA Foundation. The research component of this agreement terminated effective December 31, 2014. The licensing agreement included a $30 million upfront payment made in 2011 which was recognized on a deferred basis over the research term, and the potential for up to $460 million in milestone payments and royalties on net sales.

In August 2013, we announced the selection of a development candidate. The achievement of this milestone triggered a $10.0 million payment to us from Roche, which we recorded as collaboration revenue for the year ended December 31, 2013.

In January 2014, we initiated a Phase 1 clinical program, which triggered a $7.5 million milestone payment to us from Roche which we recorded as collaboration revenue for the year ended December 31, 2014.

In November 2014, we announced that our joint development program in Spinal Muscular Atrophy (SMA) with Roche and the SMA Foundation (SMAF) has started a Phase 2 study in adult and pediatric patients. The achievement of this milestone triggered a $10.0 million payment to us from Roche which we recorded as collaboration revenue for the year ended December 31, 2014.

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Grant revenue. From time to time, we receive grant funding from various institutions and governmental bodies. The grants are typically for early discovery research, and generally such grant programs last from two to five years.

Research and development expense

Research and development expenses consist of the costs associated with our research activities, as well as the costs associated with our drug discovery efforts, conducting preclinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings. Our research and development expenses consist of:

- external research and development expenses incurred under agreements with third-party contract research organizations and investigative sites, third-party manufacturing organizations and consultants;

- employee-related expenses, which include salaries and benefits, including share-based compensation, for the personnel involved in our drug discovery and development activities; and

- facilities, depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, IT, human resources and other support functions, depreciation of leasehold improvements and equipment, and laboratory and other supplies.

We use our employee and infrastructure resources across multiple research projects, including our drug development programs. We track expenses related to our clinical programs and certain preclinical programs on a per project basis.

We expect our research and development expenses to increase in connection with our ongoing activities, particularly as we continue our confirmatory Phase 3 ACT CF trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF, our Phase 2 proof-of-concept study of Translarna in nmMPS I, nonsense mutation aniridia, and nonsense mutation Dravet syndrome/CDKL5, and our Phase 1 clinical study for PTC596 under our cancer stem cell program. The timing and amount of these expenses will depend upon the outcome of these ongoing clinical trials and the costs associated with our planned clinical trials. The timing and amount of these expenses will also depend on the costs associated with potential future clinical trials of our product candidates and the related expansion of our research and development organization, regulatory requirements, advancement of our preclinical programs and product candidate manufacturing costs.

The following tables provide research and development expense for our most advanced principal product development programs, for the three and six months ended June 30, 2016 and June 30, 2015.

	Three months June 30,	
	2016	2015
	(in thousands)	
Translarna (nmDMD, nmCF, nmMPS I, aniridia and Dravet)	$ 22,056	$ 17,465
Antibacterial	4	2,499
Cancer stem cell	1,691	1,612
Next generation nonsense readthrough	1,680	2,028
Other research and preclinical	3,396	4,586
Total research and development	$ 28,827	$ 28,190

	Six months June 30,	
	2016	2015
	(in thousands)	
Translarna (nmDMD, nmCF, nmMPS I, aniridia and Dravet)	$ 44,206	$ 30,309
Antibacterial	163	4,051
Cancer stem cell	3,640	2,430
Next generation nonsense readthrough	3,526	3,016
Other research and preclinical	8,691	16,322
Total research and development	$ 60,226	$ 56,128

The successful development of our product and product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

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- the costs, timing and outcome of our efforts to resolve the matters set forth in the Refuse to File letter we received from the FDA in connection with our NDA for Translarna for the treatment of nmDMD;

- the costs, timing and outcome of the annual EMA assessment related to renewal of our marketing authorization in the EEA for Translarna for the treatment of nmDMD, including whether the EMA determines that the risk-benefit balance of Translarna supports renewal of our marketing authorization in the EEA, on the current approved label, or at all and the design of any acceptable new clinical trial in nmDMD we may be able to develop with input from the EMA, if any;

- the scope, rate of progress and expense of our clinical trials and other research and development activities;

- the potential benefits of our product and product candidate over other therapies;

- our ability to market, commercialize and achieve market acceptance for any of our product candidates that we are developing or may develop in the future, including our ability to negotiate pricing and reimbursement terms acceptable to us and to obtain or maintain marketing authorizations we have or may receive from our product and product candidates;

- clinical trial results;

- the terms and timing of regulatory approvals; and

- the expense of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights.

A change in the outcome of any of these variables with respect to the development of Translarna or any other product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the EMA or FDA or other regulatory authority were to require us to conduct clinical trials beyond those which we currently anticipate will be required for the completion of clinical development of Translarna or any other product candidate or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

Selling, general and administrative expense

Selling, general and administrative expenses consist primarily of salaries and other related costs for personnel, including share-based compensation expenses, in our executive, legal, business development, finance, accounting, information technology and human resource functions. Other selling, general and administrative expenses include facility-related costs not otherwise included in research and development expense; advertising and promotional expenses; costs associated with industry and trade shows; and professional fees for legal services, including patent-related expenses, accounting services, miscellaneous selling costs and finishing costs incurred to direct product to commercial use.

We expect that selling, general and administrative expenses will increase in future periods as a result of our continued efforts to establish an expanded international presence in Europe and other territories and our continued efforts to commercialize Translarna for the treatment of nmDMD, including increased payroll, expanded infrastructure, commercial operations, increased consulting, legal, accounting and investor relations expenses.

Interest (expense) income, net

Interest (expense) income, net consists of interest income earned on investments and interest expense from the Convertible Notes outstanding.

Critical accounting policies and significant judgments and estimates

Our management s discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. Actual results may differ from these estimates under different assumptions or conditions.

Revenue recognition

We recognize revenue when amounts are realized or realizable and earned. Revenue is considered realizable and earned when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the price is fixed or determinable; and (4) collection of the amounts due are reasonably assured.

Net Product Sales

To date, our net product sales have consisted solely of sales of Translarna for the treatment of nmDMD in territories outside of the U.S. We began recognizing revenue for payments received under the reimbursed EAPs for Translarna in nmDMD patients in select countries in the third quarter of 2014. We have now established a pattern of collectability and, since January 2015, we recognize revenue from

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product sales when there is persuasive evidence that an arrangement exists, title to product and associated risk of loss has passed to the customer, the price is fixed or determinable, collectability is reasonably assured and we have no further performance obligations in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Subtopic 605-15, Revenue Recognition Products.

We have recorded revenue on sales where Translarna is available either on a commercial basis or through a reimbursed EAP program. Orders for Translarna are generally received from hospital and retail pharmacies and, in some cases, one of our third-party partner distributors. Our third-party distributors act as intermediaries between us and end users and do not typically stock significant quantities of Translarna. The ultimate payor for Translarna is typically a government authority or institution or a third-party health insurer. Prior to January 1, 2015, we generally recognized revenue for these reimbursed EAP programs once the product was shipped on behalf of the government authority or institution on a cash basis if all other revenue recognition criteria had been met. Beginning in the first quarter of 2015, we are recognizing revenue for Translarna as product is shipped, as we have established a pattern of collectability.

We record revenue net of estimated third party discounts and rebates. Allowances are recorded as a reduction of revenue at the time revenues from product sales are recognized. Allowances for government and other third-party rebates and discounts are established or estimated at the time of delivery. These allowances are adjusted to reflect known changes in factors and may impact such allowances in the quarter those changes are known.

