PORTOLA PHARMACEUTICALS INC
Form 10-K
February 29, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended December 31, 2015

or

¨TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File Number: 001-35935

PORTOLA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	2834	20-0216859
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

270 E. Grand Avenue

South San Francisco, California 94080

(Address of Principal Executive Offices) (Zip Code)

(650) 246-7000

(Registrant's Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class:	Name of Each Exchange on which Registered
Common Stock, par value $0.001 per share	The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No ¨

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x

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 ¨

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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

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 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 ¨	Non accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates was approximately $1.26 billion computed by reference to the last sales price of $45.55 as reported by the NASDAQ Global Select Market, as of the last business day of the registrant's most recently completed second fiscal quarter, June 30, 2015.

This calculation does not reflect a determination that certain persons are affiliates of the registrant for any other purpose.

As of February 22, 2016, the number of outstanding shares of the registrant's common stock, par value $0.001 per share, was 56,362,311.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates information by reference to the definitive proxy statement for the registrant's Annual Meeting of Stockholders to be held on or about June 17, 2016, to be filed within 120 days of the registrant's fiscal year ended December 31, 2015.

TABLE OF CONTENTS

Portola Pharmaceuticals, Inc.

Form 10-K

Index

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i

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report, including the sections titled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases you can identify these statements by forward-looking words, such as “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “potential” “goal” or the negative or plural of these words or similar expressions. These forward-looking statements include, but are not limited to, statements concerning the following:

- our estimates and projections for the clinical development of our product candidates, including clinical research and trials, regulatory approvals and commercial launches, both in the U.S. and abroad;
- our ability to scale up manufacturing of our product candidates to commercial scale;
- potential indications for our product candidates;
- our expectation that our existing capital resources will be sufficient to enable us to complete our ongoing Phase 3 clinical study of Betrixaban, advance our Phase 4 Biologics License Application enabling studies and related manufacturing of Andexanet alfa and our Phase 1/2a proof-of-concept studies of Cerdulatinib in hematologic cancers;
- our discussion of perceived and projected competitive advantages of our product candidates;
- the projected patient populations targeted by our product candidates;
- the projected dollar amounts of market opportunities for our product candidates;
- our ability to successfully commercialize our product candidates;
- the rate and degree of market acceptance of our product candidates;
- our ability to successfully build a hospital-based sales force and commercial infrastructure;
- our ability to compete with branded and generic Factor Xa inhibitors;
- our ability to obtain and maintain intellectual property protection for our products;
- the actual receipt and timing of any milestone payments or royalties from our collaborators;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for or ability to obtain additional financing;
- our ability to identify, develop, acquire and in-license new products and product candidates;
- our ability to successfully establish and successfully maintain appropriate collaborations and derive significant revenue from those collaborations;
- our financial performance; and
- developments and projections relating to our competitors or our industry.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in “Risk factors.” Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this report to conform these statements to actual results or to changes in our expectations.

2

You should read this report and the documents that we reference in this report and have filed with the Securities and Exchange Commission as exhibits to this report with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

PART I

ITEM 1. BUSINESS

Overview

We are a biopharmaceutical company focused on the development and commercialization of novel therapeutics in the areas of thrombosis, other hematologic disorders and inflammation for patients who currently have limited or no approved treatment options. We are advancing our three wholly-owned compounds using novel biomarker and genetic approaches that may increase the likelihood of clinical, regulatory and commercial success of our potentially life-saving therapies. Two of these compounds were discovered through our internal research efforts and one was discovered by Portola scientists during their time at a prior company.

Our Phase 3 programs address significant unmet medical needs in the area of thrombosis, or blood clots. Betrixaban, a U.S. Food and Drug Administration, or FDA,-designated Fast-Track novel oral once-daily inhibitor of Factor Xa, or fXa, is in a Phase 3 clinical trial for extended duration prophylaxis, or preventive treatment, of a form of thrombosis known as venous thromboembolism, or VTE, in acute medically ill patients for 35 days of in-hospital and post-discharge use. We completed enrollment of 7,514 patients in the fourth quarter of 2015 and expect to report top line data from our APEX study in early April 2016. Currently, there is no anticoagulant approved for extended duration VTE prophylaxis in the acute medically ill population. Our second Phase 3 compound Andexanet alfa, an FDA-designated breakthrough therapy and orphan drug, is a recombinant protein designed to reverse anticoagulant activity in patients treated with a fXa inhibitor. Andexanet alfa has potential indications for patients anticoagulated with a direct or indirect fXa inhibitor when reversal of anticoagulation is needed, such as in life-threatening or uncontrolled bleeding or for emergency surgery or urgent procedures. We filed a Biologics License Application, or BLA, to the FDA in the first quarter of 2016. We have completed Phase 3 registration studies in healthy volunteers and are currently evaluating Andexanet alfa in Phase 2 clinical trials. We are also conducting a Phase 4 confirmatory trial in patients. Our third product candidate, Cerdulatinib, is an orally available dual kinase inhibitor that inhibits spleen tyrosine kinase, or Syk, and Janus kinases, or JAK, enzymes that regulate important signaling pathways. Cerdulatinib is being developed for hematologic, or blood, cancers and inflammatory disorders. We are currently conducting a Phase 1/2a proof-of-concept study for Cerdulatinib in patients with non-Hodgkin's lymphoma, or NHL, or chronic lymphocytic leukemia, or CLL, who have failed or relapsed on existing marketed therapies or products in development, including patients with identified mutations. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose and enrollment continues. Based on interim Phase 1 data, we plan to advance Cerdulatinib to the Phase 2a portion of the study, which includes expansion cohorts in select hematologic cancers. We also have a program of highly selective Syk inhibitors, one of which is partnered with Ora Inc., or Ora.

We have full worldwide commercial rights to Betrixaban and Cerdulatinib and to Andexanet alfa outside of Japan. In January 2016, we licensed commercial rights to Andexanet alfa in Japan to Bristol-Myers Squibb Company, or BMS, and Pfizer Inc., or Pfizer. We believe we can maximize the value of our company by retaining substantial commercialization rights to these three product candidates and, where appropriate, entering into additional partnerships to develop and commercialize these product candidates. We plan on building a successful enterprise to commercialize Betrixaban and Andexanet alfa, using a hospital-based sales team in the United States and possibly other major markets and with additional partners in other territories.

Betrixaban

Betrixaban is a novel oral once-daily inhibitor of fXa in development for extended duration VTE prophylaxis in acute medically ill patients for 35 days of in-hospital and post-discharge use. Acute medically ill patients are those who are

hospitalized for serious non-surgical conditions, such as heart failure, stroke, infection, rheumatic disorders and pulmonary disorders. We estimate that in the G7 countries in 2014 there were 22.5 million acute medically ill patients for whom VTE prophylaxis was recommended by medical treatment guidelines. The current standard of care for VTE prophylaxis in this population is enoxaparin, an injectable low molecular weight heparin that is approved for deep vein thrombosis, or DVT, prophylaxis in medical patients who are at risk for thromboembolic complications due to severely restricted mobility during acute illness. The usual duration of administration of enoxaparin is 6 to 11 days. According to IMS Health Incorporated, or IMS, a healthcare industry information provider, worldwide sales of enoxaparin for 2015 were $2.9 billion. The use of enoxaparin in acute medically ill patients accounted for approximately $1.4 billion of these sales.

Multiple large, global trials have demonstrated that there is substantial risk of VTE in acute medically ill patients with restricted mobility and other risk factors beyond the standard course of enoxaparin. Our Phase 3 APEX study was designed to use biomarkers to identify and enroll patients most likely to benefit from therapy with Betrixaban. Specifically, these patients have elevated blood levels of D-dimer or are over age 75. There have been numerous publications highlighting the role of these two prognostic markers in identifying patients at extended risk of VTE. The MAGELLAN trial sponsored by Bayer Pharma AG, or Bayer, and Janssen Pharmaceuticals, Inc., or Janssen, which evaluated administration of rivaroxaban for an extended period, demonstrated that the incidence of VTE-related death rose four-fold over several weeks after hospital discharge and the discontinuation of treatment. However, there are no therapies approved for use beyond 14 days despite the ongoing risk of VTE faced by these patients for 35 days or more following hospital admission. We are developing Betrixaban to be the first oral fXa inhibitor approved for use in acute medically ill patients and the first anticoagulant approved for extended period hospital-to-home VTE prophylaxis in these patients. We believe the addressable market opportunity for Betrixaban could range from $3.0 billion to $4.0 billion, annually, by 2020.

In 2012, we initiated our pivotal biomarker-based Phase 3 APEX study, a randomized, double-blind, double dummy, active-controlled, multicenter, multinational study to evaluate a once-daily dose of Betrixaban for 35 days for superiority as compared to in-hospital administration of enoxaparin once daily for 6 to 14 days followed by placebo for the remainder of the study period. Our APEX study was conducted in 35 countries worldwide. In the third quarter of 2015, we completed a planned protocol-defined sample size re-assessment and increased the size of the trial from 6,850 to approximately 7,500 patients. The increase in sample size was designed to ensure APEX statistical power for the primary efficacy analysis patient cohort and increases power in the overall patient population analysis. We have submitted our statistical analysis plan to the FDA. We completed APEX patient enrollment in the fourth quarter of 2015 and expect to report top line data from the study in early April 2016, and assuming positive trial results, we expect to submit a new drug application, or NDA, to the FDA in the third quarter of 2016. In the fourth quarter of 2015, Betrixaban received Fast-Track designation from the FDA for prevention of blood clots in acute medically ill patients. Fast-Track designation is generally intended by the FDA to facilitate the development, and expedite the review, of drugs which treat a serious or life-threatening condition and fill an unmet medical need.

We believe Betrixaban has the potential to succeed in the targeted patient population, in part due to its validated mechanism of action, but also most importantly, due to its properties that differentiate it from other anticoagulants. First, it has the longest half-life of all the fXa inhibitors, making it a true, once-daily therapy allowing for a narrow peak-to-trough concentration ratio that helps maintain a less variable anticoagulant effect over the course of a day. Second, it has the lowest renal clearance of all of the fXa inhibitors, which may result in a lower rate of bleeding. Finally, it is not metabolized in the liver by an enzyme called CYP 3A4, which may result in reduced potential for drug-on-drug interactions. These properties are critically important for acute medically ill patients who are often renally compromised and on multiple concomitant medications.

In early 2013, we entered into a clinical collaboration agreement with Lee’s Pharmaceutical (HK) Ltd, or Lee’s, to jointly expand our Phase 3 APEX study of Betrixaban into China with an exclusive option for Lee’s to negotiate for the exclusive commercial rights to Betrixaban in China. We completed APEX enrollment before the parties were able to find a regulatory pathway to expand the study into China.

Andexanet alfa

Andexanet alfa, an FDA-designated breakthrough therapy and orphan drug, is a recombinant protein designed to reverse anticoagulant activity in patients treated with a fXa inhibitor. Andexanet alfa has potential indications for patients anticoagulated with a direct or indirect fXa inhibitor when reversal of anticoagulation is needed, such as in life-threatening or uncontrolled bleeding or for emergency surgery or urgent procedures. Currently, there is no antidote or reversal agent approved for use against fXa inhibitors. Leading clinicians have identified, and the FDA has

recognized, the lack of an effective reversal agent for fXa inhibitors as a significant unmet clinical need. Based on industry data, we estimate that in 2020, between 23 million and 36 million patients will be treated with fXa inhibitors, including low molecular weight heparins, for short-term use or chronic conditions. Clinical trial results suggest that, depending on their underlying medical condition, annually between 1% and 4% of these patients may experience a major bleeding event and an additional 1% may require emergency surgery. We believe that Andexanet alfa, if approved, has the long-term potential to address a total worldwide market in excess of $2.0 billion.

Andexanet alfa is the first therapy to demonstrate reversal of the anticoagulant activity of fXa inhibitors as measured by anti-fXa levels. We have completed two Phase 3 ANNEXA™ (Andexanet Alfa a Novel Antidote to the Anticoagulant Effects of fXa Inhibitors) studies – one with Bristol-Myers Squibb Company, or BMS, and Pfizer Inc.'s, or Pfizer's, fXa inhibitor, apixaban and one with Bayer Pharma AG, or Bayer, and Janssen Pharmaceuticals, Inc., or Janssen's, fXa inhibitor, rivaroxaban. Our Phase 3 studies each consisted of two parts. In the first part of each study, the effect of a single bolus of Andexanet alfa was evaluated in healthy volunteers who had been given apixaban or rivaroxaban. In the second part of each study, the ability of Andexanet alfa to sustain reversal of the anticoagulant effects of apixaban and rivaroxaban was evaluated by administering a bolus plus infusion of Andexanet alfa to healthy volunteers who had been given apixaban or rivaroxaban. The first part of our Phase 3 ANNEXA studies of a single bolus of Andexanet alfa with apixaban and with rivaroxaban met their primary and secondary endpoints with high statistical significance (p-values of less than 0.0001).The second part of our Phase 3 ANNEXA studies of a bolus plus infusion of Andexanet alfa with apixaban and with rivaroxaban both also met their primary and secondary endpoints with high statistical significance (p-value of less than 0.0001). In November 2015, the data from the Phase 3 studies was published in the New England Journal of Medicine. In early 2015, we initiated a Phase 4 ANNEXA confirmatory patient study, as agreed to by the FDA and European Medicines Agency, or EMA. This study is part of an accelerated approval pathway in the United States for Andexanet alfa. This open-label, single-arm study is being conducted in patients receiving apixaban, rivaroxaban, edoxaban or enoxaparin (a low molecular weight heparin) who present with certain acute major bleeds. Pursuant to active and ongoing discussions with the FDA, we included data from a small number of patients from this study in our Biologics License Application, or BLA, which we filed in early 2016 for conditional approval.

We have also completed a series of Phase 2 proof-of-concept studies evaluating the safety and activity of Andexanet alfa in healthy volunteers who were administered one of several fXa inhibitors. Analysis of anticoagulation markers in blood samples taken from the subjects in these studies demonstrated that Andexanet alfa produced immediate reversal of anticoagulant activity of the fXa inhibitors apixaban, rivaroxaban, edoxaban and enoxaparin and that the reversal could be sustained. Additionally, we are conducting a Phase 2 proof-of-concept study evaluating the reversal of Betrixaban.

We have entered into collaboration agreements with BMS and Pfizer, Bayer and Janssen, and Daiichi Sankyo, Inc., or Daiichi Sankyo, to support Phase 2 and Phase 3 clinical studies with apixaban, rivaroxaban and edoxaban, respectively. We have also entered into licensing and collaboration agreements with BMS, Pfizer and Bayer to obtain the right to pursue final regulatory approval and commercialize Andexanet alfa as a reversal agent in Japan. We retain commercial rights with respect to Andexanet alfa outside of Japan.

Cerdulatinib

In addition to our thrombosis compounds, we are developing orally available kinase inhibitors to treat hematologic disorders and inflammation. Cerdulatinib is an orally available, potent inhibitor of Syk and JAK, enzymes that regulate two important signaling pathways. Scientists have demonstrated that both Syk and JAK play key roles in various hematologic cancers and inflammatory diseases. We are developing Cerdulatinib for treatment of certain B-cell hematologic cancers. We are conducting a Phase 1/2a proof-of-concept study of Cerdulatinib in NHL, and CLL, patients. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose and enrollment continues. We are exploring alternate dosing regimens and formulations to get a higher exposure of Cerdulatinib in patients. Based on interim Phase 1 data we plan to advance Cerdulatinib into the Phase 2a portion of the study in 2016 which includes expansion cohorts in select hematologic cancers.

Syk-selective inhibitors

Syk is an important mediator of immune response in a number of different types of immune cells. We have a program of highly selective Syk inhibitors, one of which is partnered with Ora. Ora is leading the pre-clinical study of a selective Syk inhibitor for allergic conjunctivitis.

In May 2015, our Biogen Idec agreement was terminated in its entirety, and we entered into a license and collaboration agreement with Ora pursuant to which we granted Ora an exclusive license to co-develop and co-commercialize one of our specific Syk inhibitors, PRT02761. Ora has the primary responsibility for conducting the research and development and regulatory activities under this agreement. We are obligated to provide assistance in accordance with the agreed-upon development plan, as well as participate on various committees.

Under the terms of this risk and cost sharing agreement, each party will incur its own share of development costs. Third-party related development costs will be shared by Ora and us at approximately 60% and 40%, respectively, until an End of Phase 2 meeting with the FDA, and equally thereafter. We are entitled to receive either 50% of the profits, if any, generated by future sales of the products developed under the agreement or royalty payments on such sales, should we opt out of the agreement.

We may opt out of the agreement any time prior to 90 days after an End of Phase 2 meeting with the FDA. The timing of the exercise of our opt out rights would impact any future royalties we would be entitled to receive from Ora. Each party may also buy out the rights and interests in the licensed compound by paying the greater of $6.0 million or two times the actual aggregate development cost incurred by both parties on or before the date that is 90 days after an End of Phase 2 meeting with the FDA.

Our strategy

Our goal is to build an enduring biopharmaceutical company with a foundation of products and product candidates that significantly advance patient care in the areas of thrombosis, other hematologic disorders and inflammation. We have a clear strategy focused on biomarker or genetic approaches to clinical development that we believe will increase the probability of clinical, regulatory and commercial success of our first-in-class therapies. Key elements of our strategy are as follows:

Complete the clinical development of Betrixaban. We completed enrollment in our global pivotal Phase 3 clinical study, APEX, in the fourth quarter of 2015 and plan to release top line data from this study in early April 2016. APEX, is evaluating the efficacy and safety of our lead product candidate Betrixaban for extended duration VTE prophylaxis during a hospital stay as well as post-discharge for 35 days in acute medically ill patients with restricted mobility and other risk factors. If APEX is successful and we receive regulatory approval, Betrixaban will be the first anticoagulant approved based on a biomarker approach for the multi-billion dollar market for extended VTE prophylaxis in acute medically ill patients, both in the hospital and after discharge.

Advance Andexanet alfa through an expedited development and approval process. We are pursuing an Accelerated Approval pathway for our FDA-designated breakthrough therapy and orphan drug, Andexanet alfa. Based on clinical trial results and discussions with the FDA, we believe that the FDA supports our pursuit of this approval pathway. Based on our Phase 3 ANNEXA clinical studies in healthy volunteers, we filed a BLA for conditional approval in the first quarter of 2016, which included a small amount of patient data from our Phase 4 ANNEXA-4 confirmatory study, which was initiated in early 2015. Additionally, we are in the process of scheduling meetings with our appointed rapporteurs representing the EMA regarding our plan to submit a Marketing Authorization Application, or MAA, through a centralized procedure for conditional approval in Europe.

Commercialize Betrixaban and Andexanet alfa, if approved, in the United States using a hospital-focused sales force. We plan to commercialize both of our thrombosis product candidates with a U.S. hospital-based sales force of approximately 100 to 150 sales representatives. We believe we will be able to address the multi-billion dollar markets for our thrombosis products with a targeted sales and marketing effort because hospitals represent a concentrated customer base as compared to primary care or specialty physicians. We have licensed commercial rights to Andexanet alfa in Japan to BMS and Pfizer. Outside the United States, we are evaluating our commercial strategy.