We expect that net product sales will fluctuate quarter-over-quarter. In some countries, including Brazil, orders for named patient sales are for multiple months of therapy which can lead to an unevenness in orders. Other factors may also contribute to fluctuations in quarterly net product sales including Translarna s availability in any particular territory, government actions, economic pressures, political unrest and other factors. Net product sales are impacted by factors, such as the timing of decisions by regulatory authorities, in particular the FDA and the EMA with respect to our ability to market or sell Translarna for the treatment of nmDMD, and our ability to successfully negotiate favorable pricing and reimbursement processes on a timely basis in the countries in which we have or may obtain regulatory approval, including the United States, EEA and other territories.

Collaboration and Grant Revenue

The terms of collaboration agreements typically include payments of one or more of the following: nonrefundable, upfront license fees; milestone payments; research funding; and royalties on future product sales. In addition, if applicable, we generate service revenue through collaboration and grant agreements that provide for fees for research and development services or additional payments upon achievement of specified events.

We evaluate all contingent consideration earned, such as a milestone payment, using the criteria as provided by the Financial Accounting Standards Board, or FASB, guidance on the milestone method of revenue recognition. At the inception of a collaboration arrangement, we evaluate if milestone payments are substantive. The criteria requires that (1) we determine if the milestone is commensurate with either its performance to achieve the milestone or the enhancement of value resulting from our activities to achieve the milestone; (2) the milestone be related to past performance; and (3) the milestone be reasonable relative to all deliverable and payment terms of the collaboration arrangement. If these criteria are met then the contingent milestones can be considered as substantive milestones and will be recognized as revenue in the period that the milestone is achieved. We recognize royalties as earned in accordance with the terms of various research and collaboration agreements. If not substantive, the contingent consideration is allocated to the existing units of accounting based on relative selling price and recognized following the same basis previously established for the associated unit of accounting.

We recognize reimbursements for research and development costs under collaboration agreements as revenue as the services are performed. We record these reimbursements as revenue and not as a reduction of research and development expenses as we have the risks and rewards as the principal in the research and development activities.

Our principal obligation under our grant agreements is to conduct the internal or external research in the specific field funded by the grant. We determine, through the grant s normal research process, which research and development projects to pursue. We recognize grant revenues as the research activities are performed. If the grant includes an upfront payment, we defer the amount and recognize it as revenue as the expenditures are incurred.

Inventories and Cost of Product Revenues

In 2014, we were notified that the European Commission granted marketing authorization for Translarna for the treatment of nmDMD in ambulatory patients aged five years and older. The conditional marketing authorization allows us to market Translarna for the treatment of nmDMD in the 31 member states of European Economic Area. Our launch in these countries is on a country by country basis. This marketing authorization is subject to annual review and renewal by the European Commission following reassessment by

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the European Medicines Agency, or EMA, of the risk benefit balance of the authorization, which we refer to as the annual EMA reassessment. In the third quarter of 2015, the EMA approved the annual renewal of the marketing authorization for Translarna for the treatment of nmDMD. The authorization was further conditioned on our submission of the final report, including additional efficacy and safety data, from ACT DMD and our ability to implement measures, including pharmacovigilance plans that are detailed in the risk management plan for Translarna that was submitted to EMA. In January 2016, we submitted the final ACT DMD report to the EMA. We made this submission as a type II variation request that sought to have this initial condition to our marketing authorization removed and a full marketing authorization granted. In February 2016, we also submitted a marketing authorization renewal request with the EMA.

While we have been informed that the renewal assessment procedure cannot be completed by mid-year 2016, we expect that, pursuant to applicable regulations, our current marketing authorization status will remain valid while the annual EMA reassessment is ongoing and until it is concluded with an opinion from the European Commission with respect to renewal of our marketing authorization. Based on our interpretation of applicable regulatory timeframes, we believe the annual EMA reassessment could be completed, at the earliest, by the end of 2016.

We plan to seek to renew the marketing authorization on an annual basis until our obligations have been fulfilled and the approval is converted from a conditional approval into a full approval. If we fail to satisfy such requirements, or if it is determined that the balance of risks and benefits of using Translarna changes materially, the European Commission could, at the EMA s recommendation, vary, suspend, withdraw or refuse to renew the marketing authorization for Translarna or require additional clinical trials.

There continues to be substantial risk that regulators could suspend or not renew our marketing authorization in the future. As such, as of the date of this filing, we have not capitalized inventory given the near term uncertainty with respect to the long term utilization of Translarna finished product for commercial use. Had we capitalized as inventory all of our Translarna product that is available for commercial sale on hand as of June 30, 2016, the value of that inventory would have been approximately $1.2 million. In addition, had we expensed the cost of Translarna product sold as a cost of sales, our gross profit margin would have been greater than 90%, which we believe is consistent with the cost of producing small molecule therapeutics for orphan drug diseases in the pharmaceutical industry. We will continue to assess the appropriateness of inventory capitalization based on the outcome of applicable regulatory approvals which are expected later this year.

Accrued expenses

As part of the process of preparing our financial statements, we are required to estimate accrued expenses. This process involves communicating with our applicable personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual cost. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us. Examples of estimated accrued expenses include:

- fees paid to contract research organizations in connection with preclinical and toxicology studies and clinical trials;

- fees paid to investigative sites in connection with clinical trials;

- fees paid to contract manufacturers in connection with the production of clinical trial materials; and

- professional service fees.

Share-based compensation

We expect to grant additional stock options that will result in additional share-based compensation expense. We measure the cost of employee services received in exchange for an award of equity instruments based on the grant date fair value of the award. For service type awards, share-based compensation expense is recognized on a straight-line basis over the period during which the employee is required to provide service in exchange for the entire award. For awards that vest or begin vesting upon achievement of a performance condition, we estimate the likelihood of satisfaction of the performance condition and recognize compensation expense when achievement of the performance condition is deemed probable using an accelerated attribution model.

From January 1, 2016 through June 30, 2016, we issued a total of 1,403,045 stock options to various employees. Of those, 93,100 were non-statutory stock option inducement grants made pursuant to the NASDAQ inducement grant exception as a material component of our new hires employment compensation. All other stock option grants were made under our 2013 Long Term Incentive Plan.

The fair value of options is calculated using the Black-Scholes option pricing model to determine the fair value of stock options on the

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date of grant based on key assumptions, such as expected volatility and expected term. As a new public company, we do not have sufficient history to estimate the volatility of our common stock price or the expected life of the options. We calculate expected volatility based on reported data for similar publicly traded companies for which historical information is available and will continue to do so until the historical volatility of our common stock is sufficient to measure expected volatility for future option grants.

The fair value of grants made in the six months ended June 30, 2016 was contemporaneously estimated on the date of grant using the following assumptions:

	2016
Risk-free interest rate	1.31% 2.24%
Expected volatility	67% 71%
Expected term	5.05 10.00 years

We assumed no expected dividends for all grants. The weighted average grant date fair value of options granted during the six month period ended June 30, 2016 was $17.98 per share.

We use the simplified method to determine the expected term of options. Under this method, the expected term represents the average of the vesting period and the contractual term. The expected volatility of share options was estimated based on a historical volatility analysis of peers that were similar to us with respect to industry, stage of life cycle, size, and financial leverage. The risk-free rate of the option is based on U.S. Government Securities Treasury Constant Maturities yields at the date of grant for a term similar to the expected term of the option.