Advance Cerdulatinib for treatment of hematologic cancers. We are currently evaluating Cerdulatinib in a Phase 1/2a proof-of-concept study in NHL and CLL. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose and enrollment continues. Based on interim Phase 1 data, we plan to advance Cerdulatinib into the Phase 2a portion of the study in 2016 which includes expansion cohorts in select hematologic cancers. Cerdulatinib targets two key signaling pathways that can promote cancer cell growth. This product candidate has the potential for broad activity in hematologic cancers because it blocks the B-cell receptor pathway via Syk and key cytokine receptors via JAK. Our strategy for Cerdulatinib is to focus on patients that have shown limited response to other therapies or have relapsed or do not respond due to mutations.

Deploy capital strategically to develop our portfolio of product candidates and create value. We expect to continue to deploy most of our capital resources to develop and commercialize Betrixaban and Andexanet alfa and to a lesser

extent, advance Cerdulatinib into clinical expansion cohorts. It is our strategy to leverage established clinical trial design principles as well as proactive engagement with relevant regulatory authorities to advance these candidates towards key value inflection points in a capital-efficient manner. In parallel with these efforts, we have entered into and anticipate that we will continue to seek and evaluate partnerships that provide support for the further development of our product candidates while retaining significant economic and commercial rights. We believe that this combination of independent development and partnering activity may allow us to realize the substantial potential value of our product candidates while reducing our capital requirements.

Product candidates

Our development pipeline, summarized in the table below, includes three wholly owned compounds and one partnered program.

Product	Description	Stage	Indication	Worldwide commercial rights
Betrixaban	Oral fXa inhibitor	Phase 3	Extended duration VTE prophylaxis in acute medically ill patients in-hospital and post discharge for 35 days	Portola
Andexanet alfa	Antidote for fXa inhibitors	Phase 3 and Phase 4	Reversal of fXa inhibitor anticoagulation	Portola (excluding Japan)
Cerdulatinib	Oral Dual Syk and JAK inhibitor	Phase 1/2a	B-cell hematologic cancers	Portola
Syk-selective inhibitors	Syk inhibitor	Pre-clinical	Allergic conjunctivitis	Ora

Betrixaban

We are developing Betrixaban to be the first anticoagulant approved for extended duration VTE prophylaxis in acute medically ill patients both in-hospital and after discharge for 35 days. Acute medically ill patients are patients hospitalized for non-surgical conditions, such as heart failure, stroke, infection, rheumatic disorders and pulmonary disorders. Acute medically ill patients with restricted mobility and other risk factors are known to be at increased risk for VTE, both in the hospital and after discharge. Each year, more than 150,000 acute medically ill patients worldwide die of VTE and not from their underlying medical condition. Pulmonary embolism is the most common preventable cause of hospital death and a leading cause of increased length of hospital stay. The average annual direct medical cost of treating VTE in a hospital setting in the United States is between $7,500 and $16,500 per patient and is even greater for elderly, higher risk patients. Both the National Quality Forum and the Joint Commission on Accreditation of Healthcare Organizations include the utilization of VTE prevention measures as a leading indicator of quality of patient care.

While there are a number of anticoagulants approved for short-duration VTE prophylaxis in acute medically ill patients during the typical hospitalization period, there is no anticoagulant approved for extended duration VTE prophylaxis in this population. Acute medically ill patients at risk for VTE are typically treated with intravenous or injectable heparin or an injectable low molecular weight heparin, such as enoxaparin, marketed as Lovenox® and also available in generic form, while in the hospital but are often either not used, or are used only for a short period following discharge. Multiple large regional and global studies have demonstrated that there is a substantial risk of

VTE after hospital discharge in acute medically ill patients with restricted mobility and other risk factors. For example, the MAGELLAN trial of 8,101 patients showed that the rate of VTE-related death for the 10-day period while the patients were in the hospital receiving anticoagulation therapy was 0.2%, while the rate of VTE-related death for the 25-day post-discharge period when the patient did not receive anticoagulation treatment, was 0.8%, a four-fold increase. One academic study examined the medical records of approximately 11,000 acute medically ill patients for a period of 180 days after hospital admission and determined that 56.6% of VTE events in this population occurred after discharge. These studies highlight the need for more effective extended duration prophylaxis therapies.

We are developing Betrixaban to be the first oral fXa inhibitor approved for use in acute medically ill patients and the first anticoagulant approved for extended duration VTE prophylaxis in those patients. We are evaluating Betrixaban in APEX, a global Phase 3 clinical study using a biomarker approach by focusing on patients that are most likely to benefit, specifically those with elevated D-dimer blood levels or those over the age of 75. In the field of thrombosis, it is well established that the outcomes of Phase 3 trials are significantly influenced by three factors: drug properties, dose selection and selection of the patients who will benefit most from treatment. Applying our knowledge of Betrixaban's properties, our clinical experience with Betrixaban and learnings from fXa inhibitor clinical trials conducted by other companies, we believe we have designed the APEX study to enhance the likelihood of its success, despite the lack of success of other fXa inhibitors in this indication, based on the following factors:

Drug properties. Betrixaban's unique pharmacodynamic and pharmacokinetic properties compared to other oral fXa inhibitors include a long half-life suitable for once-daily dosing, low renal clearance, which reduces the risk of drug accumulation, and low drug-drug interaction potential due to lack of metabolism by the CYP3A4 pathway, a key metabolic route for many other drugs.

Dosing. The dosing regimen in our APEX study is designed to provide immediate anticoagulation for patients in the hospital and to maintain a therapeutic level of anticoagulation over 24 hours with each oral once-daily dose for 35 days to reduce variability and potential for increased bleeding risk from supratherapeutic drug levels or increased VTE risk from subtherapeutic drug levels. We chose the dosing regimen of Betrixaban administered in APEX based on extensive modeling from our preclinical and clinical experience with Betrixaban and analysis of efficacy, safety and pharmacokinetic data from clinical trials of other fXa inhibitors.

Patient population. The APEX patient population, which is based on extensive review of epidemiologic studies and data from multiple large trials in acute medically ill patients, targets the specific patients with certain risk factors who are at an increased risk for VTE and can potentially benefit from extended duration VTE prophylaxis both during a hospital stay and post-discharge for 35 days, while excluding those at increased risk of bleeding, the main side effect of all anticoagulants.

Overview of thrombosis

Thrombosis is the leading cause of mortality and morbidity in the western world. Thrombosis arises from an abnormal or excessive activation of the body's natural clotting process, resulting in the formation of a clot inside a blood vessel that disrupts normal blood flow. If the clot detaches from the blood vessel wall and travels through the body, known as thromboembolism, it can damage vital organs, such as the brain, heart and lungs. Clots that block arteries can lead to myocardial infarctions, more commonly referred to as heart attacks, or a form of stroke known as ischemic strokes. Our Betrixaban development efforts are currently focused on VTE, with the two most common conditions being deep vein thrombosis, or DVT, which typically leads to pain and swelling in the leg, and pulmonary embolism, which occurs when a clot disrupts blood flow to the lungs, leading to lung damage or even death. In the United States, on an annual basis, 1.2 million people have a new or recurrent heart attack, 700,000 people suffer an ischemic stroke and 350,000 to 600,000 people have a VTE.

Thrombosis is generally prevented or treated using either anticoagulants, commonly known as blood thinners, or another class of drugs known as antiplatelet agents. The specific drug, dose and dosing frequency and duration of treatment depends on a patient's underlying disease and treatment setting, such as during surgery, in the hospital or at home. In some cases, these agents may be used in sequence or combination.

Prophylaxis against all forms of thrombosis is a major medical need throughout the developed world. For example, in the G7 countries, the United States, Japan, France, Germany, Italy, Spain and the United Kingdom, existing medical guidelines recommend that a population of approximately 46.4 million patients receive some form of anticoagulation drug therapy to reduce their risk of thrombosis. The largest category of patients at risk for thrombosis is the acute medically ill, whose risk is increased for those patients immobilized for more than a few days or with other risk factors. In addition to acute medically ill patients, populations at risk for thrombosis include patients with atrial fibrillation, acute coronary syndrome, recent VTE and certain genetic mutations, as well as surgical patients undergoing orthopedic or abdominal procedures.

The table below shows our estimate of the number of patients in the G7 countries, categorized by medical condition or procedure, for whom a Class I medical guideline recommendation of anticoagulation drug therapy would apply. A Class I medical guideline recommendation represents the highest level of recommendation that patients receive specified medical treatment based on the evidence of the relative risks and benefits of such treatment.

Patients with Class I medical guideline recommendation to receive anticoagulation drug therapy

Acute medically ill patients	22.3
Moderate to high risk surgery (including orthopedic surgery)	12.3
Atrial fibrillation	6.6
Acute coronary syndrome	3.5
VTE treatment and secondary prophylaxis	1.7
Total	46.4

The population of acute medically ill patients represents the largest patient segment in the anticoagulant market, accounting for nearly half of patients in the G7 countries. Despite the short duration of current VTE prophylaxis for the acute medically ill, typically 6 to 11 days, we believe that at its peak, annual worldwide sales of enoxaparin for use in acute medically ill patients were at least $1.4 billion.

VTE in acute medically ill patients

The standard of care for VTE prophylaxis in acute medically ill patients is to treat those patients who have certain risk factors with an anticoagulant, such as heparin or enoxaparin, for 6 to 14 days, primarily while the patient is in the hospital. Factors that have been identified as increasing the risk of VTE include several days of restricted mobility, age, an elevated blood marker known as D-dimer, previous VTE event, family history of VTE, smoking, hormonal therapy and others. Almost all hospitalized non-surgical patients have at least one of these risk factors, and approximately two-thirds have two or more risk factors. In-hospital use of anticoagulation has been shown to reduce the incidence of VTEs by approximately 63% and have a net clinical benefit; however, recent registry studies and clinical trials have shown that acute medically ill patients remain at a high risk of VTE for an extended period after discharge.

For example, one academic study examined the medical records of approximately 11,000 acute medically ill patients for a period of 180 days after hospital admission and determined that 56.6% of VTE events in this population occurred after discharge. In the MAGELLAN trial sponsored by Bayer and Janssen, 5.7% of enoxaparin-treated patients experienced a significant thrombotic event during the trial period, and, in higher risk sub-populations, such event rate was 7% to 9%. In the ADOPT trial sponsored by BMS, the combined incidence of symptomatic VTE and VTE-related death was twice as high during the period after cessation of enoxaparin treatment as it was during the treatment period.

Currently, there are no anticoagulants approved for extended duration VTE prophylaxis in acute medically ill patients for more than a 14-day period, and most patients receive anticoagulation therapy only while in the hospital. Heparin and enoxaparin are generally not often used after hospital discharge due to the difficulty of administering the therapies and lack of data showing a benefit beyond the currently approved duration of therapy. Warfarin has not been studied in a large randomized trial and is not indicated for VTE prophylaxis in acute medically ill patients. Both rivaroxaban and apixaban have been evaluated in large Phase 3 trials of VTE prophylaxis in acute medically ill patients, both in the hospital and after discharge. The MAGELLAN trial, which evaluated rivaroxaban, demonstrated efficacy but failed to demonstrate an acceptable benefit-to-risk profile due to increased bleeding, and the ADOPT trial, which evaluated apixaban, showed a reduction in VTE events, but failed to demonstrate statistically significant efficacy. Importantly, the results of these trials showed that acute medically ill patients with restricted mobility and other risk factors treated with standard duration enoxaparin therapy for 6 to 14 days continue to be at increased risk of VTE post-hospital discharge for at least 35 days.

Leading clinicians have identified the lack of an appropriate therapy to prevent VTE in acute medically ill patients after discharge as a significant unmet clinical need. Such a therapy should be easy to administer both within and outside of the hospital setting and would need to show a robust reduction in the incidence of VTE and an acceptable bleeding profile compared to the current standard of care. The therapy would also need to have other properties appropriate for use in acute medically ill patients. These patients are typically frail and elderly and often cannot tolerate drugs that are significantly cleared through the kidneys. Moreover, they are often taking multiple medications for concomitant conditions and need a therapy that has a low potential to interact with other medications and a simple dosing regimen.

Betrixaban for extended duration VTE prophylaxis in acute medically ill patients

We believe that Betrixaban is well suited for use in extended duration VTE prophylaxis in acute medically ill patients, both in the hospital and after discharge. Our preclinical and clinical studies suggest that it has antithrombotic activity similar to that of enoxaparin and certain other anticoagulants (dabigatran, an anti-thrombin drug and fXa inhibitors; rivaroxaban, apixaban and edoxaban). In addition, it has a number of characteristics that differentiate it from these compounds that we believe are particularly relevant to acute medically ill patients, including:

Orally active with 19-23 hour half-life	· Ideal for once-daily dosing. · Ease of administration compared to therapies which require multiple doses over a 24 hour period or injections. · Potential for lower peak concentration while still maintaining effective anticoagulation, which could reduce bleeding and VTE risk.
Lower renal clearance compared to other fXa inhibitors	· Potentially allows for more predictable dosing concentrations in the blood of patients with reduced kidney function. · Potentially decreases the risk of bleeding associated with anticoagulants.
Low potential for drug-drug interaction	· Unlike all currently approved direct fXa inhibitors, Betrixaban is not metabolized through the CYP3A4 pathway, a key metabolic route for many approved drugs for a wide range of conditions. · Many acute medically ill patients suffer from a significant underlying illness or one or more chronic conditions and are taking multiple therapies. The concurrent use of multiple CYP3A4 metabolized drugs can result in unpredictable drug levels and other undesirable drug-drug interactions.

Betrixaban clinical experience

Betrixaban has been evaluated in 22 Phase 1 and Phase 2 clinical studies involving 1,411 human subjects, 1,200 of whom received Betrixaban, including more than 100 subjects for six months or more. A series of 19 Phase 1 and clinical pharmacology studies provided substantial information regarding its safety, dosage and use in specific sub-populations. In three Phase 2 studies, Betrixaban was evaluated in specific patient populations relative to commonly used anticoagulants. Consistent with the development of other antithrombotic agents, these studies were not designed to demonstrate a statistically significant difference between groups for the studied outcomes. The Betrixaban Phase 2 studies were instead designed to demonstrate evidence of an anticoagulant effect and relative safety compared to an established comparator. In these clinical studies:

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Betrixaban was well tolerated in diverse patient populations with comparable or better tolerability as compared to warfarin and enoxaparin;

- Betrixaban achieved clinically relevant anticoagulant activity with comparable or less bleeding risk than existing agents; and
- Betrixaban demonstrated predictable pharmacokinetic and pharmacodynamic activity.

As is typical in the development of anticoagulants, our initial Phase 2 study was conducted in patients undergoing elective total knee replacement surgery. This patient population has a very high incidence of VTE, making it an excellent population in which to evaluate the relative effectiveness and safety of different doses as compared to the standard of care. In our 215-patient EXPERT study, two different doses of Betrixaban, 15 mg and 40 mg each given twice daily, were evaluated against a U.S. standard twice-daily dose of 30 mg of enoxaparin in patients undergoing this surgery. The incidence of VTE in the Betrixaban groups was comparable to that in the enoxaparin group and lower than the rates historically observed in placebo groups, although these results were not statistically significant. In addition, the only incidence of major bleeding seen in the study was in the enoxaparin group.

In our 508-patient Phase 2 EXPLORE-Xa study, we evaluated the use of Betrixaban for ischemic stroke prevention in elderly patients with nonvalvular atrial fibrillation. Three different once-daily doses of Betrixaban, 40 mg, 60 mg and 80 mg, were evaluated against dose-adjusted warfarin. Patients with a median age of 74 years received treatment for at least 90 days and as long as 12 months. The incidence of ischemic stroke, as well as major bleeds and clinically relevant non-major bleeds, was comparable across the warfarin and Betrixaban treatment groups, suggesting similar anticoagulant activity and bleeding risk across all groups. In addition, we measured D-dimer levels. D-dimer is a byproduct of coagulation, and elevated levels have been shown to be indicative of an increased risk of thromboembolism. In those patients receiving Betrixaban who had not previously been taking warfarin, we observed a dose-related decrease in D-dimer levels. We believe the results of the EXPLORE-Xa study, although not statistically significant, provide evidence of the anticoagulant activity of Betrixaban and indicate that the long-term use of Betrixaban is well tolerated in an elderly population, including those with moderate to severe kidney disease.

Our Phase 2 DEC study evaluated the utility of adjusting the dose of Betrixaban based on a patient's weight. The study indicated that making such adjustments is not necessary and it provided additional evidence of the safety and activity of Betrixaban.

All of our clinical studies to date have indicated that Betrixaban is well tolerated. Subjects taking Betrixaban had an increased rate of gastrointestinal issues, such as diarrhea, nausea and vomiting, as compared to subjects taking placebo, but these increased rates appear to be similar to those of patients taking other fXa inhibitors. Patients taking Betrixaban also had an increased incidence of other side effects such as back pain, dizziness, headaches, rashes and insomnia as compared with patients taking a placebo or an active comparator. These side effects do not appear to have a substantial impact on patients' tolerance of Betrixaban. There is no evidence that Betrixaban has negative effects on heart rhythm or liver function. As discussed earlier, the most significant side effect of all anticoagulants is major bleeding. While definitive conclusions cannot be drawn from our Phase 2 studies, it does not appear from the study results that patients taking Betrixaban face a greater risk of major bleeding than patients taking warfarin or enoxaparin.

Phase of study	Number of studies	Subjects receiving Betrixaban	Objective	Selected results
Phase 1	19	459	Safety, tolerability, pharmacokinetic, pharmacodynamics	Single doses up to 550 mg well tolerated with predictable drug properties
Phase 2 (EXPLORE-Xa and DEC)	2	570	Safety/efficacy in atrial fibrillation patients; safety compared to warfarin	Prophylaxis and bleeding risk comparable to warfarin
Phase 2	1	171	Safety/efficacy in knee replacement compared to enoxaparin	Prophylaxis and bleeding risk comparable to enoxaparin

(EXPERT)

Clinical experience of fXa inhibitors in acute medically ill patients

Direct fXa inhibitors rivaroxaban and apixaban have been studied in large Phase 3 trials for VTE prophylaxis in acute medically ill patients. Neither trial was successful in showing a balanced result of VTE reduction relative to major bleeding events, referred to as net clinical benefit. The MAGELLAN trial, which evaluated rivaroxaban, met its primary efficacy endpoint of decreased VTE in acute medically ill patients but achieved this result with an unfavorable bleeding risk. By comparison, the ADOPT trial, which evaluated apixaban, did not demonstrate significant clinical efficacy, although the rates of VTE in its study population were significantly lower than those observed in MAGELLAN, which we believe reflects the lower risk patient population enrolled in ADOPT. Despite the lack of efficacy observed in ADOPT, the incidence of major bleeding was lower than that observed in MAGELLAN. Although neither MAGELLAN nor ADOPT was successful, both highlighted the continuing risk of VTE after hospital discharge and illustrated two major lessons that have informed the clinical development plan for Betrixaban for acute medically ill patients.

Dose selection: In the MAGELLAN trial, rivaroxaban was dosed once daily despite having a half-life of only between 5 to 9 hours. To achieve adequate therapeutic coverage in a once-daily regimen, MAGELLAN may have studied a rivaroxaban dose that produced supratherapeutic drug levels for a period after dosing, possibly explaining the unfavorable bleeding risk observed in that trial. In the ADOPT trial, apixaban with a half-life of 12 hours, was dosed twice daily in order to maintain more consistent drug levels, which may have been responsible for its relatively lower rate of bleeding than was seen in MAGELLAN.