Restricted Stock Awards Restricted stock awards are granted subject to certain restrictions, including service conditions. The grant-date fair value of restricted stock awards, which has been determined based upon the market value of our common stock on the grant date, is expensed over the vesting period.

Restricted Stock Units Restricted stock units are granted subject to certain restrictions, including in some cases service or time conditions (restricted stock). The grant-date fair value of restricted stock units, which has been determined based upon the market value of the Company s shares on the grant date, is expensed over the vesting period.

The following table summarizes information on our restricted stock awards and units:

	Restricted Stock Awards and Units	
	Number of Shares	Weighted Average Grant Date Fair Value

January 1, 2016	344,335	$ 10.85
Granted	141,185	$ 30.86
Vested	(163,635)	$ 10.85
Forfeited	(47,395)	$ 18.19
Unvested at June 30, 2016	274,490	$ 19.86

The Company recorded share-based compensation expense in the statement of operations related to incentive stock options, nonstatutory stock options, restricted stock awards and restricted stock units as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Research and development	$ 4,087	$ 3,957	$ 8,415	$ 8,624
Selling, general and administrative	4,649	4,371	9,236	9,452
Total	$ 8,736	$ 8,328	$ 17,651	$ 18,076

Stock Appreciation Rights Stock appreciation rights (SARs) entitle the holder to receive, upon exercise, an amount of Common Stock or cash (or a combination thereof) determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of common stock over the measurement price based on the exercise date.

In May 2016, a total of 897,290 SARs were granted to non-executive employees (the 2016 SARs). The 2016 SARs will vest annually in equal installments over four years and will be settled in cash on each vest date, requiring the Company to remeasure the SARs at each

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reporting period until vesting occurs. For the period ending June 30, 2016, the Company recorded $0.1 million in compensation expense related to the 2016 SARs.

As of June 30, 2016 there was approximately $78.2 million of total unrecognized compensation cost related to unvested share-based compensation arrangements granted under the 2009 Equity and Long Term Incentive Plan, the 2013 Long Term Incentive Plan and equity awards made pursuant to the NASDAQ inducement grant exception for new hires. This cost is expected to be recognized as share-based compensation expense over the weighted average remaining service period of approximately 2.56 years.

Results of operations

Three months ended June 30, 2016 compared to three months ended June 30, 2015

The following table summarizes revenues and selected expense and other income data for the three months ended June 30, 2016 and 2015.

	Three months ended June 30,		Change 2016 vs. 2015
(in thousands)	**2016**	**2015**	
Net product revenue	$ 15,437	$ 6,161	$ 9,276
Collaboration and grant revenue	196	613	(417)
Research and development expense	28,827	28,190	637
Selling, general and administrative expense	23,366	17,210	6,156
Interest (expense) income, net	(2,060)	498	(2,558)

Net product revenues. Net product revenues were $15.4 million for the three months ended June 30, 2016, an increase of $9.3 million, or 150% from $6.2 million for the three months ended June 30, 2015 due to the expanded commercial launch of Translarna. We have recorded revenue on sales where Translarna is available either on a commercial basis or through a reimbursed EAP program and typically paid for by a government authority or institution. Since January 1, 2015, we have recognized revenue for Translarna as product is shipped, given we have established a pattern of collectability.

Collaboration and grant revenues. Collaboration and grant revenues were $0.2 million for the three months ended June 30, 2016, a decrease of $0.4 million, or 68%, from $0.6 million for the three months ended June 30, 2015. The decrease was primarily due to the recognition of deferred revenue from collaboration milestone payments in the 2015 period.

Research and development expense. Research and development expense was $28.8 million for the three months ended June 30, 2016, an increase of $0.6 million, or 2%, from $28.2 million for the three months ended June 30, 2015. The

increase resulted primarily from an increase in consulting expenses associated with our ongoing clinical trials.

Selling, general and administrative expense. Selling, general and administrative expense was $23.4 million for the three months ended June 30, 2016, an increase of $6.2 million, or 36%, from $17.2 million for the three months ended June 30, 2015. The increase resulted primarily from additional costs associated with commercial activities in support of the expanded commercial launch of Translarna across Europe and other regions.

Interest (expense) income, net. Interest expense, net was $2.1 million for the three months ended June 30, 2016, an increase in expense of $2.6 million, from interest income of $0.5 million for the three months ended June 30, 2015. The increase in interest expense was primarily due to current year interest expense recorded from the Convertible Notes partially offset by interest income from investments.

Income tax benefit (expense). Income tax benefit was $0.1 million for the three months ended June 30, 2016 and income tax expense was $0.1 million for the three months ended June 30, 2015. We are subject to income taxes in the United States, although currently not a tax payer, and various foreign jurisdictions, and our foreign tax liabilities are largely dependent upon the distribution of pre-tax earnings among these different jurisdictions.

The income tax benefit for the three months ended June 30, 2016 differed from the amounts computed by applying the U.S. federal income tax rate of 34% to loss before tax expense as a result of the favorable amount of profit mix in foreign jurisdictions which have lower tax rates, as well as by having a full valuation allowance in jurisdictions where we have net operating losses. We review the expected annual effective income tax rate and make changes on a quarterly basis as necessary based on certain factors such as changes in forecasted annual operating income, changes to the actual and permanent book-to-tax differences, and changes resulting from the impact of tax law changes.

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Six months ended June 30, 2016 compared to six months ended June 30, 2015

The following table summarizes revenues and selected expense and other income data for the six months ended June 30, 2016 and 2015.

(in thousands)	Six months ended June 30, 2016	2015	Change 2016 vs. 2015
Net product revenue	$ 34,314	$ 11,230	$ 23,084
Collaboration and grant revenue	214	3,026	(2,812)
Research and development expense	60,226	56,128	4,098
Selling, general and administrative expense	49,304	34,825	14,479
Interest (expense) income, net	(4,016)	1,022	(5,038)

Net product revenues. Net product revenues were $34.3 million for the six months ended June 30, 2016, an increase of $23.1 million, or 206%, from $11.2 million for the six months ended June 30, 2015 due to the expanded commercial launch of Translarna. We have recorded revenue on sales where Translarna is available either on a commercial basis or through a reimbursed EAP program and typically paid for by a government authority or institution. Since January 1, 2015, we have recognized revenue for Translarna as product is shipped, given we have established a pattern of collectability.

Collaboration and grant revenues. Collaboration and grant revenues were $0.2 million for the six months ended June 30, 2016, a decrease of $2.8 million, or 93%, from $3.0 million for the six months ended June 30, 2015. The decrease was primarily due to the recognition of deferred revenue from Roche s collaboration milestone payments to us in the 2015 period.

Research and development expense. Research and development expense was $60.2 million for the six months ended June 30, 2016, an increase of $4.1 million, or 7%, from $56.1 million for the six months ended June 30, 2015. The increase resulted primarily from an increase in clinical trial related expenses associated with our ongoing clinical trials, supply chain activities in support of the expanded commercial launch of Translarna and increased expenses in connection with our expanding clinical-stage pipeline.