Patient selection: Multiple studies of the acute medically ill have demonstrated that VTE incidence increases as the number of risk factors that a patient has increases. In the ADOPT trial, where enrollment was open to a broad set of acute medically ill patients, including a large number of subjects who were not at high risk of VTE, there were too few VTE events to create a statistically significant separation between the control and treatment arms. In contrast to ADOPT, MAGELLAN enrolled patients with higher levels of VTE risk and treatment with rivaroxaban produced a significant reduction in the 35-day incidence of VTE compared to standard of care treatment with enoxaparin. Neither MAGELLAN nor ADOPT excluded patients whose medical history or concurrent use of anti-platelet therapy placed them at a substantially higher risk of severe bleeding. In MAGELLAN, this failure to exclude certain high risk patients combined with the dosing regimen used may have contributed to the relatively high level of bleeding events observed in the trial and the lack of net clinical benefit.

Phase 3 APEX study

We believe that for an anticoagulant to demonstrate efficacy and safety for extended duration VTE prophylaxis in acute medically ill patients, it must have the right drug properties, be dosed at appropriate levels and target the right patient population. As discussed above, we believe that Betrixaban has a number of key pharmacokinetic and pharmacodynamic properties that make it well suited for use with the frail and elderly patients that comprise a significant portion of the acute medically ill patient population. In addition, using the data from our extensive clinical and preclinical studies of Betrixaban and learnings from ADOPT and MAGELLAN, we believe that we have designed APEX with a dosing regimen for a study population focused on patients with certain biomarkers, that we believe will increase the probability that Apex will demonstrate both safety and efficacy in VTE prophylaxis in acute medically ill patients both in the hospital and after discharge.

Dose selection. Based on standard pharmacometric modeling that integrated preclinical and clinical studies of fXa inhibitors, we believe that we have identified a dosing regimen (80 mg oral once-daily dose for 35 days following a 160 mg oral loading dose on day one; 40mg dose for patients with severe renal impairment) that will produce clinically meaningful anticoagulant effects in the APEX trial. In our clinical studies, we measured the concentration of Betrixaban achieved at different dose levels and observed in Phase 2 studies that at total daily doses of 30 mg and 80 mg Betrixaban had anticoagulant activity, measured by standard imaging tests to detect VTE, comparable to standard of care enoxaparin. We also observed that bleeding and anticoagulant activity, as measured by a common blood marker D-dimer, of once-daily 40 mg, 60 mg and 80 mg doses of Betrixaban were comparable to standard doses of warfarin in patients with non-valvular atrial fibrillation. We correlated those doses with levels of thrombin generation inhibition, a common pharmacodynamic measurement used to compare anticoagulant activity of different drugs, and compared those levels with those produced by other fXa inhibitors, including enoxaparin, rivaroxaban and apixaban. For patients with severe renal impairment and those taking agents that are strong inhibitors of PGP enzymes, the dose of Betrixaban will be reduced to 40 mg daily, which targets a level of anticoagulant activity consistent with the overall patient population.

The following diagram depicts pharmacometric modeling of thrombin generation inhibition over time for rivaroxaban, apixaban and Betrixaban, reflecting the dosing regimen used in MAGELLAN, ADOPT and APEX, respectively:

Patient selection: efficacy. We used the findings of MAGELLAN, ADOPT and other trials to help define the population of patients that are more likely to demonstrate clinical benefit from extended duration VTE prophylaxis to be included in APEX. APEX enrolled patients that have a combination of specific medical conditions and risk factors that put them at an elevated risk of VTE for post-hospital discharge and thus a need for VTE prophylaxis during this period. The APEX inclusion criteria specify that patients must be admitted to the hospital with one of five categories of acute medical illness: heart failure, respiratory failure, infection, rheumatic disease or stroke. The inclusion criteria also require that patients have a high degree of immobilization. Further, a patient must meet one of the following three additional criteria: be over 75 years of age, be over 60 years of age and have a D-dimer level of at least twice the upper limit of normal, or be over 40 years of age and have elevated D-dimer blood levels of at least twice the upper limit of normal and have at least one additional major risk factor for VTE.

Patient selection: safety. Consistent with our approach to enroll patients into the APEX study that are at an elevated risk for VTE for 35 days or more, we likewise designed the trial to exclude patients at high risk for bleeding. We believe this further increases the probability that APEX will demonstrate a net clinical benefit for Betrixaban. For example, we exclude patients with a historian admitting diagnosis which will likely require major surgery, gastrointestinal bleeding, hemorrhagic stroke or bleeding pulmonary lesions. In addition, patients taking daily doses of aspirin are limited to low doses and must also take a proton-pump inhibitor to reduce the risk of gastrointestinal bleeding.

Other study design features and operations measures. We have implemented various measures to improve data quality, ensure we maintain a high degree of statistical power and reduce confounding clinical and statistical issues compared to MAGELLAN and ADOPT. For example, we are transmitting ultrasound images electronically rather than by mail so that quality can be assessed in real time. We do not require an ultrasound at day 10, which was required in an earlier study and that we believe led to patients failing to return for a second ultrasound at day 35. We also instituted patient outreach measures intended to increase patient compliance with follow-up appointments after hospital discharge. We expect our approach to result in a relatively lower occurrence of missing data in the primary endpoint analysis and therefore increase study power and minimize potential bias for a given number of patients.

We designed our Phase 3 APEX study to demonstrate the safety and efficacy of Betrixaban for extended duration VTE prophylaxis during a hospital stay and post-discharge for 35 days in acute medically ill patients with restricted mobility and certain biomarkers and additional risk factors. If APEX is successful, we expect it to be sufficient to support global regulatory approvals. We can provide no assurance that APEX will be successful and, if APEX is not successful, our ability to commercialize Betrixaban would be materially adversely affected. APEX is a randomized, double-blind, double-dummy, active-controlled, multicenter, multinational study comparing a once-daily dose of 80 mg of Betrixaban for 35 days (including both in the hospital and after discharge) with in-hospital administration of 40 mg of enoxaparin once daily for 6 to 14 days followed by placebo for the remainder of the study period. In the third quarter of 2015, we completed a planned protocol defined sample size re-assessment and increased the size of the trial from 6,850 to approximately 7,500 patients. The increase in sample size was designed to ensure APEX statistical power for the primary efficacy analysis patient cohort and increases power in the overall patient population analysis. We have finalized our statistical analysis plan in agreement with the FDA. We completed APEX patient enrollment in the fourth quarter of 2015, and expect to report top line data in early April 2016 and, assuming positive trial data, we expect to file the NDA in the third quarter of 2016. In the fourth quarter of 2015, Betrixaban received Fast Track designation from the FDA for prevention of blood clots in acute medically ill patients. Fast-Track designation is generally intended by the FDA to facilitate the development, and expedite the review, of drugs which treat a serious or life-threatening condition and fill an unmet medical need.

The primary APEX study objective is to demonstrate superiority of inpatient followed by post-hospitalization VTE prophylaxis with Betrixaban as compared to a current standard of care (enoxaparin given for VTE prophylaxis only during hospitalization) in the reduction of VTE-related events at 35 days while maintaining a favorable benefit to risk

profile. The APEX study is adequately powered to show a clinically relevant benefit on the primary endpoint of occurrence of one or more of the following: asymptomatic proximal DVT (as detected by ultrasound), symptomatic DVT (proximal or distal), non-fatal PE, and VTE-related death.

The following schematic depicts the APEX study design:

We believe that Betrixaban's unique pharmacological profile combined with APEX's study design positions Betrixaban to be the first novel anticoagulant approved for use in acute medically ill patient who require extended duration VTE prophylaxis. We anticipate that such an approval, if obtained, would be for the use of Betrixaban in those acute medically ill patients with medical profiles consistent with those of patients enrolled in APEX. Based upon a review of epidemiological data, we believe that such patients constitute approximately two thirds of the acute medically ill patient population subject to a medical guideline recommendation to receive pharmacological VTE prophylaxis, or approximately 14 million patients in the G7 countries.

Betrixaban pharmacoeconomics

Oral drugs are typically less expensive than injectable agents. Currently in thrombosis, based on our research, we estimate that the average daily wholesale acquisition cost of a 40 mg Lovenox pre-filled syringe in the United States is $33.08 compared to rivaroxaban at $10.49 per day for both the 10 mg and 20 mg strengths. In addition, the cost to treat a VTE in a hospital setting in the United States can reach $16,500 per patient in direct medical expenses. Therefore, we believe that, if our APEX Phase 3 study is successful, Betrixaban could represent a cost-effective preventive therapy against VTE in acute medically ill patients as compared to the current standard of care. We estimate that by 2016, the total potential market for VTE prophylaxis in the acute medically ill population, including extended duration VTE prophylaxis, will be $3 billion to $4 billion.

Andexanet alfa

Major bleeding is the most clinically meaningful side effect of oral and injectable fXa inhibitors, including apixaban, rivaroxaban, edoxaban, Betrixaban and enoxaparin. Andexanet alfa is a recombinant protein designed to reverse anticoagulant activity in patients treated with a fXa inhibitor. Andexanet alfa has potential indications to treat patients' anticoagulated with a direct or indirect fXa inhibitor when reversal of anticoagulation is needed, such as in life-threatening or uncontrolled bleeding or for emergency surgery/urgent procedures.

Overview of anticoagulant-related bleeding

In patients using anticoagulation therapy, there is an increased risk of major bleeding, which is common across all anticoagulants regardless of the reason for anticoagulation therapy, the patient setting or the duration of therapy. For patients at an elevated risk of thrombosis, the benefits provided by anticoagulation products generally outweigh the related risk of bleeding, however, major bleeding remains a significant cause of morbidity and mortality in these patients. For example, atrial fibrillation patients taking fXa inhibitors on a chronic basis had a 1% to 4% annual rate of a major bleed in the Phase 3 ARISTOTLE trial of apixaban, sponsored by BMS and Pfizer, and the Phase 3 ROCKET trial of rivaroxaban, sponsored by Bayer and Janssen. Based on other clinical trials, we believe that annually an additional 1% of patients taking fXa inhibitors will require emergency surgery. Patients on anticoagulation who suffer trauma have a higher risk of death than similar patients not on anticoagulation. The cost of treating a major bleed may exceed $100,000 in direct medical expenses.

15

The current standard treatment for patients taking established anticoagulants who experience major bleeding is to administer products that directly or indirectly support clotting, such as Vitamin K; fresh frozen plasma, or FFP; prothrombin complex concentrates, or PCCs; protamine; and recombinant Factor VIIa, or rFVIIa. Which of these approaches is used for a given patient depends on the particular anticoagulant being taken. For example, common treatments for warfarin reversal are Vitamin K, FFP and, more recently, PCCs, while low molecular weight heparin patients needing reversal are often managed with FFP or protamine. While the existing reversal agents are effective to varying degrees to reverse the effects of established anticoagulants, they can have potentially serious side effects, including in some cases increased risk of prothrombotic effects such as ischemic stroke and myocardial infarction.

There are, however, no approved antidotes or reversal agents for the new oral fXa inhibitors. Moreover, the reversal agents used for established anticoagulants have not been extensively studied in clinical trials of oral fXa inhibitor treated patients, and preliminary data suggest that they may not be effective to treat major bleeding in these patients. The existing reversal agents work mostly in the early steps of the coagulation cascade prior to the involvement of fXa and simply supplement the factor deficiency caused by established anticoagulants. For the reversal agents to affect bleeding in patients taking oral fXa inhibitors, sufficiently large quantities would need to be given to overwhelm the inhibitor, an approach that we believe could lead to dangerous prothrombotic effects. As there are no currently approved therapies designed to reverse or overcome fXa inhibitors, patients taking those therapies face a risk of major bleeding. Leading clinicians have identified, and the FDA has recognized, the lack of a reversal agent for fXa inhibitors as a significant unmet clinical need.

The following diagram depicts where the existing reversal agents and novel oral anticoagulants interact with the coagulation cascade:

Despite the risk of major bleeding, sales of fXa inhibitors are expected to increase dramatically in the coming years as they have significant clinical benefits over standard products for preventing thrombosis, such as warfarin or enoxaparin. Based on our research and relevant market data, we estimate that by 2020, fXa inhibitors will have a majority share of the market in each major anti-coagulation indication. As sales of fXa inhibitors increase, the need for an effective antidote or reversal agent will correspondingly increase. We estimate that by 2020, over 500,000 patients annually in the G7 will need a fXa reversal agent, with approximately 300,000 of these cases arising from a major bleeding episode, approximately 100,000 of these cases arising from emergency surgery and approximately 100,000 of those cases arising from traumatic injury.

Andexanet alfa — a universal antidote for fXa inhibitors

Building on the insights gained during the development of Betrixaban, we designed Andexanet alfa as a universal reversal agent for direct fXa inhibitors, such as rivaroxaban, apixaban, edoxaban and Betrixaban, as well as indirect fXa inhibitors, such as enoxaparin. Andexanet alfa is structurally very similar to native fXa, but it has a number of limited modifications intended to restrict its biological activity to reversing the effects of fXa inhibitors. Andexanet alfa acts as a fXa decoy that binds to fXa inhibitors in the blood. Once bound to Andexanet alfa, the inhibitors are unable to bind to and inhibit native fXa. The native fXa then becomes available to participate in the coagulation process and restore hemostasis, or normal clotting.

In designing Andexanet alfa, we started with native fXa protein and used our knowledge of its functional domains to make three changes by protein engineering. First, we made a small modification to the active site, or catalytic pocket, of native fXa so that Andexanet alfa cannot drive the coagulation process but still binds to fXa inhibitors with high affinity. Second, we removed most of the section of the native fXa that facilitates binding to the thrombin activating complex to reduce the risk that Andexanet alfa would interfere with the activity of native fXa. Importantly, while removing this section we retained a small portion at the end so that Andexanet alfa looks more like native fXa to the immune system, thereby decreasing the likelihood of an immune system response against Andexanet alfa. Third, we made a minor modification in the peptide section that links the two parts of fXa to facilitate Andexanet alfa's manufacture using standard processes. The end result is a recombinant protein that we believe can bind with and sequesters any direct or indirect fXa inhibitor, thereby allowing native fXa to drive coagulation and restore hemostasis.

Andexanet alfa preclinical results

We have evaluated Andexanet alfa in numerous in-vitro and animal studies and have developed substantial evidence regarding the safety, efficacy and rapid activity of Andexanet alfa. Key findings from this preclinical program include:

- In isolated human plasma, we have measured multiple pharmacodynamic measures of coagulation, such as anti-fXa units, prothrombin time and activated partial thromboplastin time as well as key pharmacokinetic measures and have shown that Andexanet alfa reverses the effects of all fXa inhibitors we have studied, including rivaroxaban, Betrixaban, apixaban, enoxaparin and fondaparinux.
- In tail transection blood loss models in rats and mice, we have shown that Andexanet alfa significantly reduces the amount of blood loss compared to placebo in animals treated with enoxaparin, fondaparinux, or rivaroxaban plus aspirin. In studies where Andexanet alfa was given five or ten minutes after the transection, blood loss was significantly reduced compared to animals not given Andexanet alfa.
- In a rabbit liver laceration model, we have shown that Andexanet alfa reduces the level of bleeding in rivaroxaban-treated rabbits to levels comparable to those of rabbits not anticoagulated with rivaroxaban whether given before or after the liver incisions. We have also shown that administration of pro-thrombotic agents, rFVIIa and prothrombin complex concentrates, fails to decrease the amount of blood loss in rabbits treated with rivaroxaban. In addition, we have shown that in rabbits treated with Andexanet alfa, but without rivaroxaban, bleeding levels were comparable to those of untreated rabbits, suggesting that Andexanet alfa alone does not have significant pro-coagulative effects.
- In a cynomolgus monkey safety study, animals were dosed multiple times with Andexanet alfa, both alone and in the presence of several fXa inhibitors, without any evidence of significant toxicity.
- In a cynomolgus monkey study, administration of Andexanet alfa alone was associated with a transient increase in certain coagulation markers consistent with a known interaction between Andexanet alfa and tissue factor pathway inhibitor, or TFPI, another element in the coagulation process. These blood markers, which are indicative of increased thrombin generation, were not associated, however, with any evidence of clot formation or fibrin deposition in detailed histopathological examination of the monkeys at necropsy.

Taken together, these and other studies suggest, but do not prove, that Andexanet alfa will be a safe and effective fXa reversal agent.

Andexanet alfa clinical results and development strategy

In November 2013, the FDA granted breakthrough therapy designation for Andexanet alfa and we are pursuing an Accelerated Approval pathway for Andexanet alfa. Typically the FDA requires at least one large-scale, randomized, placebo controlled study for the approval of a new therapeutic. However, under the FDA's Accelerated Approval pathway, therapies targeting a significant unmet clinical need may be approved based upon their showing adequate safety as well as efficacy against a surrogate biomarker endpoint in a clinical trial. Utilizing this expedited approval process should significantly decrease the time and expense associated with our development program. In February 2015, the FDA granted orphan drug designation to Andexanet alfa.

We have completed a series of Phase 2 studies and two Phase 3 studies (ANNEXA - Andexanet Alfa a Novel Antidote to the Anticoagulant Effects of fXa Inhibitors) studies using biomarker endpoints for Andexanet alfa. These biomarkers include anti-fXa levels, plasma free fraction of the anticoagulant and thrombin generation. We are currently evaluating Andexanet alfa in a Phase 2 proof-of-concept study with Betrixaban and a Phase 4 confirmatory study. The results from our Phase 3 studies along with data from a limited number of patients in the ongoing Phase 4 confirmatory study were included in our BLA filing in the first quarter of 2016. In the second half of 2014, we obtained formal scientific advice from the EMA that we believe supports using the same clinical data package for submitting for regulatory approval in Europe. We have entered into collaboration agreements with BMS and Pfizer, and Bayer to obtain the right to pursue final regulatory approval and commercialize Andexanet alfa in Japan.

Andexanet alfa Phase 2 studies

We have completed a series of Phase 2 proof-of-concept studies evaluating the safety and activity of Andexanet alfa in healthy volunteers who were administered one of several fXa inhibitors. The purpose of these studies is to evaluate the safety of Andexanet alfa and to determine the dose of Andexanet alfa required to reverse the effect of each anticoagulant as measured by multiple pharmacokinetic and pharmacodynamic endpoints. Results from our Phase 2 studies with apixaban, rivaroxaban, edoxaban and enoxaparin, demonstrated a bolus of Andexanet alfa immediately reversed the anticoagulation activity of each fXa inhibitor and that the reversal could be sustained with a continued infusion of Andexanet alfa. Andexanet alfa was shown to be well tolerated with no thrombotic events or antibodies to fXa or Factor X detected.

In these studies the fXa inhibitor was dosed in healthy volunteers for five or six days to achieve steady-state drug levels. Andexanet alfa was then administered intravenously in a range of bolus only and bolus plus infusion dose regimens. Pharmacodynamic and safety data were collected through Day 48 with pharmacokinetic data through Day 10. The primary endpoint for each of these studies is the percent reversal of anti-fXa activity after dosing.

In the Phase 2 studies Andexanet alfa was generally well tolerated with no apparent safety signals. Importantly, none of the subjects receiving Andexanet alfa generated detectable levels of antibodies against either Factor X or fXa and there have been no neutralizing antibodies against Andexanet alfa detected. The most common drug-related side effect was mild infusion-related reactions, which are not unexpected for a biological agent, such as Andexanet alfa. In the Phase 2 studies, there was also a dose-dependent restoration of thrombin generation with no clinical evidence of thrombosis.

Phase 3 ANNEXA-A (Andexanet Alfa a Novel Antidote to the Anticoagulant Effects of fXA Inhibitors – Apixaban) Study Design and Results

The randomized, double-blind, placebo-controlled Phase 3 ANNEXA-A study is evaluating the safety and efficacy of Andexanet alfa in reversing apixaban-induced anticoagulation in older healthy volunteers. Efficacy is being evaluated using biomarker endpoints, including anti-fXa levels as the primary endpoint. Secondary endpoints include levels of plasma unbound (free fraction) of apixaban and thrombin generation.

In the first part of the Phase 3 ANNEXA-A trial, 33 healthy volunteers (ages 50 to 73) were given apixaban 5 mg twice daily for 3.5 days and then randomized in a 3:1 ratio to Andexanet alfa administered as a 400 mg IV bolus (n=24) or to placebo (n=9). The study achieved all of its primary and secondary endpoints with statistical significance (p value <0.0001). In the study, two to five minutes after completion of a bolus dose of Andexanet alfa, the anticoagulant activity of apixaban was reversed by approximately 94 percent (p value <0.0001) compared with placebo as measured by anti-fXa activity. Every subject treated with Andexanet alfa had between 90 and 96 percent reversal of the anticoagulant activity of apixaban. The reversal of anti-fXa activity correlated with a significant reduction in the level of free, unbound apixaban in the plasma, consistent with the mechanism of action of Andexanet

alfa. Additionally, Andexanet alfa restored thrombin generation to baseline normal levels (prior to apixaban therapy) in 100 percent of subjects ($p<0.0001$ vs. placebo). In this study, no serious adverse events, thrombotic events, or antibodies to Factor X or Xa were reported following Andexanet alfa administration. Mild infusion reaction was reported in three subjects.

In the second part of the ANNEXA-A study, 31 healthy volunteers were given apixaban 5 mg twice daily for four days and then randomized in a 3:1 ratio to receive either andexanet alfa administered as a 400 mg IV bolus followed by a continuous infusion of 4 mg/min for 120 minutes (n=24) or placebo (n=8). Andexanet alfa significantly reduced anti-fXa activity by 92 percent compared with placebo ($p<0.0001$), with reversal persisting for 1 to 2 hours after completion of the infusion. The reduction in free unbound apixaban was sustained with the bolus plus infusion, which significantly reduced the mean plasma concentration of free unbound apixaban compared with placebo ($p=0.0002$). Andexanet alfa also restored thrombin generation to normal in all subjects who received the compound ($p<0.0001$ vs. placebo). In this study, Andexanet alfa was well tolerated. No serious or severe adverse events, no thrombotic events, and no antibodies to Factor X or Xa were reported. All adverse events related to Andexanet alfa administration were non-serious and mild.

The following diagram depicts the data from the second part of our Phase 3 ANNEXA-A study of Andexanet alfa in subjects taking apixaban.

Phase 3 ANNEXA-R (Andexanet Alfa a Novel Antidote to the Anticoagulant Effects of FXa Inhibitors – Rivaroxaban) Study Design and Results

The randomized, double-blind, placebo-controlled Phase 3 ANNEXA-R study is evaluating the safety and efficacy of Andexanet alfa in reversing rivaroxaban-induced anticoagulation in healthy volunteers ages 50 to 75 years. Efficacy is being evaluated using biomarker endpoints, with anti-fXa levels as the primary endpoint. Secondary endpoints include plasma levels of plasma unbound (free fraction) of rivaroxaban and thrombin generation levels.

In the first part of the ANNEXA-R study, 41 healthy volunteers were given rivaroxaban 20 mg once daily for four days and then randomized in a 2:1 ratio to receive at Cmax either Andexanet alfa administered as an 800 mg IV bolus (n=27) or to placebo (n=14). The study achieved its primary endpoint with high statistical significance. Within two to five minutes of completion of the bolus dose, Andexanet alfa significantly reversed the anticoagulant activity of rivaroxaban (by 92 percent) compared with placebo ($p<0.0001$), as measured by anti-fXa activity; significantly reduced the level of free (unbound) rivaroxaban in the plasma compared with placebo ($p<0.0001$); and fully restored thrombin generation in 96 percent of subjects ($p<0.0001$ vs. placebo). Andexanet alfa was shown to be well tolerated.

In the second part of the ANNEXA-R study, 39 healthy volunteers were given rivaroxaban 20 mg once daily for four days and then randomized in a 2:1 ratio to receive either Andexanet alfa administered as an 800 mg IV bolus followed by a continuous infusion of 8 mg/min for 120 minutes (n=26) or placebo (n=13). Andexanet alfa significantly reduced anti-fXa activity by 97 percent compared with placebo ($p<0.0001$), with reversal persisting for 1 to 2 hours after completion of the infusion. The reduction in free unbound rivaroxaban was sustained with the bolus plus infusion, which significantly reduced the mean plasma concentration of free unbound rivaroxaban compared with placebo ($p<0.0001$). Andexanet alfa also restored thrombin generation to normal in all subjects who received the compound ($p<0.0001$ vs. placebo).

The following diagram depicts the data from the second part of our Phase 3 ANNEXA-R study of Andexanet alfa in subjects taking rivaroxaban.

Our Phase 4 ANNEXA-4 study, which was initiated in early 2015, is an open-label, single-arm study being conducted in patients receiving apixaban, rivaroxaban, edoxaban or enoxaparin (a low molecular weight heparin) who present with an acute major bleed. Acute major bleeding includes life-threatening bleeding, bleeding associated with very low blood counts, or bleeding that occurs in a critical area such as the brain or surrounding the heart. The trial excludes bleeding due to major trauma and large blood vessel rupture. Patients will receive Andexanet alfa as an intravenous (IV) bolus followed immediately by a continuous infusion. The study is evaluating Andexanet alfa's ability to decrease anti-fXa activity and restore hemostasis in patients. Safety endpoints include overall 45 day safety, including an evaluation of thrombotic activity and antibody development. Data from a small number of patients in this study was included in our BLA filing in the first quarter of 2016 as part of an Accelerated Approval pathway for Andexanet alfa.

If the registration studies are successful, we believe these data could be sufficient to obtain approval for Andexanet alfa from the FDA and the EMA.

Collaboration with BMS and Pfizer

In October 2012, we entered into a three-way agreement with BMS and Pfizer to include subjects dosed with apixaban, their jointly owned product candidate, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. The total consideration under this agreement of $6.0 million was received and recognized as revenue on a straight-line basis over the estimated performance period through the fourth quarter of 2013. This agreement will continue in force until our anticipated meeting with the FDA or termination by either party pursuant to the agreement. BMS and Pfizer may terminate this agreement if the parties cannot agree on certain changes to the development plan, for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach or for material safety issues.

In January 2014, we entered into a second collaboration agreement with BMS and Pfizer to further study the safety and efficacy of Andexanet alfa as a reversal agent to apixaban in our Phase 3 studies. Under the terms of the agreement, we received an upfront payment of $13.0 million and are eligible to receive additional development and regulatory milestone payments of up to $12.0 million. These payments represent the total consideration under this agreement. BMS and Pfizer will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for apixaban by the FDA and EMA. BMS and Pfizer may terminate this agreement for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach, material safety issues, or failure of the Phase 3 studies.

In January 2016, we entered into collaboration agreements with BMS and Pfizer to obtain the right to pursue final regulatory approval and commercialize Andexanet alfa as a reversal agent in Japan.

Collaboration with Bayer and Janssen

In February 2013, we entered into a three-way agreement with Bayer and Janssen to include subjects dosed with rivaroxaban, their fXa inhibitor product, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting such clinical studies. Pursuant to the agreement, Bayer and Janssen will work closely with us on both development and regulatory aspects of Andexanet alfa in connection with our Phase 2 proof-of-concept studies. Under the agreement, Bayer and Janssen have each provided us with an upfront and non-refundable fee of $2.5 million, for an aggregate fee of $5.0 million, and will each provide us with an additional payment of $250,000, for an aggregate fee of $500,000, following the delivery of the final written study report of our Phase 2 proof-of-concept studies of Andexanet alfa, as further specified in the agreement. This agreement will continue in force until the later of the completion of the studies and the fulfillment of certain other conditions set forth in the agreement, unless earlier terminated by either party pursuant to the agreement. This agreement may be terminated by either party for material safety issues or the other party's uncured material breach. In addition, Bayer and Janssen may terminate this agreement with 60 days' advance written notice for convenience at any time, or immediately for our bankruptcy or change of control.

In February 2014, we entered into a second collaboration agreement with Bayer and Janssen to further study the safety and efficacy of Andexanet alfa as a reversal agent to rivaroxaban through our Phase 3 studies. Our original collaboration agreement with Bayer and Janssen covers the conduct of a Phase 2 proof-of-concept study. The second collaboration agreement covers the conduct of Phase 3 studies of Andexanet alfa with rivaroxaban and any potential U.S. and EU regulatory approval of Andexanet alfa as reversal agent of rivaroxaban. The Phase 3 studies are ongoing. Under this Phase 3 collaboration agreement, we received an upfront payment of $10.0 million and are eligible to receive additional development and regulatory milestone payments of up to $15.0 million. These payments represent the total consideration under this agreement. Bayer and Janssen will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for rivaroxaban by the FDA and EMA. Bayer and Janssen may terminate this agreement for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach or material safety issues or we can also terminate this agreement for failure of the Phase 3 studies.

In January 2016, we entered into collaboration agreements with Bayer to obtain the right to pursue final regulatory approval and commercialize Andexanet alfa as a reversal agent in Japan.

Collaboration with Daiichi Sankyo

In June 2013, we entered into an agreement with Daiichi Sankyo, to include subjects dosed with edoxaban, Daiichi Sankyo's fXa inhibitor product, in one of our proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting this clinical study. Under the terms of the agreement, Daiichi Sankyo provided us with an upfront fee of $6.0 million. Daiichi Sankyo may terminate the agreement at any time. We are obligated to perform preclinical

proof-of-concept studies and participate on a JCC with Daiichi Sankyo to oversee the collaboration activities under the agreement. The total non-contingent consideration under this agreement of $3.0 million was fully recognized as revenue on a straight-line basis over the estimated non-contingent performance period through the first quarter of 2014. In February 2014, we resolved the contingent portion of the arrangement which was tied to pre-clinical studies. The contingent consideration under this agreement of $3.0 million is being recognized over the remaining estimated period of performance through the first quarter of 2015.

In July 2014, we entered into a second collaboration agreement with Daiichi Sankyo to evaluate Andexanet alfa as a reversal agent for the oral fXa inhibitor edoxaban through Phase 3 studies. The second collaboration agreement covers the conduct of Phase 3 studies of Andexanet alfa with edoxaban and any potential U.S. and EU regulatory approval of Andexanet alfa as a reversal agent for edoxaban. Under this Phase 3 collaboration agreement we received an upfront payment of $15.0 million and are eligible to receive additional development and regulatory milestone payments of up to $25.0 million. These payments represent the total consideration under this agreement. Daiichi Sankyo will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for edoxaban by the FDA and EMA. Daiichi Sankyo may terminate this agreement for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach or material safety issues, and we can also terminate this agreement for failure of the Phase 3 studies.

Andexanet alfa pharmacoeconomics

Major bleeding is the most clinically relevant side effect of anticoagulant treatment across all anticoagulants and clinical settings. Clinical trial results suggest that the frequency of major bleeding associated with the administration of fXa inhibitors ranges from 1% to 4% per year, depending on the underlying medical condition and the specific fXa inhibitor. The clinical costs of a major bleeding event in fXa inhibitor treated patients are estimated to be $28,000 per patient on average and $135,000 per patient for the top 10%. Based on the frequency of bleeding rates suggested by clinical trials and our projection of 36 million to 43 million patients treated annually with fXa inhibitors in the G7 countries, we believe that by 2020, the annual costs to the healthcare system to treat major bleeding episodes in patients treated with a fXa inhibitor may exceed $10 billion. We believe that an effective fXa antidote represents a potentially cost-effective way to manage these healthcare system costs.

Our hematologic cancer and inflammation product candidates

Our early stage development programs are focused on developing small molecule kinase inhibitors for the treatment of hematologic cancers and inflammatory diseases. Kinases are enzymes that act on and modify the activity of different proteins. Syk and JAK are clinically validated kinase targets involved in key signaling pathways that are important in certain hematologic cancers and inflammatory disorders. We have focused on the discovery and development of specific inhibitors of Syk and dual inhibitors of both Syk and JAK based on the unique roles of these kinases in NHL, CLL, allergic asthma, rheumatoid arthritis, or RA, and other inflammatory diseases.

Syk overview

Syk is a cell signaling enzyme that is found in certain white blood cells, including B-cells, basophils, neutrophils, monocytes, and tissue macrophages and mast cells, and is important for controlling the activity and recruitment of these cells. Scientists have focused on the role of Syk in B-cell cancers, such as NHL and CLL, as well as certain inflammatory diseases, such as allergic asthma and RA. B-cell activation is driven by the B-cell receptor, or BCR, whose signaling promotes cell proliferation, adhesion and survival in NHL and CLL. Syk acts downstream of the BCR, and blocking Syk activity in preclinical models results in an inhibition of proliferation, a disruption of tumor cell adhesion and cell death in malignant B-cells. Inhibitors of the BCR pathway, including the Syk inhibitor fostamatinib being developed by Rigel Pharmaceuticals, Inc. and the Syk inhibitor entospletinib being developed by Gilead Sciences, Inc., or Gilead, have been shown to have activity in NHL and CLL

JAK overview

The JAK kinases are a family of related tyrosine kinases that play key roles in cytokine signaling involved in immune processes. JAK activation and signaling is directly downstream from receptors for several cytokines that are integral to normal lymphocyte activation, proliferation and function. JAK also plays a role in malignant lymphocytes, including the survival and proliferation of CLL cells as well as cytokine signaling in certain NHL and other cancers. Leading clinicians have hypothesized that these JAK-related cytokines play a key role in promoting tumor survival and growth and that JAK inhibition may be effective in interrupting signaling processes involved in tumor cells that have mutated and are no longer entirely dependent on B-cell signaling via BCR.

Cerdulatinib—dual Syk/JAK inhibitor

The lead compound in our kinase development effort, Cerdulatinib, is a potent inhibitor of both Syk and JAK. We believe that Cerdulatinib may be able to treat certain diseases that involve Syk-BCR signaling and cytokine-JAK signaling. Based on the inhibition of these key pathways, we are currently focused on developing Cerdulatinib for NHL, CLL and other hematologic cancers, with a focus on patients with certain treatment-resistant mutations, including those targeting the BTK and PI3K kinases, and certain inflammatory diseases. We are currently conducting a Phase 1/2a proof-of-concept study of Cerdulatinib in NHL, and CLL, patients. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose and enrollment continues. We are exploring alternate dosing regimens and formulations to get a higher exposure of Cerdulatinib in patients. Based on interim Phase 1 data we plan to advance Cerdulatinib into the Phase 2a portion of the study in 2016 which includes expansion cohorts in select hematologic cancers.

NHL and CLL

Lymphoma is a large class of hematologic cancer that affects the B-cell and T-cell lymphocytes in lymph nodes. In 2015, lymphoma affected an estimated 760,000 people in the United States, with 580,000 of them suffering from the NHL varieties of the disease. NHL is often aggressive, marked by rapidly growing tumors in the lymph nodes, spleen, liver, bone marrow and other organs.

CLL is also a hematologic cancer that affects B-cell lymphocytes in the blood and bone marrow and is the most common type of leukemia. In 2011, approximately 100,000 patients had CLL in the United States. As it advances, usually slowly, CLL results in swollen lymph nodes, spleen and liver and eventually in anemia and infections.

Despite the introduction of novel therapies for B-cell NHL and CLL, some patients fail to go into remission and of those who do attain remission, many relapse and develop refractory disease and therefore need alternative therapies. The heterogeneity and severity of B-cell malignancies may warrant simultaneous targeting of multiple disease-relevant pathways. Dual inhibition of Syk and JAK represents such a strategy and may have several benefits relative to selective kinase inhibition, such as gaining control over a broader array of disease etiologies, reducing the probability of selection of alternate disease growth mechanisms, and the potential that an overall lower level suppression of multiple targets may be sufficient to modulate disease activity.

Cerdulatinib is a highly potent inhibitor of Syk and JAK activity in blood cells from human volunteers. In preclinical studies, inhibition of Syk and JAK, via Cerdulatinib, was active in a broad panel of B-cell lymphoma cell lines. Cerdulatinib was more effective than Syk-specific inhibition in these cell lines, suggesting that Cerdulatinib may be useful in the treatment of a broad range of B-cell lymphomas, including patients with diffuse large B-cell lymphoma, or DLBCL, an aggressive form of NHL that affects over 80,000 patients in the G7 countries, and patients with hard to treat mutations. For example, Cerdulatinib was shown to be effective in cell lines dependent on NFkB mutations for their survival. Current therapies and those in development, including those targeting the BTK and PI3K kinases, have limited activity in DLBCL patients with these mutations. In addition, preclinical data suggest that dual Syk/JAK inhibition with Cerdulatinib may also have activity in patients with an inadequate response to novel specific kinase inhibitors in development for NHL and CLL. Our strategy includes targeting Cerdulatinib for certain CLL and NHL patient populations, such as those with specific genetic mutations or those who have not responded adequately to other treatments. For example, it is estimated that approximately one third of patients become refractory to standard CLL therapy. We believe these indications could potentially represent a significant commercial opportunity if we are able to develop an effective therapy.

Based on the preclinical data and our understanding of the role of Syk and JAK signaling in B-cell cancers, we initiated an open label Phase 1/2a proof-of-concept study in October 2013 in NHL and CLL patients who have failed or relapsed on existing marketed therapies or products in development, including patients with identified mutations. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose, and enrollment continues. Interim results from the Phase 1 dose-escalation portion of the study demonstrated that Cerdulatinib is active and well tolerated, including patients who have received prior BTK and P13K inhibitor therapies. We are exploring alternate dosing regimens and formulations to get a higher exposure. Based on interim Phase 1 data, we plan to advance Cerdulatinib to the Phase 2a portion of the study, which includes expansion cohorts in select hematologic cancers. Depending on the overall results of the study, we would expect to further study Cerdulatinib in CLL and/or NHL either alone or in combination with other approved products or with other drugs in development.

Selective Syk inhibitors

Syk is an important mediator of immune response in a number of different types of immune cells. Ora is leading the pre-clinical study of a selective Syk inhibitor for allergic conjunctivitis.

In May 2015, our Biogen Idec agreement was terminated in its entirety, and we entered into a license and collaboration agreement with Ora pursuant to which we granted Ora an exclusive license to co-develop and co-commercialize one of our specific Syk inhibitors, PRT02761, which is currently in a pre-clinical study targeting allergic conjunctivitis. Ora has the primary responsibility for conducting the research and development and regulatory activities under this agreement. We are obligated to provide assistance in accordance with the agreed-upon development plan, as well as participate on various committees.

Sales and marketing

Assuming Betrixaban and Andexanet alfa are approved by the FDA and other regulatory authorities, we intend to commercialize both molecules using a hospital-based sales force in the United States, and possibly marketing in other major markets. To achieve global commercialization, we anticipate using a variety of distribution agreements and commercial partnerships in those territories where we do not establish a sales force. We expect to target our U.S. sales and marketing efforts at the approximately 1,500 hospitals and out-patient acute care settings that would account for the large majority of the prescribing base for our product candidates, if approved. We plan to commercialize both of our thrombosis product candidates in the U.S. with a hospital-based sales force of approximately 100 to 150 sales representatives. We expect that our commercial infrastructure would be comprised of several proven, experienced marketing and sales management professionals along with a reimbursement support and hospital formulary specialist team. In addition, we intend to develop and publish health economic models demonstrating the value of Betrixaban and Andexanet alfa to hospital administrators and third party payors.