Selling, general and administrative expense. Selling, general and administrative expense was $49.3 million for the six months ended June 30, 2016, an increase of $14.5 million, or 42%, from $34.8 million for the six months ended June 30, 2015. The increase resulted primarily from additional costs associated with commercial activities in support of the expanded commercial launch of Translarna across Europe and other regions.

Interest (expense) income, net. Interest expense, net was $4.0 million for the six months ended June 30, 2016, an increase in expense of $5.0 million from interest income of $1.0 million for the six months ended June 30, 2015. The increase in interest expense was primarily due to current year interest expense recorded from the Convertible Notes partially offset by interest income from investments.

Income tax benefit (expense). Income tax expense was $0.02 million for the six months ended June 30, 2016 and $0.1 million for the six months ended June 30, 2015. We are subject to income taxes in the United States, although currently not a tax payer, and various foreign jurisdictions, and our foreign tax liabilities are largely dependent upon the distribution of pre-tax earnings among these different jurisdictions.

The income tax expense for the six months ended June 30, 2016 differed from the amounts computed by applying the U.S. federal income tax rate of 34% to loss before tax expense as a result of the favorable amount of profit mix in foreign jurisdictions which have lower tax rates, as well as by having a full valuation allowance in jurisdictions where we have net operating losses. We review the expected annual effective income tax rate and make changes on a quarterly basis as necessary based on certain factors such as changes in forecasted annual operating income, changes to the actual and permanent book-to-tax differences, and changes resulting from the impact of tax law changes.

Liquidity and capital resources

Sources of liquidity

Since inception, we have incurred significant operating losses.

As a growing commercial-stage biopharmaceutical company, we are engaging in significant commercialization efforts for Translarna for nmDMD while also devoting a substantial portion of our efforts on research and development programs related to Translarna and our other product candidates. Our ongoing ability to generate revenue is almost entirely dependent upon our ability to maintain our marketing authorization in the EEA for Translarna for the treatment of nmDMD in ambulatory patients aged five years and older. During

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2016, we expect that our revenues will be primarily generated from sales of Translarna in territories where we are permitted to distribute Translarna under our EAP programs, and those countries, in particular in the EEA, where we are able to obtain pricing and reimbursement approval at acceptable levels.

We have historically financed our operations primarily through the issuance and sale of our common stock in public offerings, the private placements of our preferred stock, collaborations, bank debt, convertible debt financings and grants and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease areas addressed by our product candidates. We expect to continue to incur significant expenses and operating losses for at least the next several years. The net losses we incur may fluctuate significantly from quarter to quarter.

In August 2015, we closed a private offering of $150 million in aggregate principal amount of 3.00% convertible senior notes due 2022, or the Convertible Notes, including the exercise by the initial purchasers of an option to purchase an additional $25 million in aggregate principal amount of the Convertible Notes. The Convertible Notes bear cash interest payable on February 15 and August 15 of each year, beginning on February 15, 2016. The Convertible Notes are senior unsecured obligations of ours and will mature on August 15, 2022, unless earlier converted, redeemed or repurchased in accordance with their terms prior to such date. We received net proceeds from the offering of approximately $145.4 million, after deducting the initial purchasers discounts and commissions and the estimated offering expenses payable by us.

Cash flows

As of June 30, 2016, we had cash, cash equivalents and marketable securities of $272.9 million.

The following table provides information regarding our cash flows and our capital expenditures for the periods indicated.

	Six months ended June 30,	
(in thousands)	**2016**	**2015**
Cash provided by (used in):		
Operating activities	$ (66,172)	$ (66,244)
Investing activities	43,114	37,303
Financing activities	34	8,072

Net cash used in operating activities was $66.2 million for the six months ended June 30, 2016 and $66.2 million for the six months ended June 30, 2015. The net cash used in operating activities primarily relates to supporting clinical development and commercial activities.

Net cash provided by investing activities was $43.1 million for the six months ended June 30, 2016 and net cash used in investing activities was $37.3 million for the six months ended June 30, 2015. Cash provided by investing activities was related to the sale and redemption of marketable securities to fund operations.

Net cash provided by financing activities for the six months ended June 30, 2016 and June 30, 2015 was attributable to the exercise of options.

Funding requirements

We expect to incur significant costs in connection with our efforts to maintain our marketing authorization for Translarna for the treatment of nmDMD in the EEA, including in connection with our design and potential enrollment and execution of a new clinical trial in nmDMD. We also may incur significant costs in connection with our efforts to resolve the matters set forth in the Refuse to File letter we received from the FDA with respect to our NDA for Translarna for the treatment of nmDMD, including pursuant to our recently initiated formal dispute resolution with the FDA, which seeks to reverse the FDA s Refuse to File decision. We anticipate that our expenses will further increase in connection with the expansion of our global infrastructure as we continue to establish an international presence and commercialize Translarna for the treatment of nmDMD, including sales and marketing, legal and regulatory, distribution and manufacturing, and administrative and employee-based expenses.

In addition to the foregoing, we expect to continue to incur significant costs in connection with our ongoing confirmatory Phase 3 ACT CF trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF as well as our Phase 2 proof-of-concept studies for nmMPS I, nonsense mutation aniridia and nonsense mutation Dravet syndrome/CDKL5. We also expect to incur ongoing research and development expenses for our other product candidates, including our ongoing Phase 1 clinical study under our cancer stem cell program. In addition, we may incur substantial costs in connection with our efforts to advance our regulatory

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submissions, including our submission with the EMA that seeks to include Translarna for the treatment of nmCF. We have begun seeking and intend to continue to seek marketing authorization for Translarna for the treatment of nmDMD in territories outside of the EEA and we may also seek marketing authorization for Translarna for other indications. These efforts may significantly impact the timing and extent of our commercialization expenses.

In addition, our expenses will increase if and as we:

- are required to complete any additional clinical and non-clinical trials or analyses to enable FDA review of an NDA submission by us for Translarna for the treatment of nmDMD;

- are required to take other steps to obtain or maintain our current or any further marketing authorizations we may receive for Translarna for the treatment of nmDMD, including in the EEA;

- initiate or continue the research and development of Translarna for additional indications and of our other product candidates;

- seek to discover and develop additional product candidates;

- maintain, expand and protect our intellectual property portfolio; and

- add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts.

We believe that our cash flows from product sales, together with existing cash and cash equivalents, including the net proceeds from our offering of the Convertible Notes, public offerings of common stock, marketable securities and research funding that we expect to receive under our collaborations, will be sufficient to fund our operating expenses and capital expenditure requirements for at least the next twelve months. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect.