Research and development

We invest significant effort defining and refining our research and development process and internally teaching our approach to drug development. We favor programs with early decision points, well-validated targets, predictive preclinical models and clear paths to regulatory approval, all in the context of a target product profile that can address significant unmet or underserved clinical needs. Members of our discovery, research and development team have played central roles in discovering and developing a number of promising candidates over the past 20 plus years while at Portola, and while at Millennium Pharmaceuticals, Inc., or Millennium, and COR Therapeutics, Inc., two early developers of thrombosis therapies. They have used unique biological insights to develop in vitro and in vivo models that speed development. We also selectively leverage outside collaborators to expand into potential additional indications. As our product candidates progress through clinical development, we have focused and will increasingly focus our scientific efforts on supporting that development.

We emphasize data-driven decision making, strive to advance or terminate projects early based on clearly defined go/no go criteria, prioritize programs at all stages and allocate our capital to the most promising programs. Our current development-stage portfolio consists of three compounds discovered through our internal research efforts and one discovered by Portola scientists during their time at a prior company. In addition we are actively seeking to identify attractive external opportunities. We utilize the same critical filters for investment when evaluating external programs as we do with our own, internally-derived candidates.

Collaboration and license agreements

Betrixaban

Millennium agreements

In November 2003, we entered into an asset purchase agreement to acquire patent rights and intellectual property to an ADP Receptor Antagonist Program, or the ADP Program, and a Platelet Research Program from Millennium. We are obligated to pay to Millennium royalties at tiered single-digit percentages of net sales of certain ADP Program products if product sales are ever achieved, which royalty payments will continue until the expiration of the relevant patents or ten years after launch, whichever is later.

In August 2004, we entered into an agreement to license from Millennium certain exclusive rights to research, develop and commercialize certain compounds that inhibit fXa, including Betrixaban, or the fXa Program. The license agreement requires us to make certain license fee, milestone, royalty and sublicense sharing payments to Millennium

as we develop, commercialize or sublicense Betrixaban and other products from the fXa Program. The Millennium license agreement further provides for additional payments to Millennium of up to $35.0 million based on the achievement of regulatory filing and approval milestones related to the fXa Program. In addition, we are obligated to pay Millennium royalties at tiered single-digit percentages of net sales of any fXa Program products if product sales are ever achieved. This license agreement will continue in force, on a product-by-product and country-by-country basis, until the expiration of the relevant patents or ten years after the launch, whichever is later, or termination by either party pursuant to the agreement. This license agreement may be terminated by either party for the other party's uncured material breach. In addition, we may terminate this agreement for convenience with 30 days' advance written notice.

In December 2005, we amended both the asset purchase agreement for the ADP Program and the license agreement for the fXa Program. In connection with this amendment, we have made aggregate cash payments to Millennium of $6.0 million and issued to Millennium equity securities with an aggregate value of $1.8 million through December 31, 2015.

Lee’s agreement

In January 2013, we entered into a clinical collaboration agreement with Lee’s to jointly expand our Phase 3 APEX study of Betrixaban into China. Under the agreement, Lee’s provided us with an upfront and non-refundable payment of $700,000 and agreed to reimburse our costs in connection with the study to support the expansion of the APEX study into China. Lee’s also agreed to lead regulatory interactions with China’s State Food and Drug Administration for the study. We granted Lee’s an exclusive option to negotiate for the exclusive commercial rights to Betrixaban in China, which may be exercised by Lee’s for 60 days after it receives the primary data analysis report from the study. We may, at any time prior to the unblinding of the APEX study data, terminate the option and the agreement by providing Lee’s with written notification and making a termination payment. We reserved the right to terminate Lee’s option under certain specified circumstances. If the parties fail to reach agreement on the terms of the commercial rights and we commercialize Betrixaban in China ourselves or grant a third party the right to do so, or if we terminate Lee’s option under the agreement, we are required to make certain payments to Lee’s.

Unless earlier terminated, this agreement will continue until superseded by the execution of the agreement that grants to Lee’s the commercial rights to Betrixaban in China. This agreement may be terminated by Lee’s for convenience with 90 days’ advance written notice, or by either party for the other party’s uncured material breach or any material safety issue of Betrixaban. In addition, this agreement will automatically terminate if we fail to reach agreement to grant Lee’s the commercial rights to Betrixaban in China, or if we terminate Lee’s option. We completed APEX enrollment before the parties were able to find a regulatory pathway to expand the study into China.

Andexanet alfa

BMS and Pfizer agreements

In October 2012, we entered into a collaboration agreement with BMS and Pfizer, to include subjects dosed with apixaban, their jointly owned product candidate, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting such clinical studies. This agreement will continue in force until the completion of the studies or termination by either party pursuant to the agreement.

In January 2014, we entered into a second collaboration agreement with BMS and Pfizer to further study the safety and efficacy of Andexanet alfa as a reversal agent to apixaban through our ongoing Phase 3 studies. Under the terms of the Phase 3 agreement, we received an upfront payment of $13.0 million and are eligible to receive additional development and regulatory milestone payments of up to $12.0 million. These payments represent the total consideration under this agreement. BMS and Pfizer will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for apixaban by the FDA and EMA. BMS and Pfizer may terminate this agreement for convenience with 60 days’ advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party’s uncured material breach, material safety issues, or failure of the Phase 3 studies.

In January 2016, we entered into collaboration agreements with BMS and Pfizer to obtain Japanese regulatory approval and commercialize Andexanet alfa in Japan. Under the terms of the agreement we will receive an upfront payment of $15.0 million and are eligible to receive potential regulatory and sales-based milestone payments totaling $90.0 million, as well as double-digit royalties based on Andexanet alfa net sales in Japan. BMS and Pfizer will be responsible for all development and regulatory activities for Andexanet alfa in Japan and for commercializing the drug in Japan.

Bayer and Janssen agreements

In February 2013, we entered into a clinical collaboration agreement with Bayer and Janssen to include subjects dosed with rivaroxaban, their fXa inhibitor product, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting such clinical studies. This agreement will continue in force until the later of the completion of the studies and the fulfillment of certain other conditions set forth in the agreement, unless earlier terminated by either party pursuant to the agreement.

In February 2014, we entered into a second collaboration agreement with Bayer and Janssen to further study the safety and efficacy of Andexanet alfa as a reversal agent to rivaroxaban through our ongoing Phase 3 studies. Our original collaboration agreement with Bayer and Janssen covers the conduct of a Phase 2 proof-of-concept study. The second collaboration agreement covers the conduct of Phase 3 studies of Andexanet alfa with rivaroxaban and any potential U.S. and EU regulatory approval of Andexanet alfa as reversal agent of rivaroxaban. Under this Phase 3 collaboration agreement, we received an upfront payment of $10 million and are eligible to receive additional development and regulatory milestone payments of up to $15.0 million. These payments represent the total consideration under this agreement. Bayer and Janssen will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for rivaroxaban by the FDA and EMA. Bayer and Janssen may terminate this agreement for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach or material safety issues or we can also terminate this agreement for failure of the Phase 3 studies.

In January 2016, we entered into collaboration agreements with Bayer to include rivaroxaban in the clinical studies for approval of Andexanet alfa in Japan. Under the terms of the agreement, we will receive an upfront payment of $5.0 million and are eligible to receive an additional milestone payment based on Japanese regulatory approval of Andexanet alfa as an antidote for rivaroxaban. Bayer will provide technical support as well as fund clinical studies of Andexanet alfa with rivaroxaban in Japan. Bayer received no commercial rights under this agreement.

Daiichi Sankyo agreement

In June 2013, we entered into an agreement with Daiichi Sankyo to include subjects dosed with edoxaban, their fXa inhibitor product, in one of our proof-of-concept studies of Andexanet alfa. We are responsible for the costs of conducting this clinical study. This agreement will continue in force until the later of the completion of the studies and the fulfillment of certain other conditions set forth in the agreement, unless earlier terminated by either party pursuant to the agreement. This agreement does not grant Daiichi Sankyo any other rights with respect to the development or commercialization of Andexanet alfa.

In July 2014, we entered into a second collaboration agreement with Daiichi Sankyo to further study the safety and efficacy of Andexanet alfa as a reversal agent to edoxaban through Phase 3 studies. The second collaboration agreement covers the conduct of Phase 3 studies of Andexanet alfa with edoxaban and any potential U.S. and EU regulatory approval of Andexanet alfa as a reversal agent for edoxaban. Under this Phase 3 collaboration agreement we received an upfront payment of $15.0 million and are eligible to receive additional development and regulatory milestone payments of up to $25.0 million. These payments represent the total consideration under this agreement. Daiichi Sankyo will continue to provide development and regulatory guidance for the program.

This Phase 3 collaboration agreement will continue in force until the approval of Andexanet alfa as a reversal agent for edoxaban by the FDA and EMA. Daiichi Sankyo may terminate this agreement for convenience with 60 days' advance written notice or for our bankruptcy or change of control. In addition, either party may terminate this agreement for the other party's uncured material breach or material safety issues, and we can also terminate this agreement for failure of the Phase 3 studies.

Syk Selective Inhibitors

Biogen Idec agreement

In October 2011, we entered into an exclusive worldwide license and collaboration agreement with Biogen Idec to develop and commercialize PRT2607 and certain highly selective Syk inhibitors. Biogen Idec made an upfront cash payment to us of $36.0 million and purchased 636,042 shares of our Series 1 convertible preferred stock for an aggregate purchase price of $9.0 million. Pursuant to the agreement, we had an option to lead development and commercialization efforts in the United States for select smaller indications, as well as discovery efforts for follow-on Syk inhibitors and an option to co-promote the drug alongside Biogen Idec with major indications in the United States. In November 2012, we elected to exercise our option to convert the agreement to a fully out-licensed agreement. After such election, we relinquished our right to share profits from sales of products related to Syk inhibitors, but are entitled to receive tiered royalties at low-double-digit percentages (not greater than 20%) from sales of these products by Biogen Idec if product sales are ever achieved. We no longer have an obligation to fund the program under the agreement. The agreement also provides for additional payments to us of up to approximately $370 million based on the occurrence of certain development and regulatory events. Biogen Idec has elected to assume all future development work for Syk inhibitors, including the major indications, such as rheumatoid arthritis and allergic asthma. To date, no development or regulatory events provided by the agreement have occurred and no royalties have been triggered under our agreement with Biogen Idec. This agreement will continue in force until either party terminates the agreement pursuant to the agreement or until the expiration of Biogen Idec's royalty obligations pursuant to the agreement, which is the later of the expiration of all relevant patents and regulatory exclusivities or 10 years after first commercial sale. Biogen Idec may terminate the agreement without cause upon 120 days' written notice or for cause if Portola commits a material breach of its obligations under the agreement and fails to cure the breach. We may terminate the agreement with proper written notice for cause if Biogen Idec commits a material breach of its obligations under the agreement and fails to cure the breach for 90 days (or 60 days for nonpayment of an amount due) after written notice is given, if Biogen Idec commences a legal action challenging the validity, enforceability or scope of any of the patents subject to the agreement or in the event of bankruptcy, reorganization, liquidation or receivership of Biogen Idec. In such event, we would regain all development rights and Biogen Idec would have no further payment obligations pursuant to the agreement. In May 2015, the Biogen Idec agreement was terminated in its entirety.

Astellas agreement

In June 2005, we entered into an agreement to license certain exclusive rights to research, develop and commercialize Syk inhibitors from Astellas Pharma, Inc., or Astellas, which agreement was subsequently amended and restated in December 2010. The agreement with Astellas, as amended, requires us to make certain milestone, royalty and sublicense revenue sharing payments to Astellas as we develop, commercialize or sublicense Syk inhibitors. Pursuant to our agreement with Astellas, we made cash milestone payments to Astellas of $500,000 in May 2005, $500,000 in May 2006 and $1.0 million in December 2008, as we elected to continue our development of Syk inhibitors. In addition, for each Syk inhibitor product, we may be required to make up to $71.5 million in additional milestone payments to Astellas if the product is approved for multiple distinct indications in the United States, Europe and Japan and the product attains certain sales levels. If we grant a sublicense to develop and commercialize Syk inhibitors, we are required to pay Astellas 20% of any payments (excluding royalties) received under the sublicense agreement. In 2011, in connection with our receipt of the upfront payment under our agreement with Biogen Idec, we made a cash payment to Astellas of $7.2 million. In addition, we are required to pay Astellas royalties at low single-digit percentages for worldwide sales for any Syk inhibitor product made by us or our sublicensees. This agreement will continue in force, on a product-by-product and country-by-country basis, until the expiration of relevant patents or ten years after the launch, whichever is later, or termination by either party pursuant to the agreement. The agreement may be terminated by us for convenience upon 60 days' written notice to Astellas or immediately upon written notice if all

major claims of all of the patents covered by the agreement are invalidated by competent judicial or administrative authorities in the U.S. and no measure has been taken to appeal the invalidation. Either party may terminate the agreement upon written notice if the other party is in material breach of its obligations under the agreement for reasons within its control and responsibility and has not remedied the breach within 30 days of receiving written notice or in the event of bankruptcy, liquidation or receivership of the other party.

Cerdulatinib

Aciex agreement (Nicox)

In February 2013, we entered into a license and collaboration agreement with Aciex Therapeutics, Inc., or Aciex, pursuant to which we granted Aciex an exclusive license to co-develop and co-commercialize Cerdulatinib and certain related compounds for nonsystemic indications, such as the treatment and prevention of ophthalmological diseases by topical administration and allergic rhinitis by intranasal administration. In April 2014, this agreement was amended to release all rights for Cerdulatinib to us. The collaboration is now focused on development of other related compounds for topical ophthalmic indications. Under the agreement, we will share development costs with Aciex and be entitled to receive either a share of the profits generated by any eventual products or royalty payments. We retain rights to other indications, including dermatologic disorders.

Ora agreement

In May 2015, we entered into a license and collaboration agreement with Ora pursuant to which we granted Ora an exclusive license to co-develop and co-commercialize one of our specific Syk inhibitors, PRT02761. Ora has the primary responsibility for conducting the research and development and regulatory activities under this agreement. We are obligated to provide assistance in accordance with the agreed-upon development plan, as well as participate on various committees.

Under the terms of this risk and cost sharing agreement, each party will incur its own share of development costs. Third-party related development costs will be shared by Ora and us at approximately 60% and 40%, respectively, until an End of Phase 2 meeting with the FDA, and equally thereafter. We are entitled to receive either 50% of the profits, if any, generated by future sales of the products developed under the agreement or royalty payments on such sales, should we opt out of the agreement.

We may opt out of the agreement any time prior to 90 days after an End of Phase 2 meeting with the FDA. The timing of the exercise of our opt out rights would impact future royalties we would be entitled to receive from Ora. Each party may also buy out the rights and interests in the licensed compound by paying the greater of $6.0 million or two times the actual aggregate development cost incurred by both parties on or before the date that is 90 days after an End of Phase 2 meeting with the FDA.

Manufacturing and clinical research agreements

CMC Biologics manufacturing agreement

In July 2014, we entered into an agreement with CMC ICOS Biologics, Inc., or CMC Biologics, a subsidiary of CMC Biologics S.à.r.l., a privately-held contract manufacturing organization, pursuant to which CMC Biologics will manufacture clinical and commercial supply of Andexanet alfa and perform pre-validation and validation work on our behalf. Andexanet alfa used in our clinical studies is currently produced for us by CMC Biologics, who will also support our initial BLA submission and initial commercial launch in the U.S.

Under the agreement, we are required to purchase an aggregate fixed number of batches of Andexanet alfa from CMC Biologics beginning in 2015 through 2021. Total batch commitments under the agreement can be increased or decreased based on the achievement of milestones relating to the regulatory approval process for Andexanet alfa, expansion of existing manufacturing capacity and operational qualification of CMC Biologics' manufacturing facilities. We made an upfront payment to CMC Biologics in the amount of $10.0 million in July 2014 and made a reservation payment to CMC Biologics of $4.6 million in November 2014. Both payments will be credited against our future purchases of batches under the agreement.

Total fixed commitments under the agreement for the purchases of clinical and commercial batches, not taking into account possible price and batch adjustments per the terms of the agreement, are approximately $276.1 million. CMC Biologics also conducts pre-validation and validation work pursuant to work orders under the arrangement.

The term of the agreement is seven years and may be early terminated by either party for the other party's uncured material breach or insolvency. We may also terminate the agreement if CMC Biologics is unable to add additional manufacturing capacity on a timely basis, if certain manufacturing-related regulatory events do not occur before certain deadlines, or if the batch yield is below a certain threshold, in which case we are not obligated to pay CMC Biologics a termination payment and CMC Biologics will be obligated to refund the uncredited amounts of the upfront payment and reservation payment. In addition, we may terminate the agreement unilaterally if we discontinue the development and commercialization of Andexanet alfa for regulatory, safety, efficacy or other commercial reasons, or

if the projected market demand or gross margin of Andexanet alfa is below a minimum threshold. A termination agreement under these provisions will obligate us to pay CMC Biologics a termination fee between $5.0 million and $30.0 million, depending on the date of termination. The termination fee is highest from 2015 through 2017, and then decreases through 2021. Any remaining upfront payments or reservation payments we have made, not yet credited against the purchase of batches, at the time of termination will be applied against the termination fee.

Lonza manufacturing agreement

We do not anticipate that supply from CMC Biologics, even as expanded, will be sufficient to meet projected worldwide demand for Andexanet alfa, therefore, we are developing an improved and more cost-effective process at Lonza Group Ltd, or Lonza. In June 2013, we signed an agreement with Lonza to develop a commercial-scale manufacturing process for Andexanet alfa. However, the first commercial material from Lonza will not become available until after our expected U.S. launch. In 2014 we completed our first 10,000 liter scale engineering batch with Lonza. The run successfully produced bulk drug substance that met our specifications and it appeared highly comparable to previously manufactured material. However, the yield was lower than we expected and we determined that the timeline needed to improve product yield at Lonza would result in a significant delay to our BLA submission on our intended timeline. As a result, our BLA submission used material from our ongoing CMC Biologics manufacturing process at an expanded production facility being constructed at CMC Biologics. Our broader worldwide commercial supply of Andexanet alfa is still expected to be manufactured by Lonza using what we anticipate will be an improved and more cost-effective process, with the first commercial material from Lonza becoming available following our U.S. launch.

In October 2014, we entered into a new commercial manufacturing agreement with Lonza, replacing the 2013 agreement, to produce commercial quantities of Andexanet alfa using the improved and more-cost-effective process and perform pre-validation and validation work on our behalf following our U.S. launch.

Under this new agreement, we are required to purchase at least seven commercial batches of Andexanet alfa per year from Lonza, over a period of five years following first regulatory approval of the product from Lonza's facility. We may cancel these orders upon written notice to Lonza, in which case, we will be obligated to pay a cancellation fee ranging from between €10.0 million (or $10.9 million based on the exchange rate as of December 31, 2015) and €13.3 million (or $14.5 million based on the exchange rate as of December 31, 2015), depending on the time of cancellation and any applicable costs related to raw materials and certain pass-through costs.

The agreement will terminate on the fifth anniversary of the date of the first regulatory approval and may be early terminated by either party for the other party's uncured material breach or insolvency or, prior to the first regulatory approval for any reason on not less than twelve months prior written notice. In addition, we may also terminate the agreement if we discontinue the development or commercialization of Andexanet alfa for regulatory, safety, efficacy or other commercial reasons and for technical reasons after delivery of the first engineering batch but before delivery of the second engineering batch. In such circumstance we will be obligated to pay a termination payment ranging from between €10.0 million (or $10.9 million based on the exchange rate as of December 31, 2015) and €15.0 million (or $16.4 million based on the exchange rate as of December 31, 2015), depending on the time of termination, which includes the cancellation fee, and any applicable costs related to raw materials.

Hovione manufacturing agreement

In January 2007, we entered into a development and manufacturing service agreement with Hovione Inter Limited, or Hovione, as amended on February 1, 2013, pursuant to which Hovione is producing the active pharmaceutical ingredient, or API, for Betrixaban for use in our APEX study. Under the agreement, Hovione produces the API using our proprietary process and to our specified quality standards and in compliance with applicable regulations. Hovione produces the API pursuant to work orders submitted by us and agreed to by Hovione, though Hovione is not under any obligation to enter into any work order. The agreement remains in effect until the later of seven years after its effective date or the completion of any outstanding work orders. The agreement may be extended continuously for additional two-year periods upon agreement of the parties. We may terminate the agreement for convenience with 60 days' written notice and either party may terminate the agreement with 60 days' written notice upon the bankruptcy of the other party, the failure of the other party to cure a material breach of the agreement within 30 days of receiving

notice of such breach, the occurrence of events that prevents the other party from performing its obligations or if either party determines that the agreement is detrimental to its interests and can demonstrate that it would be in the best interests of both parties to terminate the agreement.

PPD development agreement

In January 2012, we entered into a master contract services agreement with PPD Development, LP, or PPD, under which PPD provides administrative, data management and statistical analysis services relating to our APEX study. Pursuant to this agreement as amended, PPD is responsible for overseeing and managing the conduct of the APEX study in Latin America. We will remain ultimately responsible for the study and have separate agreements with the sites performing the study, other clinical research organizations and other third party vendors. This agreement will remain in effect until the later of three years after its effective date or the completion of services by PPD. Portola may terminate the agreement with 30 days' notice or immediately upon a material breach of the agreement by PPD that cannot be cured. PPD may terminate the agreement immediately upon a material breach of the agreement by us that cannot be cured or, 30 days after giving notice of a curable material breach of the agreement by us, if we have not cured such breach.

Competition

Our industry is highly competitive and subject to rapid and significant technological change. While we believe that our development experience and scientific knowledge provide us with competitive advantages, we may face competition from large pharmaceutical and biotechnology companies, smaller pharmaceutical and biotechnology companies, specialty pharmaceutical companies, generic drug companies, academic institutions, government agencies and research institutions and others.

Many of our competitors may have significantly greater financial, technical and human resources than we have. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop or market products or other novel technologies that are more effective, safer or less costly than any that will be commercialized by us, or obtain regulatory approval for their products more rapidly than we may obtain approval for ours. Our success will be based in part on our ability to identify, develop and manage a portfolio of drugs that are safer, more efficacious and/or more cost-effective than alternative therapies.

Betrixaban

In the market for VTE prophylaxis in acute medically ill patients, Betrixaban, if approved, will compete with enoxaparin, which is marketed as Lovenox by Sanofi-Aventis U.S. LLC and as a generic pharmaceutical by several manufacturers, and to a lesser extent with other low molecular weight heparins. In addition, Betrixaban may face competition in the market for acute medically ill patients from other fXa inhibitors including apixaban, which is marketed by BMS and Pfizer, edoxaban, which is marketed by Daiichi Sankyo, rivaroxaban, which is marketed by Bayer and Janssen, and the direct thrombin inhibitor dabigatran, which is marketed by Boehringer Ingelheim GbmH, although none of these molecules is currently approved for use in that population. We believe, that in light of the significant opportunity in this acute medically ill population, other agents will likely be tested in a Phase 3 study. For example, in 2014, Janssen initiated a Phase 3 study designed to evaluate the efficacy and safety of rivaroxaban compared with placebo in the prevention of symptomatic VTE events and VTE-related death post-hospital discharge in high-risk, medically ill patients. Janssen also announced in 2014 that it had initiated a Phase 3 study designed to evaluate the efficacy and safety of rivaroxaban to reduce the risk of deep vein thrombosis, or DVT, and pulmonary embolism, or PE, due to a concurrent medical illness for up to 45 days after hospital discharge. As the dosing regimen for an anticoagulant typically varies based on the indication in which it is used and anticoagulants often work in one indication but not another, we and our clinical advisors think it is unlikely that a significant number of physicians will choose to prescribe a fXa inhibitor in the acute medically ill patient population absent a relevant regulatory approval or clinical evidence supporting its use. In the future, owners of approved direct fXa or thrombin inhibitors may decide to develop them for VTE prophylaxis in the acute medically ill patient population although nothing is in development for that indication to our knowledge. In addition, they or other competitors may decide to develop new therapies for VTE prophylaxis in acute medically ill patients.

Andexanet alfa

Currently there are no therapies approved as antidotes for fXa inhibitors. However, Andexanet alfa, if approved, may compete with currently approved treatments designed to enhance coagulation including fresh frozen plasma, prothrombin complex concentrates, rFVIIa, Vitamin K, protamine or whole blood. In addition, several companies have conducted clinical research on compounds that are intended to reverse the effects of one or more direct fXa inhibitors and which, if developed, may be competitive with Andexanet alfa. One of these companies, Perosphere Inc., is in Phase 2 clinical development of its compound.

Cerdulatinib

In the market for the treatment of CLL and NHL, Cerdulatinib, if approved, will compete with existing therapies, such as rituximab, and obinutuzumab which are marketed by Chugai Pharmaceutical Co., F. Hoffmann-LaRoche Ltd. and Genentech, Inc., ibrutinib, which is marketed by Janssen and Pharmacyclics, Inc. idelalisib, which is marketed by Gilead; and potentially other therapies currently in development by a number of different companies.

Syk Selective Inhibitors

In the market for treatment of allergic conjunctivitis, PRT2761, if approved, will compete with existing products, such as topical antihistamines, corticosteroids, and mast cell stabilizers and potentially with other products currently in development by a number of different companies.

Intellectual property

Our success will significantly depend upon our ability to obtain and maintain patent and other intellectual property and proprietary protection for our drug candidates, including composition-of-matter, dosage and formulation patents, as well as patent and other intellectual property and proprietary protection for our novel biological discoveries and other important technology inventions and know-how. In addition to patents, we rely upon unpatented trade secrets, know-how, and continuing technological innovation to develop and maintain our competitive position. We protect our proprietary information, in part, using confidentiality agreements with our commercial partners, collaborators, employees and consultants and invention assignment agreements with our employees. We also have confidentiality agreements or invention assignment agreements with our commercial partners and selected consultants. Despite these measures, any of our intellectual property and proprietary rights could be challenged, invalidated, circumvented, infringed or misappropriated, or such intellectual property and proprietary rights may not be sufficient to permit us to take advantage of current market trends or otherwise to provide competitive advantages. For more information, please see “Risk factors—Risks related to intellectual property.”

As of December 31, 2015, we owned 41 issued U.S. patents, 31 U.S. patent applications and 158 issued patents and 180 patent applications in other jurisdictions. We also co-owned 10 additional patents and patent applications. In addition, as of December 31, 2015, we have licensed 198 issued patents and 32 patent applications from third parties, mostly on an exclusive basis. The patent portfolios for our leading product candidates as of December 31, 2015 are summarized below:

Betrixaban

Our Betrixaban patent portfolio includes 22 issued U.S. patents and 4 U.S. patent applications covering the composition of and methods of making and using Betrixaban or its analogs, including those owned by us and those licensed from Millennium. The U.S. issued patents relating to the composition of matter of Betrixaban are not due to expire before September 2020 and may be extended up to September 2025, if Betrixaban receives regulatory approval and if the necessary eligibility requirements are met, pursuant to the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Act. Betrixaban may also be eligible for an additional six months of pediatric exclusivity under the Best Pharmaceuticals for Children Act as described below. Related international patent applications have issued or been allowed in 35 countries and are pending in Europe and a number of other countries. These international patents and patent applications, if issued, would not be due to expire before September 2020.

In the United States, the Hatch-Waxman Act permits a patent term extension of up to five years for one patent related to an approved therapy. The length of the extension is based upon the period of time the therapy has been under regulatory review. We believe that, if Betrixaban is approved, we will be eligible for a full five year patent term extension for one patent relating to Betrixaban.

In addition, in the United States, the Best Pharmaceuticals for Children Act provides that the period of patent exclusivity for a drug may be extended for six months if the owner of the drug conducts studies of the drug in children pursuant to a request from the FDA. We believe that there may be pediatric applications for Betrixaban and, therefore, that it may be possible for us to obtain an additional six months of pediatric exclusivity of Betrixaban by conducting FDA-requested studies in children.

Andexanet alfa

Our fXa inhibitor antidote patent portfolio is wholly owned by us and includes nine issued U.S. patents and 13 U.S. patent applications covering the composition of and methods of making and using Andexanet alfa or its analogs. We

retain full commercialization rights to Andexanet alfa on a worldwide basis except for Japan where commercial rights have been licensed to BMS and Pfizer.

The U.S. issued patents are not due to expire before June 2030. A related international patent application has issued in Australia, New Zealand, China, Japan, Mexico, and Singapore, another related international patent application has issued in China, Japan, New Zealand, Mexico and Singapore and international patent applications are pending in Europe and a number of other countries. These international patents and patent applications, if issued, would not be due to expire before September 2028.

Cerdulatinib

Our dual Syk-JAK inhibitor patent portfolio is owned in part by us and licensed in part from Astellas and includes five issued U.S. patents covering the composition of and methods of making and using Cerdulatinib or its analogs. The last to expire of the U.S. patents is not expected to expire before July 2029. Related international patent applications have issued or been allowed in 16 countries and are pending in Europe and a number of other countries. These international patents and patent applications, if issued, would not be due to expire before April 2029.

Syk Selective Inhibitors

Our Syk-specific inhibitor patent portfolio is owned by us and includes four issued U.S. patents covering the composition of and methods of making and using PRT2607 or its analogs. The last to expire of the U.S. patents is currently expected to expire in July 2029. Related international patent applications have issued or been allowed in 26 countries and, have been granted in Europe and are pending in a number of other countries. These international patents and patent applications, if issued, would not be due to expire before April 2029.

Manufacturing

We rely on contract manufacturing organizations, or CMOs, to produce our drug candidates in accordance with the FDA's and EMA's current Good Manufacturing Practices, or cGMP, regulations for use in our clinical studies. The manufacture of pharmaceuticals is subject to extensive cGMP regulations, which impose various procedural and documentation requirements and govern all areas of record keeping, production processes and controls, personnel and quality control. Our small molecule drug candidates, Betrixaban and Cerdulatinib, are manufactured using common chemical engineering and synthetic processes from readily available raw materials. We rely on Hovione to produce API for Betrixaban for our APEX study. Pursuant to a development and manufacturing service agreement between us and Hovione, Hovione produces the API for Betrixaban using our proprietary process and to our specified quality standards and in compliance with applicable regulations. Hovione produces the API pursuant to work orders submitted by us and agreed to by Hovione, though Hovione is not under any obligation to enter into any work order and may terminate the agreement under certain conditions. Andexanet alfa is a recombinant biologic molecule produced in living cells, a process that is inherently complex and requires specialized knowledge and extensive process optimization and product characterization to transform laboratory scale processes into reproducible commercial manufacturing processes.

Our current Phase 4 ANNEXA study is using clinical material with bulk drug substance manufactured by CMC Biologics. We are currently continuing and expanding our ongoing work with CMC Biologics from clinical supply to commercial supply for our potential U.S. launch. Under our commercial supply agreement, CMC Biologics plans to increase production capacity at a lower cost than that of our current clinical supply for Andexanet alfa. We are also working with Lonza Group Ltd., or Lonza, to develop a large-scale commercial manufacturing process. Under our manufacturing supply agreement with Lonza, we plan to further increase our production capacity and to enhance our manufacturing process at Lonza to provide broader worldwide supply following our potential U.S. launch.

We currently have no plans to build our own clinical or commercial scale manufacturing capabilities. To meet our projected needs for clinical supplies to support our activities through regulatory approval and commercial manufacturing, the CMOs with whom we currently work will need to increase scale of production or we will need to secure alternate suppliers. We believe that there are multiple potential sources for our contract manufacturing, but we have not engaged alternate suppliers in the event that our current CMOs are unable to scale production. Our relationships with CMOs are managed by internal personnel with extensive experience in pharmaceutical development and manufacturing.

If we are unable to obtain sufficient quantities of drug candidates or receive raw materials in a timely manner, we could be required to delay our ongoing clinical studies and seek alternative manufacturers, which would be costly and time-consuming.

Government regulation

The FDA and comparable regulatory agencies in state and local jurisdictions and in foreign countries impose substantial requirements upon the clinical development, manufacture and marketing of pharmaceutical products.

These agencies and other federal, state and local entities regulate research and development activities and the testing, manufacture, quality control, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion of our products.

The process required by the FDA before product candidates may be marketed in the United States generally involves the following:

- nonclinical laboratory and animal testing of the product including some that must be conducted in accordance with Good Laboratory Practices or GLPs;
- submission of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the proposed drug candidate for its intended use;

- pre-approval inspection of manufacturing facilities and selected clinical investigators for their compliance with Good Manufacturing Practices, or GMP, and Good Clinical Practices or GCPs; and
- Approval of an NDA, for a drug or a BLA, for a biologic prior to commercial marketing for specific indications for use.

The testing and approval process requires substantial time, effort and financial resources. Prior to commencing the first clinical trial with a product candidate, we must submit an IND to the FDA. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises concerns about the supporting safety data or questions about the design of the clinical trial and imposes a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Submission of an IND may not result in FDA authorization to commence a clinical trial. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development. Further, an independent institutional review board for each medical center proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial commences at that center. Regulatory authorities or an institutional review board or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Some studies also include an Independent Data Monitoring Committee, or IDMC, which receives special access to unblinded data during the clinical trial and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. The IDMC may halt a trial if it feels that the data demonstrate efficacy of the drug and it is no longer ethical to withhold the drug from patients in the control arm of the study.

For purposes of NDA or BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap.

- Phase 1 – Studies are initially conducted to test the product candidate for safety, dosage tolerance, absorption, metabolism, distribution and excretion in healthy volunteers or patients.
- Phase 2 – Studies are conducted with groups of patients with a specified disease or condition to provide enough data to evaluate the preliminary efficacy, optimal dosages and dosing schedule and expanded evidence of safety. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- Phase 3 – Phase 3 clinical trials are undertaken in large patient populations to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety in an expanded patient population at multiple clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product compared to placebo or current standard of care and provide an adequate basis for product labeling. These trials may be done globally to support global registrations.
- The FDA may require, or companies may pursue, additional clinical trials after a product is approved. These so-called Phase 4 studies may be made a condition to be satisfied after approval. The results of Phase 4 studies can confirm the effectiveness of a product candidate and can provide important safety information gathered in routine medical practice.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the product candidate as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must also develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to establish an appropriate shelf life for the product candidate including data demonstrating that the product candidate does not undergo unacceptable deterioration over its shelf life.

33

NDA or BLA submission and review by the FDA

The results of product development, nonclinical studies and clinical trials are submitted to the FDA as part of an NDA or BLA. The submission of an NDA or BLA requires payment of a substantial User Fee to FDA. The FDA may convene an advisory committee to provide independent expert clinical opinion on application review questions. The FDA reviews applications to determine, among other things, whether a product is safe and effective for its intended use and whether the manufacturing controls are adequate to assure consistent batch to batch purity, identity, potency, and strength of the product candidate. Before approving an NDA or BLA, the FDA will inspect the facility or facilities where the product is manufactured. The FDA has informed us that our BLA for Andexanet alfa may also be subject to prior review by an advisory committee. The FDA will not approve an application unless it determines that the manufacturing processes, equipment and facilities are in compliance with cGMP requirements. Once the NDA submission has been accepted for filing (sixty days post receipt of the application by the FDA), the FDA typically takes ten months to review the application and respond to the applicant, which can take the form of either a Complete Response Letter or Approval. The review process is often significantly extended by FDA requests for additional information or clarification. The FDA may delay or refuse approval of an NDA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product. FDA approval of any NDA or BLA submitted by us will be at a time the FDA chooses. Also, if regulatory approval of a product is granted, such approval may entail limitations on the indicated uses for which such product may be marketed and require post-marketing requirements such as a Risk Evaluation and Mitigation Procedure or a Phase 4 study. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing regulatory standards is not maintained or if problems occur after the product reaches the marketplace. In addition, the FDA may require Phase 4 post-marketing studies to monitor the effect of approved products, and may limit further marketing of the product based on the results of these post-marketing studies.

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new drugs and biological products that meet certain criteria. Specifically, new drugs and biological products are eligible for fast track designation if they are intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. For a fast track product, the FDA may consider review of completed sections of an NDA or BLA on a rolling basis provided the sponsor provides, and the FDA accepts, a schedule for the submission of the completed sections of the NDA or BLA. Under these circumstances, the sponsor pays any required user fees upon submission of the first section of the NDA or BLA. A fast track designated drug candidate may also qualify for priority review, under which the FDA reviews the NDA or BLA in a total of six months rather than ten months after it is accepted for filing.

Post-approval requirements

Any products manufactured or distributed by us pursuant to FDA approvals are subject to continuing regulation by the FDA, including record-keeping requirements and reporting of adverse experiences. Drug and biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with GMP, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. We cannot be certain that we or our present or future suppliers will be able to comply with the GMP regulations and other FDA regulatory requirements. If our present or future suppliers are not able to comply with these requirements, the FDA may halt our clinical trials, require us to recall a product from distribution, or withdraw approval of the NDA or BLA.

The FDA closely regulates the marketing and promotion of drugs. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA. Failure to comply with these requirements can result in adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians

may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use.

Healthcare and reimbursement regulation

Our sales, promotion, medical education and other activities following product approval will be subject to regulation by numerous regulatory and law enforcement authorities in the United States in addition to FDA, including potentially the Federal Trade Commission, the Department of Justice, the Centers for Medicare and Medicaid Services, other divisions of the Department of Health and Human Services and state and local governments. Our promotional and scientific/educational programs must comply with the anti-kickback provisions of the Social Security Act, the Foreign Corrupt Practices Act, the False Claims Act, the Veterans Health Care Act and similar state laws.

Depending on the circumstances, failure to meet these applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, private "qui tam" actions brought by individual whistleblowers in the name of the government or refusal to allow us to enter into supply contracts, including government contracts.

Sales of pharmaceutical products depend significantly on the availability of third-party reimbursement. Third-party payors include government health administrative authorities, managed care providers, private health insurers and other organizations. We anticipate third-party payors will provide reimbursement for our products. However, these third-party payors are increasingly challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. We may need to conduct expensive pharmacological studies to demonstrate the cost-effectiveness of our products. The product candidates that we develop may not be considered cost-effective. It is time consuming and expensive for us to seek reimbursement from third-party payors. Reimbursement may not be available or sufficient to allow us to sell our products on a competitive and profitable basis.