Our future capital requirements will depend on many factors, including:

- the costs, timing and outcome of the annual EMA assessment related to renewal of our marketing authorization in the EEA for Translarna for the treatment of nmDMD, including whether the EMA determines that the risk-benefit balance of Translarna supports renewal of our marketing authorization in the EEA, on the current approved label, or at all and the design of any acceptable new clinical trial in nmDMD we may be able to develop with input from the EMA, if any, including with respect to matters of scope, length, and conduct;

- the costs, timing and outcome of our efforts to resolve the matters set forth in the Refuse to File letter we received from the FDA in connection with our NDA for Translarna for the treatment of nmDMD, whether pursuant to the recently initiated formal dispute resolution process, or otherwise, and including whether we will be required to perform additional clinical and non-clinical trials or complete additional analyses at significant cost and whether such trials, if successful, may enable FDA review of a NDA submission and, ultimately, may support approval of Translarna for nmDMD in the U.S;

- the costs, timing and outcome of regulatory review of our variation submission with the EMA to seek inclusion of Translarna for the treatment of nmCF on our current marketing authorization in the EEA;

- the progress and results of our confirmatory Phase 3 ACT CF trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF as well as our Phase 2 proof of concept studies for nmMPS I and nonsense mutation aniridia and nonsense mutation Dravet syndrome/CDKL5 and our ongoing Phase 1 clinical study under our cancer stem cell program;

- the scope, costs and timing of our commercialization activities, including product sales, marketing, legal, regulatory, distribution and manufacturing, for nmDMD and any of our other product candidates that may receive marketing authorization or any additional indications or territories in which we receive authorization to market Translarna;

- the costs, timing and outcome of regulatory review of our other product candidates and Translarna in other territories or for indications other than nmDMD and nmCF;

- the timing and scope of growth in our employee base;

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- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for Translarna for additional indications and for our other product candidates;

- the number and development requirements of other product candidates that we pursue;

- revenue received from commercial sales of Translarna or any of our other product candidates;

- our ability to successfully negotiate adequate pricing and reimbursement processes on a timely basis, or at all, in the countries in which we may obtain regulatory approval, including the countries in the EEA;

- our ability to obtain additional and maintain existing reimbursed named patient and cohort EAP programs for Translarna for the treatment of nmDMD on adequate terms, or at all;

- the ability and willingness of patients and healthcare professionals to access Translarna through alternative means if pricing and reimbursement negotiations in the applicable territory do not have a positive outcome, including whether patients in Germany will continue to be able to access Translarna via a reimbursed importation pathway provided under German law and whether such pathway, if utilized, will minimize any access issues for German patients while maintaining a sustainable price;

- the costs of preparing, filing and prosecuting patent applications, maintaining, and protecting our intellectual property rights and defending against intellectual property-related claims;

- the extent to which we acquire or invest in other businesses, products and technologies; and

- our ability to establish and maintain collaborations, including our collaborations with Roche and the SMA Foundation, and our ability to obtain research funding and achieve milestones under these agreements.

With respect to our outstanding Convertible Notes, cash interest payments are payable on a semi-annual basis in arrears, which will require total funding of $4.5 million annually. Furthermore, as a result of our initial public offering in June 2013, we have incurred and expect to continue to incur additional costs associated with operating as a public company. These costs include significant legal, accounting, investor relations and

other expenses that we did not incur as a private company. Additionally, we could be forced to expend significant resources in the defense of the pending securities class action lawsuits brought against us and certain of our executives, as described under Part II, Item 1. Legal Proceedings in this Quarterly Report on Form 10-Q.

We will need to generate significant revenues to achieve and sustain profitability, and we may never do so. We may need to obtain substantial additional funding in connection with our continuing operations. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs primarily through a combination of equity offerings, debt financings, collaborations, strategic alliances, grants and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease areas addressed by our product and product candidates and marketing, distribution or licensing arrangements. Adequate additional financing may not be available to us on acceptable terms, or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our shareholders ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

If we are unable to raise additional funds through equity or debt financings when needed or on attractive terms, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under Securities and Exchange Commission rules.

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Contractual obligations

During the period ended June 30, 2016, there were no material changes to our contractual obligations and commitments outside the ordinary course of business from those disclosed under the heading Management s Discussion and Analysis of Financial Condition and Results of Operations-Contractual Obligations in our Annual Report on Form 10-K for the year ended December 31, 2015.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

During the period ended June 30, 2016, there were no material changes in our market risk or how our market risk is managed, compared to those disclosed under the heading Quantitative and Qualitative Disclosures about Market Risk in our Annual Report on Form 10-K for the year ended December 31, 2015.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2016. The term disclosure controls and procedures , as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2016, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting occurred during the quarter ended June 30, 2016 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

Item 1. Legal Proceedings.

In March 2016, three purported securities class action lawsuits were commenced in the United States District Court for the District of New Jersey (one each on March 3, 10, and 11), naming as defendants the Company, our Chief Executive Officer, and our Chief Financial Officer, captioned, respectively, as *Hong Wang v. PTC Therapeutics, Inc., et al.*, No. 16-cv-01224, *Kevin Kosin v. PTC Therapeutics, Inc., et al.*, No. 16-cv-01383, and *Daniel Parker v. PTC Therapeutics, Inc., et al.,* No. 16-cv-01384. The lawsuits, which have been consolidated, allege violations of Sections 10(b) and 20(a) and Rule 10b-5 of the Securities Exchange Act of 1934 in connection with allegedly false and misleading statements made by the Company about its business, operations, and prospects as it relates to the NDA for Translarna for the treatment of nmDMD that the Company submitted to the FDA in December 2015. The plaintiffs seek, among other things, compensatory damages for purchasers of the Company s common stock between May 6, 2014 and February 29, 2016, as well as attorneys fees and costs.

Item 1A. Risk Factors

The following risk factors and other information included in this Quarterly Report on Form 10-Q should be carefully considered. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we presently deem less significant may also impair our business operations. Please see page 1 of this Quarterly Report on Form 10-Q for a discussion of some of the forward-looking statements that are qualified by these risk factors. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception. We may never generate profits from operations or maintain profitability and expect to continue to incur significant operating losses and expenses for at least the next several years in connection with our efforts, among

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other things, to:

- ***maintain our marketing authorization for Translarna (ataluren) for the treatment of nonsense mutation Duchenne muscular dystrophy, or nmDMD, in the European Economic Area, or EEA, which if renewal is granted, we expect will require us to conduct an agreed upon new clinical trial in Translarna for nmDMD;***

- ***resolve the matters set forth in the Refuse to File letter we received from the U.S. Food and Drug Administration, or FDA, in connection with our New Drug Application, or NDA, for Translarna for the treatment of nmDMD, in particular pursuant to the recently commenced formal dispute resolution process;***

- ***continue expansion of our global operations and execution of our commercial strategy for Translarna in the EEA and other territories; and***

- ***obtain broader and additional regulatory approvals for Translarna and advance the development of our product pipeline.***

Since inception, we have incurred significant operating losses. As of June 30, 2016, we had an accumulated deficit of $673.1 million. We have historically financed our operations primarily through the issuance and sale of our common stock in public offerings, the private placements of our preferred stock, collaborations, bank debt, convertible debt financings, and grants and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease areas addressed by our product and product candidates. We expect to continue to incur significant expenses and operating losses for at least the next several years. The net losses we incur may fluctuate significantly from quarter to quarter.

In October 2015, we announced the initial results of ACT DMD, our Phase 3 trial for Translarna (ataluren) for the treatment of nmDMD, including that the primary efficacy endpoint in the intent to treat, or ITT, population did not achieve statistical significance. Please review the risk factor under Risks Related to the Development and Commercialization of our Product and our Product Candidates titled, *ACT DMD, our Phase 3 trial for Translarna for the treatment of nmDMD, did not meet its primary efficacy endpoint, and we recently received a Refuse to File letter from the FDA for our NDA submitted with data from this trial, the EMA is questioning the positive risk-benefit balance of Translarna for the treatment of nmDMD based on data from this trial and the CHMP has requested that we submit a proposal for a new clinical trial in nmDMD, and there is substantial risk that regulators in addition to the FDA, such as the EMA or other regulators, will not agree with our interpretation of the results of ACT DMD and the totality of clinical data from our trials in Translarna for the treatment of nmDMD, which would have a material adverse effect on our business, financial performance and results of operations.* for a review of recent developments that have had, and may continue to have, a material adverse effect on our ability to obtain or maintain marketing authorizations necessary to commercialize Translarna for the treatment of nmDMD in the United States, Europe and other territories, including our receipt of a Refuse to File letter from the FDA with respect to our NDA for Translarna for the treatment of nmDMD, the EMA s questioning of the risk-benefit balance of Translarna for the treatment of nmDMD and the CHMP s agreement to our proposal to submit for further discussion a draft clinical trial protocol regarding a new trial evaluating Translarna in nmDMD patients, which will include input from the EMA in the form of scientific advice.