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

Foreign regulation

In addition to regulations in the United States, we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our products to the extent we choose to develop or sell any products outside of the United States. The approval process varies from country to country and the time may be longer or shorter than that required to obtain FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

EU member states require both regulatory clearances by the national competent authority and a favorable ethics committee opinion prior to the commencement of a clinical trial. Under the EU regulatory systems, we may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure provides for the grant of a single marketing authorization that is valid for all EU member states. The centralized procedure is compulsory for medicines produced by certain biotechnological processes, products with a new active substance indicated for the treatment of certain diseases, such as neurodegenerative disorder or diabetes and products designated as orphan medicinal products and optional for those products which are highly innovative or for which a centralized process is in the interest of patients. The decentralized procedure of approval provides for approval by one or more other, or concerned, member states of an assessment of an application performed by one member state, known as the reference member state. Under the decentralized approval procedure, an applicant submits an application, or dossier, and related materials (draft summary of product characteristics, draft labeling and package leaflet) to the reference member state and concerned member states. The reference member state prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. The sponsor responds to any inquiries and the final report is issued on the 120th day from submission of application. The final report is forwarded to the EMA for review and approval. Within 90 days of receiving the reference member state's assessment report, each concerned member state must decide whether to approve the assessment report and related materials. If a member state cannot approve the assessment report and related materials on the grounds of potential serious risk to public health, the disputed points may eventually be referred to the European Commission, whose decision is binding on all

member states.

Employees

As of December 31, 2015, we had 137 full-time employees, 26 of whom hold Ph.D. degrees and 6 of whom hold M.D. degrees. Of the full-time employees, 91 employees are engaged in research and development and 46 are engaged in general administration, business development, sales and marketing. Our employees are not represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

Facilities

We lease approximately 74,000 square feet of research and office space in South San Francisco, California under a lease that expires in March 2020. Thereafter, at our option, we may extend the term for an additional three years through March 2023. We believe that our existing facilities are sufficient for our current needs for the foreseeable future.

Legal proceedings

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

Corporate and Available Information

Our principal corporate offices are located at 270 E. Grand Avenue, South San Francisco, California 94080 and our telephone number is (650) 246-7000. We were incorporated in Delaware in September 2003. Our internet address is www.portola.com. We make available on our website, free of charge, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission, or the SEC. Our SEC reports can be accessed through the Investors section of our internet website. Further, a copy of this Annual Report on Form 10-K is located at the SEC's Public Reference Rooms at 100 F Street, N.E., Washington, D. C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains reports, proxy and information statements and other information regarding our filings at http://www.sec.gov. The information found on our internet website is not incorporated by reference into this Annual Report on Form 10-K or any other report we file with or furnish to the SEC.

Item 1A. RISK FACTORS.

Investing in our common stock involves a high degree of risk. You should consider carefully the following risks, together with all the other information in this report, including our financial statements and notes thereto, before you invest in our common stock. If any of the following risks actually materializes, our operating results, financial condition and liquidity could be materially adversely affected. As a result, the trading price of our common stock could decline and you could lose part or all of your investment.

In assessing these risks, you should also refer to other information contained in this annual report on Form 10-K, including our Condensed Consolidated Financial Statements and related Notes.

RISKS RELATED TO OUR FINANCIAL CONDITION AND NEED FOR ADDITIONAL CAPITAL

We have incurred significant losses, and expect to incur substantial and increasing losses as we continue to develop and commercialize our product candidates.

We are a clinical-stage biopharmaceutical company. We do not currently have any products approved for sale, and we continue to incur significant research and development and selling, general and administrative expenses related to our operations. We expect to incur substantial and increasing losses as we continue to develop and commercialize our product candidates. As of December 31, 2015, we had an accumulated deficit of approximately $649.3 million.

To date, we have financed our operations primarily through sales of our equity securities, collaborations, and to a lesser extent, government grants, equipment leases, venture debt and with the benefit of tax credits made available under a federal stimulus program supporting drug development. We have devoted substantially all of our efforts to research and development, including clinical studies, but have not completed development of any product candidates. We anticipate that we will continue to incur substantial expenses as we:

- initiate or continue clinical studies of our three most advanced product candidates;
- continue the research and development of our product candidates;
- seek to discover or in-license additional product candidates;
- seek regulatory approvals for our product candidates that successfully complete clinical studies;
- establish a sales, marketing and distribution infrastructure and scale-up manufacturing capabilities to commercialize products for which we may obtain regulatory approval, including process improvements in order to manufacture Andexanet alfa at commercial scale; and
- enhance operational, compliance, financial, quality and information management systems and hire more personnel, including personnel to support development of our product candidates and support our commercialization efforts.

To be profitable in the future, we must succeed in developing and commercializing products with significant market potential. This will require us to be successful in a range of activities, including advancing our product candidates, completing clinical studies of our product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling those products for which we may obtain regulatory approval. We are only in the preliminary stages of some of these activities. We may not succeed in these activities and may never generate revenue that is sufficient to be profitable in the future. Even if we are profitable, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to achieve sustained profitability would depress the value of our company and could impair our ability to raise capital, expand our business, diversify our product candidates, market our product candidates, if approved, or continue our operations.

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or our guidance.

Our quarterly and annual operating results may fluctuate significantly in the future, which makes it difficult for us to predict our future operating results. From time to time, we enter into licensing and collaboration agreements with other companies that may include development funding and upfront and milestone payments, which could have a significant impact on our operating results. Accordingly, our future operating results could depend to a material extent on payments under our existing or future licensing and collaboration arrangements, as well as any potential sales of our products, if approved. These upfront and milestone payments may vary significantly from period to period and any such variance could cause a significant fluctuation in our operating results from one period to the next. Furthermore, our operating results may fluctuate due to a variety of other factors, many of which are outside of our control and may be difficult to predict, including the following:

- the timing and cost of, and level of investment in, research and development activities relating to our product candidates, which may change from time to time;
- the cost of manufacturing our product candidates, which may vary depending on United States Food and Drug Administration, or FDA, guidelines and requirements, the quantity of production, technical challenges and the terms of our agreements with manufacturers;
- expenditures that we will or may incur to acquire or develop additional product candidates and technologies;
- the level of demand for our product candidates, should they receive approval, which may vary significantly;
- the timing and success or failure of clinical studies for our product candidates or competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- the risk/benefit profile, cost and reimbursement policies with respect to our products candidates, if approved, and existing and potential future drugs that compete with our product candidates;
- future accounting pronouncements or changes in our accounting policies; and
- the changing and volatile global economic environment.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Investors should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any previously publicly stated revenue or earnings guidance we may provide.

37

We will need additional funds to support our operations, and such funding may not be available to us on acceptable terms, or at all, which would force us to delay, reduce or suspend our research and development programs and other operations or commercialization efforts. Raising additional capital may subject us to unfavorable terms, cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product candidates and technologies.

We are advancing multiple product candidates through the research and clinical development process. The completion of the development and the preparation for commercialization of our product candidates will continue to require substantial funds. As of December 31, 2015, we had $460.2 million in cash, cash equivalents and investments. We believe that our available cash, cash equivalents and investments will be sufficient to fund our anticipated level of operations for at least the next 12 months. Our future financing requirements will depend on many factors, some of which are beyond our control, including the following:

- the timing of, and costs involved in, seeking and obtaining approvals from the FDA and other regulatory authorities;
- the costs of commercialization activities, including product sales, marketing, manufacturing and distribution and general corporate and commercial infrastructure;
- the possible development of additional product candidates, including through in-licensing and acquisitions;
- the degree and rate of market acceptance of any products launched by us or future partners;
- our ability to enter into additional collaboration, licensing, commercialization or other financing arrangements and the terms and timing of such arrangements;
- the rate of progress and cost of our clinical studies; and
- the emergence of competing technologies or other adverse market developments.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other financing, marketing and distribution arrangements. Additional financing may not be available to us when we need it or it may not be available on favorable terms.

If we raise additional capital through financing, marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. If we raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of, or suspend one or more of our clinical studies, research and development programs or commercialization efforts.

RISKS RELATED TO THE DEVELOPMENT AND COMMERCIALIZATION OF OUR PRODUCT CANDIDATES

Our success depends heavily on the approval and successful commercialization of our lead product candidates, Betrixaban and Andexanet alfa, along with Cerdulatinib. Clinical studies of these product candidates may not be successful. If we are unable to commercialize one or more of our product candidates, or experience significant delays in doing so, our business will be materially harmed.

We have invested a significant portion of our efforts and financial resources into the development of Betrixaban, Andexanet alfa and, to a lesser extent, Cerdulatinib and our selective Syk inhibitor program. Our ability to generate

product revenue, which will not occur until after regulatory approval, if ever, will depend on the successful development, regulatory approval and eventual commercialization of one of our product candidates. The success of our product candidates will depend on several factors, including the following:

- our ability to reach agreement with the FDA and other regulatory authorities on the appropriate regulatory path for approval of our product candidates;
- receipt of marketing approvals from the FDA and similar regulatory authorities outside the United States for our product candidates;
- our ability to manufacture product commercially at acceptable costs;

- acceptance of any approved product by the medical community, third-party payors and patients;
- establishing and maintaining commercial manufacturing arrangements with third parties;
- commercializing any product candidate that may be approved, whether alone or in collaboration with others;
- effectively competing with other therapies;
- a continued acceptable safety profile of the product following approval;
- successful enrollment in, and completion of, clinical studies; and
- obtaining, maintaining, enforcing and defending intellectual property rights and claims.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would materially harm our business.

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

Before obtaining regulatory approval for the sale of our product candidates, we must conduct extensive clinical studies to demonstrate the safety and efficacy of our product candidates in humans. Clinical studies are expensive, difficult to design and implement, can take many years to complete and are uncertain as to outcome. A failure of one or more of our clinical studies could occur at any stage of testing. The outcome of preclinical testing and early clinical studies may not be predictive of the success of later clinical studies, and interim results of a clinical study do not necessarily predict final results.

For example, the favorable results from our Phase 2 clinical studies of Betrixaban, which involved the prophylaxis, or preventive treatment, against venous thromboembolism, or VTE, in patients receiving total knee replacements and the prevention of stroke in patients with atrial fibrillation, may not be predictive of success in our Phase 3 APEX clinical study of Betrixaban for extended duration VTE prophylaxis for 35 days of in-hospital and post-discharge use in acute medically ill patients with elevated blood levels of D-dimer or over the age of 75, as the Phase 2 studies were not designed to demonstrate statistically significant effectiveness, were in different medical conditions, involved different patient populations or dosing regimens, were of different duration or had different comparators. Any of these factors and other factors could result in Betrixaban showing decreased activity or increased safety risks in our APEX study as compared to the Phase 2 studies.

Moreover, the probability of our APEX study succeeding is highly dependent on the adequacy of its design and dose selection. Two other Factor Xa inhibitors have failed in Phase 3 trials for the indication that we are pursuing for Betrixaban. We have reviewed publicly available data from those studies and incorporated the results of our analysis into the design of our APEX study, but we could have misinterpreted the data or performed a flawed analysis. Furthermore, relevant information from the studies may not be publicly available or, if available, may not have been obtained by us. As a result, there could be flaws in the design of our APEX study that could cause it to fail. For example, our patient inclusion criteria for the APEX study selects for patients with a higher risk of VTE, and these patients may be more likely to experience a severe bleeding event, even though we attempt to exclude certain patients at higher risk of bleeding. If patients in the APEX study experience a higher than expected rate of severe bleeding events, the APEX study may fail to demonstrate a sufficient safety profile for Betrixaban. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain regulatory approval for the marketing of their products.

Similarly, the favorable results from our Phase 2 proof-of concept studies of Andexanet alfa, evaluating the effect of Andexanet alfa in healthy volunteers taking apixaban, rivaroxaban, edoxaban or enoxaparin may not be predictive of success in our Phase 4 study or other later studies, if any. In addition, although part 1 of each of our Phase 3

ANNEXA-A (apixaban) and ANNEXA-R (rivaroxaban) studies demonstrated that, for the primary efficacy endpoint, an intravenous bolus of Andexanet alfa immediately and significantly reversed the anticoagulation activity of apixaban and rivaroxaban, and part 2 of each of our ANNEXA-A and ANNEXA-R studies demonstrated that, for all the primary and secondary endpoints, an intravenous bolus of Andexanet alfa followed by a continuous two-hour infusion sustained the reversal of anticoagulation activity of apixaban and rivaroxaban, these positive results may not be predictive of success in our ANNEXA-4 confirmatory study in certain patients receiving apixaban, rivaroxaban, edoxaban or enoxaparin who present with acute major bleeding. We also do not know how the results from our ANNEXA trials will translate into clinical use in patients. Moreover, the results from our studies to date of Andexanet alfa may not address the effect of repeat doses or allow a determination of the optimal therapeutic dose of Andexanet alfa for our intended target patient population.

We may experience numerous unforeseen events during, or as a result of, clinical studies that could delay or prevent our ability to receive regulatory approval or commercialize our product candidates, including the following:

- the number of patients required for clinical studies of our product candidates may be larger than we anticipate, enrollment in these clinical studies may be insufficient or slower than we anticipate or patients may drop out of these clinical studies at a higher rate than we anticipate;
- clinical studies of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical studies or abandon product development programs;
- the cost of clinical studies or the manufacturing of our product candidates may be greater than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we might have to suspend or terminate clinical studies of our product candidates for various reasons, including unanticipated serious side effects, other unexpected characteristics or unacceptable health risks;
- regulators may not approve our proposed clinical development plans;
- regulators or institutional review boards may not authorize us or our investigators to commence a clinical study or conduct a clinical study at a prospective study site;
- regulators or institutional review boards may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements; and
- the supply or quality of our product candidates or other materials necessary to conduct clinical studies of our product candidates may be insufficient or inadequate.

If we are required to conduct additional clinical studies or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical studies of our product candidates or other testing, if the results of these studies or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;
- obtain approval for indications that are not as broad as intended;
- have the product removed from the market after obtaining marketing approval;
- be subject to additional post-marketing testing requirements; or
- be subject to restrictions on how the product is distributed or used.

Our product development costs may also increase if we experience delays in testing or approvals. We do not know whether any anticipated clinical studies will begin as planned, or whether anticipated or ongoing clinical studies will need to be restructured or will be completed on schedule, or at all. Significant clinical study delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which would impair our ability to commercialize our product candidates and harm our business and results of operations.

If serious adverse side effects are identified during the development of any of our product candidates, we may need to abandon our development of that product candidate.

It is impossible to guarantee when or if any of our product candidates will prove safe enough to receive regulatory approval. There can be no assurance that our APEX or ANNEXA-4 studies or other clinical studies will not fail due to safety issues. In such an event, we might need to abandon development of that product candidate or enter into a partnership to continue development.

For example, our product candidate Betrixaban, like all currently marketed inhibitors of Factor Xa, carries some risk of life-threatening bleeding. In addition, patients taking Betrixaban in our Phase 2 studies had an increased rate of gastrointestinal issues, such as diarrhea, nausea and vomiting, and other side effects such as back pain, dizziness,

headaches, rashes and insomnia as compared to subjects taking a placebo or an active comparator.

While no serious adverse side effects have been observed to date with Andexanet alfa, there is a risk that adverse side effects could be observed through additional clinical experience or repeat doses. Some protein-based biologics have encountered problems with immunogenicity, that is, their tendency to trigger an unwanted immune response against themselves. In addition, there is a risk that reversing the anticoagulant activity of Factor Xa inhibitors in patients requiring anticoagulation could be associated with thrombotic events.

Even if any of our product candidates receive marketing approval, if a regulatory agency discovers adverse events of unanticipated severity or frequency it may impose restrictions on that product or us, including requiring withdrawal of the product from the market. Among other legal and administrative actions, a regulatory agency may:

- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;
- suspend any regulatory approvals;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications filed by us, our partners or our potential future partners;
- impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products or require a product recall.

In addition, the occurrence of any of the foregoing, even if promptly remedied, could negatively impact the perception of us or the relevant product among the medical community, patients or third party payors.

The failure of two of our competitors' clinical trials evaluating Factor Xa inhibitors for VTE prophylaxis in acute medically ill patients may suggest an increased risk that our APEX trial for Betrixaban will also fail.

Two of our competitors' clinical trials evaluating Factor Xa inhibitors for VTE prophylaxis in acute medically ill patients have failed. The MAGELLAN trial sponsored by Bayer Pharma AG, or Bayer, and Janssen Pharmaceuticals, Inc., or Janssen, which evaluated rivaroxaban, demonstrated efficacy but failed to demonstrate an acceptable benefit to risk profile due to increased bleeding. The ADOPT trial sponsored by Bristol-Myers Squibb Company, which evaluated apixaban, showed a reduction in VTE events, but failed to demonstrate statistically significant efficacy and also showed an increase in bleeding. Betrixaban, like rivaroxaban and apixaban, may fail in clinical trials if it does not show a statistically significant level of efficacy or if the resulting bleeding risk is too high compared to its benefits.

Delays in the enrollment of patients in any of our clinical studies could increase our development costs and delay completion of our clinical studies and associated regulatory submissions.

We may not be able to initiate or continue clinical studies for our product candidates if we are unable to locate and enroll a sufficient number of eligible patients to participate in these studies as required by the FDA or other regulatory authorities. Even if we are able to enroll a sufficient number of patients in our clinical studies, if the pace of enrollment is slower than we expect, the development costs for our product candidates may increase, and the completion of our studies may be delayed or our studies could become too expensive to complete.

For example, the ANNEXA-4 study of Andexanet alfa is our first experience in patients with major bleeding who are receiving a factor Xa inhibitor. Because we have limited first-hand enrollment experience in this patient population, our enrollment forecasts are estimated based on our understanding of enrollment experience of similar studies conducted by others in similar patient populations. Our current forecasts suggest that enrolling up to 270 patients should ensure that a sufficient number are able to be included in the primary analysis. However, if after enrolling 270 patients, the true number of evaluable patients is less than required, it may be necessary to continue enrolling additional patients beyond the planned 270. Enrollment of additional patients (or slower than anticipated enrollment of the currently planned 270 patients) could increase the cost and duration of the study, and could result in alterations of

the clinical plan including, but not limited to, opening of additional sites or geographic regions, both of which would result in increased costs. In addition, our Cerdulatinib clinical studies will require enrollment of patients who have failed current therapies or have relapsed due to mutations. Finding and enrolling a sufficient number of patients for our expansion cohorts could be difficult, time consuming and expensive because enrollment of clinical patients in the oncology space is often highly competitive and we have limited experience enrolling oncology patients in clinical trials.

Even if Andexanet alfa is approved by the FDA, this approval may be limited to certain indications, additional clinical studies and regulatory applications may be required to expand Andexanet alfa indications and we can provide no assurances that such additional clinical studies or regulatory applications will be successful.

We are developing Andexanet alfa as a universal antidote for patients receiving a Factor Xa inhibitor anticoagulant when reversal of anticoagulation is needed, such as in life-threatening or uncontrolled bleeding or for emergency surgery/urgent procedures. Our ANNEXA-4 Phase 4 study is being conducted in patients receiving either a direct or indirect Factor Xa inhibitor who present with an acute major bleed, and our ANNEXA Phase 3 registration-enabling studies have been conducted on healthy volunteers. It is not certain at this time which indications, if any, the FDA will approve based on this data. It is possible that additional clinical studies will be required to support our targeted indications, which would require additional time and expense and may not prove successful. Limitations in our label for Andexanet alfa would reduce the number of patients for whom Andexanet alfa is indicated and could reduce the size of the anticipated market and our financial prospects.