Our ability to generate revenue is almost entirely dependent upon our ability to maintain our marketing authorization for Translarna in the EEA for the treatment of nmDMD in ambulatory patients aged five years and older. In order to continue commercial sales and our commercial launch

of Translarna we must maintain our marketing authorization. The marketing authorization, initially granted in August 2014, is subject to annual review and renewal by the European Commission following reassessment by the EMA of the risk-benefit balance of the authorization, which we refer to as the annual EMA reassessment, as well as our satisfaction of other conditions and obligations placed upon the marketing authorization. As of the date of this filing, the CHMP has not issued an opinion with respect to the renewal of our marketing authorization and we expect that the marketing authorization renewal assessment procedure will extend until at least the end of 2016. While the EMA has not formally declined our type II variation request for full approval of our marketing authorization, we believe that it is unlikely that the EMA will recommend in favor of issuing us a marketing authorization that is not subject to an ongoing annual renewal requirement. We believe that if the CHMP determines to issue a positive opinion in favor of renewing our annual marketing authorization, such renewal, and any subsequent annual renewals, will be coupled with an obligation to conduct a new agreed upon clinical trial of Translarna for the treatment of nmDMD, designed with the scientific advice of the EMA. Designing, enrolling, conducting and completing a clinical trial is a time-consuming, expensive and uncertain process that takes years to complete, and we expect that we will incur material ongoing costs related to the development of such a trial in the short-term, as well as the implementation of the trial in the longer term. In addition, while the EMA may recommend the renewal of our marketing authorization under the annual EMA reassessment coupled with such obligation, it may also impose other new conditions to our marketing authorization, and may make other recommendations, including new label restrictions or the withdrawal of the marketing authorization. We expect to incur significant costs in connection with our efforts to maintain our marketing authorization in the EEA. If our marketing authorization in the EEA is not renewed, or our product label is materially restricted, we would lose all, or a significant portion of, our ability to generate revenue from product sales, whether pursuant to a commercial or an early access program, or EAP, and throughout all territories.

For additional information regarding the risks related to renewal of our marketing authorization in the EEA, see the risk factor under Risks Related to Regulatory Approval of our Product and our Product Candidates titled, *Our marketing authorization in the EEA requires annual renewal by the European Commission, which, as of the date of this filing, has not been granted, and there is substantial risk that the EMA will not determine that the risk-benefit balance of Translarna supports renewal of our marketing authorization, on the current label, or at all, and, even if the European Commission grants renewal of our marketing authorization, such renewal will likely be conditioned upon the results of a not yet designed trial for Translarna for the treatment of nmDMD, which will likely result in significant expense and uncertainty for us. lf we are not able to obtain renewal of our marketing authorization, we will not be able to continue to commercialize Translarna for nmDMD and our ability to generate revenue will be materially impaired.*

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We recently initiated a formal dispute resolution with the FDA, seeking to reverse the FDA s Refuse to File decision. We expect that our efforts to resolve the matters set forth in the Refuse to File letter, whether pursuant to this appeal or otherwise, will be time-consuming and may be expensive and there is significant risk that we will not be successful in obtaining FDA review of our NDA for Translarna for nmDMD in a timely fashion, if ever. Even if we are successful in reversing the Refuse to File decision, there is significant risk that we will be unable to obtain FDA approval of Translarna for nmDMD and we may be required to perform additional clinical and non-clinical trials or analyses at significant cost which, if successful, may enable FDA review of an NDA submission by us and, ultimately, may support approval of Translarna for nmDMD in the U.S. An inability to obtain new marketing authorizations for Translarna for nmDMD, including in the United States would have a material adverse effect on our ability to generate revenue from the sales of Translarna for the treatment of nmDMD. For additional information, see the risk factor under Risks Related to Regulatory Approval of our Product and our Product Candidates titled, *There is substantial risk that we will not be successful in our appeal of the Refuse to File letter we received from the FDA regarding our NDA for Translarna for the treatment of nmDMD and, by determining to pursue the formal dispute resolution process with the FDA, we have postponed other available strategic pathways which may have proven to be more effective. If there are delays in obtaining regulatory approval in the United States, we will not be able to commercialize Translarna for nmDMD in that territory and our ability to generate revenue will be materially impaired.*

We anticipate that our expenses will further increase in connection with the expansion of our global infrastructure as we continue to establish an international presence and commercialize Translarna for the treatment of nmDMD, including sales and marketing, legal and regulatory, and distribution and manufacturing expenses. In addition, the clinical and regulatory developments noted in this risk factor may exacerbate the risks related to our commercialization efforts set forth under the heading Risks Related to the Development and Commercialization of our Product and our Product Candidates, which could increase the costs associated with our commercial activities. For additional information, see also, the risk factor under the heading Risks Related to the Regulation of our Product and our Product Candidates titled *Our initial commercial launch of Translarna has begun in, and is expected to continue to take place in, countries that tend to impose strict price controls, which may adversely affect our revenues, if any. Failure to obtain and maintain acceptable pricing and reimbursement terms for Translarna in the European Economic Area and other jurisdictions would prevent us from marketing our products in such regions.*

In addition to the foregoing, we expect to continue to incur significant costs in connection with our ongoing confirmatory Phase 3 ACT CF trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF as well as our Phase 2 proof-of-concept studies for nmMPS I, nonsense mutation aniridia and nonsense mutation Dravet syndrome/CDKL5. We also expect to incur ongoing research and development expenses for our other product candidates, including our ongoing Phase 1 clinical study under our cancer stem cell program. In addition, we may incur substantial costs in connection with our efforts to advance our regulatory submissions, including our submission with the EMA that seeks to include Translarna for the treatment of nmCF. We have begun seeking and intend to continue to seek marketing authorization for Translarna for the treatment of nmDMD in territories outside of the EEA and we may also seek marketing authorization for Translarna for other indications. These efforts may significantly impact the timing and extent of our commercialization expenses. With respect to our outstanding 3.00% convertible senior notes due August 15, 2022, or the Convertible Notes, cash interest payments are payable on a semi-annual basis in arrears, which will require total funding of $4.5 million annually.

In addition, our expenses will increase if and as we:

- are required to complete any additional clinical and non-clinical trials or analyses to enable FDA review of an NDA submission by us for Translarna for the treatment of nmDMD;

- are required to take other steps to obtain or maintain our current or any further marketing authorizations we may receive for Translarna for the treatment of nmDMD, including in the EEA;

- initiate or continue the research and development of Translarna for additional indications and of our other product candidates;

- seek to discover and develop additional product candidates;

- maintain, expand and protect our intellectual property portfolio; and

- add operational, financial and management information systems and personnel, including personnel to support our product development and commercialization efforts.

We also could be forced to expend significant resources in the defense of the pending securities class action lawsuits brought against us and certain of our executives, as described under Part II, Item 1. Legal Proceedings in this Form 10-Q.

Our ability to generate profits from operations and become and remain profitable depends on our ability to successfully develop and commercialize drugs that generate significant revenue. This will require us to be successful in a range of challenging activities, including:

- completing our confirmatory Phase 3 ACT CF clinical trial of Translarna;

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- maintaining the marketing authorization of Translarna for the treatment of nmDMD in the EEA and satisfying all related conditions and ongoing requirements, including successfully developing and conducting an agreed upon new clinical trial designed with scientific advice from the EMA;

- advancing our regulatory submissions, including our marketing authorization variation submission with the EMA that seeks to include Translarna for the treatment of nmCF;

- resolving the matters set forth in the Refuse to File letter we received from the FDA in connection with our NDA for Translarna for the treatment of nmDMD in a timely manner or at all, whether pursuant to the formal dispute resolution process, or otherwise and including, if required, performing additional clinical and non-clinical trials or analyses at significant cost which, if successful, may enable FDA review of an NDA submission by us and, ultimately, may support approval of Translarna for nmDMD in the U.S.;

- expanding the territories in which we are approved to market Translarna for the treatment of nmDMD;

- initiating clinical studies of Translarna for the treatment of additional indications, including nmMPS I, nonsense mutation aniridia, and nonsense mutation Dravet syndrome/CDKL5 and successfully advancing our other programs and collaborations, including our cancer stem cell, and SMA programs;

- establishing a global commercial infrastructure, including the sales, marketing and distribution capabilities to effectively market and sell Translarna in Europe, the United States, and other parts of the world;

- implementing marketing and distribution relationships with third parties in territories where we do not pursue direct commercialization;

- negotiating and securing adequate pricing and reimbursement terms for Translarna on a timely basis, or at all, in the countries in which we have and may obtain regulatory approval;

- negotiating and securing adequate reimbursement from other third-party payors for Translarna;

- launching commercial sales of Translarna for the treatment of nmDMD in accordance with our estimated timeline;

- identifying patients eligible for treatment with Translarna;

- obtaining approval to market Translarna for the treatment of other indications;

- expanding the approved product label of Translarna for the treatment of nmDMD;

- protecting our rights to our intellectual property portfolio related to Translarna; and

- contracting for the manufacture and distribution of commercial quantities of Translarna.

We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to generate profits from operations. Even if we do generate profits from operations, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to generate profits from operations and remain profitable would decrease the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product offerings or continue our operations. A decline in the value of our company could also cause our stockholders to lose all or part of their investment in our company.

We will need substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

As noted in the prior risk factor, we expect to incur significant expenses related to our clinical, regulatory, commercial, legal, research and development, and other business efforts. We believe that our cash flows from product sales, together with existing cash and cash equivalents, including the net proceeds from our Convertible Note offering, public offerings of common stock, marketable securities and research funding that we expect to receive under our collaborations, will be sufficient to fund our operating expenses and capital expenditure requirements for at least the next twelve months. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect.

Our future capital requirements will depend on many factors, including:

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- the costs, timing and outcome of the annual EMA assessment related to renewal of our marketing authorization in the EEA for Translarna for the treatment of nmDMD, including whether the EMA determines that the risk-benefit balance of Translarna supports renewal of our marketing authorization in the EEA, on the current approved label, or at all and the design of any agreed upon new clinical trial in nmDMD we may be able to develop with input from the EMA, if any, including with respect to matters of scope, length, and conduct;

- the costs, timing and outcome of our efforts to resolve the matters set forth in the Refuse to File letter we received from the FDA in connection with our NDA for Translarna for the treatment of nmDMD, whether pursuant to the recently initiated formal dispute resolution process, or otherwise, and including whether we will be required to perform additional clinical and non-clinical trials or complete additional analyses at significant cost and whether such trials, if successful, may enable FDA review of a NDA submission and, ultimately, may support approval of Translarna for nmDMD in the U.S.;

- the costs, timing and outcome of regulatory review of our variation submission with the EMA to seek inclusion of Translarna for the treatment of nmCF on our current marketing authorization in the EEA;

- the progress and results of our confirmatory Phase 3 ACT CF trial and open label extension clinical trials of Translarna for the treatment of nmDMD and nmCF as well as our Phase 2 proof of concept studies for nmMPS I and nonsense mutation aniridia and nonsense mutation Dravet syndrome/CDKL5 and our ongoing Phase 1 clinical study under our cancer stem cell program;

- the scope, costs and timing of our commercialization activities, including product sales, marketing, legal, regulatory, distribution and manufacturing, for nmDMD and any of our other product candidates that may receive marketing authorization or any additional indications or territories in which we receive authorization to market Translarna;

- the costs, timing and outcome of regulatory review of our other product candidates and Translarna in other territories or for indications other than nmDMD and nmCF;

- the timing and scope of growth in our employee base;

- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials for Translarna for additional indications and for our other product candidates;

- the number and development requirements of other product candidates that we pursue;

- revenue received from commercial sales of Translarna or any of our other product candidates;

- our ability to successfully negotiate adequate pricing and reimbursement processes on a timely basis, or at all, in the countries in which we may obtain regulatory approval, including the countries in the EEA;

- our ability to obtain additional and maintain existing reimbursed named patient and cohort EAP programs for Translarna for the treatment of nmDMD on adequate terms, or at all;

- the ability and willingness of patients and healthcare professionals to access Translarna through alternative means if pricing and reimbursement negotiations in the applicable territory do not have a positive outcome, including whether patients in Germany will continue to be able to access Translarna via a reimbursed importation pathway provided under German law and whether such pathway, if utilized, will minimize any access issues for German patients while maintaining a sustainable price;

- the costs of preparing, filing and prosecuting patent applications, maintaining, and protecting our intellectual property rights and defending against intellectual property-related claims;

- the extent to which we acquire or invest in other businesses, products and technologies; and

- our ability to establish and maintain collaborations, including our collaborations with Roche and the SMA Foundation, and our ability to obtain research funding and achieve milestones under these agreements.

Conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales for certain product candidates or indications. In addition, our product candidates, if approved, may not achieve commercial success, including Translarna for the treatment of nmDMD.

We are continuing to engage in significant commercialization efforts for Translarna for nmDMD. We commenced our commercial

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launch of Translarna in Germany in December 2014 and we expect to commercially launch in other key countries in the EEA in 2016 and in future years, subject to completion of pricing and reimbursement negotiations. In the third quarter of 2014, we began to recognize revenue for payments received under reimbursed EAP programs for Translarna for nmDMD patients in selected countries. In order to continue commercial sales and our commercial launch of Translarna we must maintain our marketing authorization in the EEA. We expect that any commercial revenue generated in the next several years will be derived exclusively from sales of Translarna for the treatment of nmDMD and other indications, if any, that may receive marketing authorization and that commercial sales will generally be limited to countries in the EEA and other territories in which we have obtained marketing authorization and reimbursement approval or are permitted to initiate treatment under reimbursed EAP programs or pursuant to other procedures. Other commercial revenue, if any, would be derived from sales of products that we are not planning to have commercially available for several years, if at all. If our marketing authorization in the EEA is not renewed, or our product label is materially restricted, we would lose all, or a significant portion of, our ability to generate revenue from product sales, whether pursuant to a commercial or an EAP program and throughout all territories.

Accordingly, we will need to continue to rely on additional financing in connection with our continuing operations and to achieve our business objectives. In addition, we may seek additional capital due to favorable market conditions or based on strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. Additional financing may not be available to us on acceptable terms or at all. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or our commercialization efforts.

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

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings; debt financings; collaborations; strategic alliances; grants and clinical trial support from governmental and philanthropic organizations and patient advocacy groups in the disease areas addressed by our product candidates; and marketing, distribution or licensing arrangements.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, our shareholders ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates; or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

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

In the third quarter of 2014 we began to recognize revenue for payments received under reimbursed EAP programs for Translarna for nmDMD patients in selected countries, and we commenced our commercial launch of Translarna in Germany in December 2014. Prior to such time, our operations were limited to organizing and staffing our company, developing and securing our technology, raising capital, undertaking preclinical studies and clinical trials of our product candidates, and preparing for the commercial launch of Translarna for nmDMD in Europe. We are in the process of transitioning from a company with a research and development focus to a company capable of supporting global commercial activities. We may not be successful in such a transition. We have not proven our ability to successfully obtain marketing authorizations to sell our product or product candidates, other than with respect to the marketing authorization granted by the European Commission in August 2014 for Translarna for the treatment of nmDMD, which is subject to annual review and renewal following reassessment of the risk-benefit balance of the authorization by the EMA and satisfaction of any conditions that may be imposed by the EMA, and the marketing authorizations granted in Israel and South Korea (which are largely contingent upon continued EMA approval). In addition, we have not yet demonstrated our ability to complete development of product candidates, manufacture a commercial scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for a successful full scale product commercialization. Consequently, any predictions our stockholders make about our future success or viability may not be as accurate as they could be if we had a longer operating history. In addition, as a new business, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors.

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Our ability to use our net operating losses and certain other tax attributes may be subject to annual limitations under federal and state tax law that could materially affect our ability to utilize such losses and attributes.

If a corporation undergoes an ownership change within the meaning of Section 382 of the Internal Revenue Code, or Section 382, the corporation s ability to utilize any net operating losses, or NOLs, and certain tax credits and other attributes generated before such an ownership change, is limited. We believe that we have in the past experienced ownership changes within the meaning of Section 382 that have resulted in limitations under Section 382 (and similar state provisions) on the use of our NOLs and other tax attributes.

Future changes in ownership could result in additional ownership changes within the meaning of Section 382 that could further limit our ability to utilize our NOLs and certain other tax attributes.

Changes in our effective income tax rates could adversely affect our results of operations.

We are subject to income taxes in the Unites States and various foreign jurisdictions. Taxes will be incurred as income is earned among these different jurisdictions. Various factors may have favorable or unfavorable effects on our effective income tax rate. These factors include, but are not limited to, interpretations of existing tax laws, changes in tax laws and rates, the accounting for stock options and other share-based compensation, changes in accounting standards, future levels of research and development spending, changes in the mix and level of pre-tax earnings by taxing jurisdiction, the outcome of examinations by the U.S. Internal Revenue Service and other jurisdictions, the accuracy of our estimates for unrecognized tax benefits, the realization of deferred tax assets, or by changes to our ownership or capital structure. The impact on our income tax provision resulting from the above-mentioned factors and others may be significant and could adversely affect our results of operations.

Risks Related to the Development and Commercialization of our Product and our Product Candidates

ACT DMD, our Phase 3 trial for Translarna for the treatment of nmDMD, did not meet its primary efficacy endpoint, and we recently received a Refuse to File letter from the FDA for our NDA submitted with data from this trial, the EMA is questioning the positive risk-benefit balance of Translarna for the treatment of nmDMD based on data from this trial and the CHMP has requested that we submit a proposal for a new clinical trial in nmDMD, and there is substantial risk that regulators in addition to the FDA, such as the EMA or other regulators, will not agree with our interpretation of the results of ACT DMD and the totality of clinical data from our trials in Translarna for the treatment of nmDMD, which would have a material adverse effect on our business, financial performance and results of operations.

In October 2015, we announced the initial results of ACT DMD, including that the primary efficacy endpoint in the intent to treat, or ITT, population did not achieve statistical significance. Based on our analyses of the trial data, we believe that the totality of clinical data from ACT DMD and our prior Phase 2b trial support the clinical benefit of Translarna for the treatment of nmDMD.

We submitted our analyses of the ACT DMD data and meta-analysis of the combined ACT DMD and Phase 2b subgroup data to the FDA, as part of our NDA. On February 22, 2016, we received a Refuse to File letter from the FDA stating that, in the view of the FDA, both our Phase

2b and Phase 3 ACT DMD trials were negative and do not provide substantial evidence of effectiveness. Additionally, the FDA stated that we had proposed a post-hoc adjustment of ACT DMD that eliminates data from a majority of enrolled patients. In addition, the FDA noted that our NDA does not contain adequate information regarding the abuse potential of Translarna. There is substantial risk that, notwithstanding any dialogue we have had or any further dialogue we may be able to initiate with the agency, including pursuant to the formal dispute resolution process we recently initiated, the FDA will continue to disagree with our interpretation of the results of ACT DMD and the totality of clinical data from our trials. Even if we are successful in reversing the Refuse to File decision, there is significant risk that we will be unable to obtain FDA approval of Translarna for nmDMD and we may be required to perform additional clinical and non-clinical trials or complete additional analyses at significant cost, which, if we are successful in enrolling, funding, and completing, may enable FDA review of an NDA submission. Any such requirement for additional trials would most likely result in our inability to sell Translarna in the United States for a significant period of time, if ever, which would have a material adverse effect on our ability to generate revenue from the sales of Translarna for the treatment of nmDMD. Due to these uncertainties, we are unable to estimate the timing or potential for a launch of Translarna for the treatment of nmDMD in the United States.

We also submitted our analyses of the ACT DMD data and meta-analyses of the combined ACT DMD and Phase 2b subgroup data to the EMA, to support continuation of our marketing authorization in the EEA, which is subject to annual review and renewal by the European Commission following reassessment by the EMA of the risk-benefit balance of the authorization. As part of this process, the EMA s CHMP issued requests for supplementary information, including a request classified as a major objection related to the CHMP s questioning of the risk-benefit profile of Translarna.

We also recently received an additional request for supplemental information from the CHMP, including a request classified as a major objection that directs us to submit an adequate proposal for a clinical trial which will be able to demonstrate in a nmDMD patient population a robust and clinically meaningful effect of Translarna which confirms the positive risk-benefit ratio of Translarna and addresses outstanding uncertainties about efficacy. The CHMP has noted that this trial must be deemed feasible in the post-authorization setting. In addition, the CHMP expressed an interest for further confirmation of the primary pharmacology of Translarna as part of this request. Generally speaking, a failure to adequately address a major objection would preclude a recommendation for renewal of a marketing authorization. Designing, enrolling, conducting and completing a clinical trial is a time-consuming, expensive and uncertain process that takes years to complete, and we expect that we will incur material ongoing costs related to the development of such a trial in the short-term, as well as the implementation of the trial in the longer term.

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