Even if our APEX study demonstrates statistically significant efficacy and safety of Betrixaban for extended duration VTE prophylaxis in acute medically ill patients for 35 days of in-hospital and post-discharge use, the FDA or similar regulatory authorities outside the United States may not approve Betrixaban for marketing or may approve it with restrictions on the label, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Assuming the success of our APEX study, we anticipate seeking regulatory approval for Betrixaban in the United States for extended duration VTE prophylaxis in acute medically ill patients for 35 days of in-hospital and post-discharge use. It is possible that the FDA may not consider the results of our APEX study to be sufficient for approval of Betrixaban for this indication. In general, the FDA suggests that sponsors complete two adequate and well-controlled clinical studies to demonstrate effectiveness because a conclusion based on two persuasive studies will be more compelling than a conclusion based on a single study. Although the FDA has informed us that our APEX study, plus supportive Phase 2 data obtained to date, could potentially provide sufficient safety and efficacy data for extended duration VTE prophylaxis in acute medically ill patients for 35 days of in-hospital and post-discharge use, the FDA has further advised us that whether one or two adequate and well-controlled clinical studies are required will be a review issue in connection with a new drug application, or NDA, submission. Even if we achieve favorable results in our APEX study, the FDA may nonetheless require that we conduct additional clinical studies, possibly using a different clinical study design.

Even if the FDA or other regulatory authorities approve Betrixaban for VTE prophylaxis in acute medically ill patients, the approval may include additional restrictions on the label that could make Betrixaban less attractive to physicians and patients than other products that may be approved for broader indications, which could reduce the potential market for Betrixaban.

We are seeking regulatory approval of Andexanet alfa in the United States through an Accelerated Approval process, and since we have limited experience with this process, the development or commercialization of Andexanet alfa could be delayed or abandoned.

In November 2013, the FDA granted breakthrough therapy designation for Andexanet alfa which allows for an Accelerated Approval process. The Accelerated Approval regulations allow drugs that are being developed to treat an unmet medical need to be approved substantially based on evidence of an effect on a surrogate biomarker endpoint that is considered reasonably likely to predict clinical benefit rather than a clinical endpoint such as survival or irreversible morbidity. We have asked the FDA for priority review of our biologics license application, or BLA, a process that provides a shortened timetable to approval. Our use of an Accelerated Approval process requires that a Phase 4 clinical study with clinical endpoints that will correlate to a surrogate endpoint(s) must be ongoing at the time

our BLA is submitted and some early patient data will be required by the FDA to support the BLA. This study will continue into commercialization. Because of the accelerated timelines required for Accelerated Approval, we may require more time and incur greater costs than anticipated and may not succeed in timely manufacture of drug supply or in obtaining regulatory approval of Andexanet alfa. In addition, the FDA may subsequently determine that the studies conducted by us were insufficient to support approval for all or some of the marketed direct or indirect Factor Xa inhibitors or proposed indications, require us to conduct extensive post-approval studies or make modifications to our ongoing ANNEXA-4 study.

Even if our product candidates receive regulatory approval, they may fail to achieve the degree of market acceptance by physicians, patients, healthcare payors and others in the medical community necessary for commercial success.

If any of our product candidates receive regulatory approval, they may nonetheless fail to gain sufficient market acceptance by physicians, hospital administrators, patients, healthcare payors and others in the medical community. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including the following:

- the prevalence and severity of any side effects;
- efficacy and potential advantages compared to alternative treatments;

- the price we charge for our product candidates;
- the willingness of physicians to change their current treatment practices;
- the willingness of hospitals and hospital systems to include our product candidates as treatment options;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support; and
- the availability of third-party coverage or reimbursement.

For example, while there are no approved therapies for VTE prophylaxis in acute medically ill patients approved for use beyond the typical hospitalization period, there are therapies available for in-hospital use and physicians may not be willing to change their current in-hospital treatment practices in favor of Betrixaban. If our product candidates are approved but do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable on a sustained basis.

There are risks associated with scaling up manufacturing to commercial scale. Our commercial manufacturing strategy for Andexanet alfa is particularly complex and challenging. If our manufacturers are unable to manufacture our products on a commercial scale or scale to increased production, this could potentially delay regulatory approval and commercialization or materially adversely affect our results of operations.

There are risks associated with scaling up manufacturing to commercial volumes including, among others, cost overruns, technical problems with process scale-up, process reproducibility, stability issues, lot consistency and timely availability of raw materials. Even if we could otherwise obtain regulatory approval for any product candidate, there is no assurance that our manufacturer will be able to manufacture the approved product to specifications acceptable to the FDA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the product or to meet potential future demand. If our manufacturers are unable to produce sufficient quantities of the approved product for commercialization, either on a timely basis or at all, our commercialization efforts would be impaired, which would have a material adverse effect on our business, financial condition, results of operations and growth prospects.

In particular, we face uncertainties and risks associated with scaling up the manufacturing for Andexanet alfa. Andexanet alfa is a recombinant biological molecule, or biologic, rather than a small molecule chemical compound like our other product candidates. The manufacture of biologics involves complex processes, typically including developing cell lines or cell systems to produce the biologic, growing large quantities of such cells and harvesting and purifying the biologic produced by them. The cost to manufacture biologics is generally far higher than traditional small molecule chemical compounds, and the manufacturing process is more complex and can be difficult to reproduce. There is no guarantee we will be successful in establishing a larger-scale commercial manufacturing process for Andexanet alfa which achieves our objectives for manufacturing capacity and cost of goods. Due to the high cost to manufacture Andexanet alfa and the inherent uncertainty related to manufacturing costs, there is a relatively greater risk that Andexanet alfa may not be commercially viable.

Andexanet alfa used in our clinical studies is currently produced for us by a third-party contract manufacturer, CMC ICOS Biologics, Inc., or CMC Biologics, who will also support our initial BLA submission and initial commercial launch in the U.S. However, to support broader U.S. and worldwide supply with a lower cost, we must also increase production capacity at CMC Biologics, add production from Lonza, Inc., or Lonza, or another larger-scale manufacturer, and improve the manufacturing process to increase the yield and lower the manufacturing costs. Developing a commercial manufacturing process with two separate commercial manufacturing organizations increases the cost and complexity of commercial manufacturing which could increase the risk of successful implementation of our commercial manufacturing supply strategy.

Scaling up production at CMC Biologics is a technically complex process and there is no guarantee that CMC Biologics will be able to increase production to full anticipated capacity on a consistent or timely basis, or at all. In addition, we do not anticipate that supply from CMC Biologics, even as expanded, will be sufficient to meet projected worldwide demand for Andexanet alfa, therefore, we must also develop an improved and more cost-effective process at Lonza. However, the first commercial material from Lonza will not become available until after our expected U.S. launch. There is significant technical and regulatory work which we will need to complete before Lonza is able to produce commercial quantities of Andexanet alfa and there remains substantial uncertainty whether Lonza will be able to produce commercial supply of Andexanet alfa at the quantities and cost of goods necessary for commercial success.

In addition, in order to obtain FDA approval of material produced by a new vendor or using a new process, the vendor's manufacturing facility will need to pass a pre-approval regulatory inspection and we will need to demonstrate that such material is comparable to the clinical material we previously used and material produced by CMC Biologics. Demonstrating comparability can require significant pre-clinical and clinical studies. If we are not able to demonstrate comparability, then the material may be considered a new biological entity and a new clinical program, possibly commencing with Phase 1, and a full BLA submission may be required for approval, resulting in additional time and expense. If we are not able to establish targeted capacity at CMC Biologics and Lonza on a timely basis, implement the proposed transitions in a timely manner, or establish comparability of the new material, or obtain the anticipated improvements in efficiency, our business, financial condition, results of operations and growth prospects would be materially adversely affected.

We currently have limited sales and distribution personnel and are in the initial stages of developing marketing capabilities. If we are unable to develop effective sales, marketing and distribution capabilities on our own or through collaborations or other marketing partners, we will not be successful in commercializing Betrixaban, Andexanet alfa or other future products.

We are in the early stages of developing our sales or marketing infrastructure and have never sold, marketed or distributed therapeutic products. To achieve commercial success for any approved product, we must either develop a sales and marketing organization or outsource these functions to third parties. We plan to establish a hospital-based sales force in the United States and possibly other major markets and work with partners in other parts of the world to commercialize both Betrixaban and Andexanet alfa globally, if they are approved. There are risks involved with both establishing our own sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

We also may not be successful entering into arrangements with third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively, which could damage our reputation. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates.

We face substantial competition, which may result in others discovering, developing or commercializing competing products more successfully than we do.

The development and commercialization of new therapeutic products is highly competitive. We face competition with respect to our current product candidates, and will face competition with respect to any products that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. For example, several large pharmaceutical and biotechnology companies currently market and sell direct or indirect Factor Xa inhibitors for use in various disease states, including injectable Factor Xa inhibitors for the prevention of VTE in acute medically ill patients. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization. Many of these competitors are attempting to develop therapeutics for our target indications.

In addition, many of our competitors are large pharmaceutical companies that will have a greater ability to reduce prices for their competing drugs in an effort to gain market share and undermine the value proposition that we might

otherwise be able to offer to payors. We are developing our product candidate Betrixaban for extended duration VTE prophylaxis in acute medically ill patients for 35 days of in-hospital and post-discharge use. The current standard of care for VTE prophylaxis in acute medically ill patients in the United States is a 6- to 14-day administration of enoxaparin, marketed as Lovenox® and also available in generic form, an indirect Factor Xa inhibitor. Enoxaparin is widely accepted by physicians, patients and third-party payors. As a result, we may face difficulties in marketing Betrixaban as a substitute therapy in the hospital for the current standard of care, enoxaparin.

Furthermore, the FDA has already approved a number of therapies that, like Betrixaban, are oral direct Factor Xa inhibitors and that have already achieved substantial market acceptance. Although these products have not been approved for VTE prophylaxis in acute medically ill patients, the owners of the products may decide to seek such approval or physicians may decide to prescribe these products for the treatment of VTE in acute medically ill patients absent such approval, known as prescribing "off-label." Further, our competitors may have the financial and other resources to conduct additional clinical studies in an effort to obtain regulatory approval for use of their drugs for VTE prophylaxis in acute medically ill patients, even in cases where they have previously run clinical trials that have failed. For example, in March 2014, Bayer and Janssen announced the initiation of a new Phase 3 clinical trial to evaluate the safety and efficacy of rivaroxaban to reduce the risk of post-hospital discharge symptomatic VTE in patients hospitalized for acute medical illness.

While there are no therapies approved specifically as antidotes for Factor Xa inhibitors, we are aware of at least one drug candidate being studied in early stage clinical trials as a potential antidote to Factor Xa inhibitors. In addition, in December 2014, Bristol-Myers Squibb Company and Pfizer Inc. announced that a clinical trial of 15 healthy human subjects demonstrated that 4-factor prothrombin complex concentrate may affect the steady-state pharmacodynamics effects of Eliquis (apixaban). Andexanet alfa, if approved, may compete with other currently approved treatments designed to enhance coagulation, such as fresh frozen plasma, prothrombin complex concentrates, recombinant Factor VIIa or whole blood. Although there is no clinical evidence supporting the use of such treatments in patients taking Factor Xa inhibitors, physicians may choose to use them because of familiarity, cost or other reasons. In addition, we are aware that several companies have conducted preclinical research on compounds intended to be antidotes for Factor Xa inhibitors.

Also, in October 2015, Boehringer Ingelheim Corporation obtained FDA and EMA approvals of idarucizumab for the reversal of the anticoagulant effect of Pradaxa (dabigatran) for emergency/urgent procedures or in life-threatening or uncontrolled bleeding. Although idarucizumab is a specific reversal agent for Pradaxa, a direct thrombin inhibitor, rather than a Factor Xa inhibitor, to the extent the availability of a specific reversal agent leads to increased adoption of Pradaxa rather than Factor Xa inhibitors or low molecular weight heparins, the demand for Andexanet alfa as a specific reversal agent for Factor Xa inhibitors and low molecular weight heparins could also be reduced.

There are also a number of products in clinical development for hematologic cancer, ophthalmological diseases, allergic rhinitis, allergic asthma and other inflammatory diseases that are potential indications for Cerdulatinib or selective Syk inhibitors. Our competitors may develop products that are more effective, safer, more convenient or less costly than any that we are developing or that would render our product candidates obsolete or noncompetitive. Many competing products are in later stages of development than our products and are, therefore, likely to obtain FDA or other regulatory approval for their products before we obtain approval for ours.

Many of our competitors, including a number of large pharmaceutical companies that compete directly with us, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and diagnostic industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical study sites and patient registration for clinical studies, as well as in acquiring technologies complementary to, or necessary for, our programs.

RISKS RELATED TO OUR RELIANCE ON THIRD PARTIES

We rely on third parties to conduct our clinical studies, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such studies.

We do not independently conduct clinical studies of our product candidates. We rely on third parties, such as contract research organizations, or CROs, clinical data management organizations, medical institutions and clinical investigators, to perform this function. Our reliance on these third parties for clinical development activities reduces our control over these activities but does not relieve us of our responsibilities. Furthermore, most of the clinical study sites for our APEX study are located outside the United States, including several developing countries. The performance of these sites may be adversely affected by various issues, including less advanced medical infrastructure, lack of familiarity with conducting clinical studies using U.S. standards, insufficient training of personnel, communication difficulties and geopolitical risk. We remain responsible for ensuring that each of our clinical studies is conducted in accordance with the general investigational plan and protocols for the study.

Moreover, the FDA requires us to comply with standards, commonly referred to as good clinical practices, for conducting, recording and reporting the results of clinical studies to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of patients in clinical studies are protected. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical studies in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, regulatory approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates.

We also rely on other third parties to store and distribute supplies for our clinical studies. Any performance failure on the part of our existing or future distributors could delay clinical development or regulatory approval of our product candidates or commercialization of our products, producing additional losses and depriving us of potential product revenue

We rely on third-party contract manufacturing organizations to manufacture and supply our product candidates for us. If one of our suppliers or manufacturers fails to perform adequately or fulfill our needs, we may be required to incur significant costs and devote significant efforts to find new suppliers or manufacturers. We may also face significant delays in the development and commercialization of our product candidates.

We do not own facilities for clinical-scale or commercial manufacturing of our product candidates and we rely on third-party suppliers to manufacture each of our product candidates. For example, we have contracted with CMC Biologics to expand its production capacity of Andexanet alfa bulk drug substance to support our potential U.S. commercial launch, and we have engaged Lonza to develop a new, higher-capacity and lower cost process for Andexanet alfa bulk drug substance in order to support our broader, worldwide commercialization strategy. We have not yet entered into a commercial supply agreement for the manufacture of Betrixaban but will be required to do so to manufacture commercial supply. We also rely or expect to rely on other third party providers for lyophilization, packaging, labeling and supply chain distribution. If we and our suppliers cannot agree to the terms and conditions for them to provide the drug product necessary for our clinical and commercial supply needs, or if any single source supplier terminates the agreement in response to a breach by us or otherwise becomes unable to fulfill its supply obligations, we would not be able to manufacture and distribute the product candidate until a qualified alternative supplier is identified, which could also significantly delay the development of, and impair our ability to commercialize, our product candidates.

The manufacture of pharmaceutical products in compliance with the FDA’s current good manufacturing practices, or cGMPs, requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, including difficulties with production costs and yields, quality assurance, including stability of the product candidate and quality control testing, shortages of qualified personnel, as well as compliance with strictly enforced cGMP requirements, other federal and state regulatory requirements and foreign regulations. If our manufacturers were to encounter any of these difficulties or otherwise fail to comply with their obligations to us or under applicable regulations, our ability to supply our clinical studies or commercial demand would be jeopardized. Any delay or interruption in the supply of clinical study materials could delay the completion of our clinical studies, increase the costs associated with maintaining our clinical study programs and, depending upon the period of delay, require us to commence new studies at significant additional expense or terminate the studies completely.

All manufacturers of our product candidates must comply with cGMP requirements enforced by the FDA through its facilities inspection program. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation. Manufacturers of our product candidates may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. The FDA or similar

foreign regulatory agencies may also implement new standards at any time, or change their interpretation and enforcement of existing standards for manufacturing, packaging or testing of products. We have limited control over our manufacturers' compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall or withdrawal of product approval. If the safety of any product supplied is compromised due to our manufacturers' failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products and we may be held liable for any injuries sustained as a result. Any of these factors could cause a delay of clinical studies, regulatory submissions, approvals or commercialization of our product candidates, entail higher costs or impair our reputation.

Although alternative sources of supply exist, the number of third-party suppliers with the necessary manufacturing and regulatory expertise and facilities to manufacture biologics is limited, and it could be expensive and take a significant amount of time to arrange for alternative suppliers, which could have a material adverse effect on our business. New suppliers of any product candidate would be required to qualify under applicable regulatory requirements and would need to have sufficient rights under applicable intellectual property laws to the method of manufacturing the product candidate. Obtaining the necessary FDA approvals or other qualifications under applicable regulatory requirements and ensuring non-infringement of third-party intellectual property rights could result in a significant interruption of supply and could require the new manufacturer to bear significant additional costs which may be passed on to us.

We may enter into collaborations that place the development of our product candidates outside our control, require us to relinquish important rights or may otherwise be on terms unfavorable to us, and if our collaborations are not successful, our product candidates may not reach their full market potential.

We may enter into additional collaboration agreements with third parties with respect to our product candidates for the commercialization of the candidates outside the U.S., or for other purposes. In addition, depending on our capital requirements, development and commercialization costs, need for additional therapeutic expertise and other factors, it is possible that we will enter into broader development and commercialization arrangements with respect to our product candidates. Our likely collaborators for any distribution, marketing, licensing or broader collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. We will have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of our product candidates. Our ability to generate revenue from these arrangements will depend in part on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements.

Collaborations involving our product candidates are subject to numerous risks, which may include the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to any such collaborations;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical study results, changes in their strategic focus due to the acquisition of competitive products, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- collaborators may delay clinical studies, provide insufficient funding for a clinical study program, stop a clinical study, abandon a product candidate, repeat or conduct new clinical studies or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates;
- a collaborator with marketing and distribution rights to one or more products may not commit sufficient resources to their marketing and distribution;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that causes the delay or termination of the research, development or commercialization of our product candidates or that results in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates; and
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collaborators may own or co-own intellectual property covering our products that results from our collaborating with them, and in such cases, we would not have the exclusive right to commercialize such intellectual property.

Any termination or disruption of our collaboration with potential collaborators could result in delays in the development and commercialization of our product candidates, increases in our costs to develop and commercialize the product candidate, or the termination of development of a product candidate.

RISKS RELATED TO THE OPERATION OF OUR BUSINESS

Our future success depends on our ability to retain our chief executive officer and other key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on William Lis, our Chief Executive Officer, and the other principal members of our executive and scientific teams. Under the terms of their employment, our executives may terminate their employment with us at any time. The loss of the services of any of these people could impede the achievement of our research, development and commercialization objectives. We maintain “key person” insurance for Mr. Lis but not for any other executives or employees. Any insurance proceeds we may receive under our “key person” insurance on Mr. Lis would not adequately compensate us for the loss of his services.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

We expect to expand our development, regulatory and sales and marketing capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

Over the next several years, we expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, regulatory affairs, quality, commercial compliance, medical affairs, and sales and marketing. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

We incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to existing and new public company compliance and reporting regulations.

As a public company, we incur significant legal, accounting and other expenses. For example, the Sarbanes-Oxley Act, and rules of the SEC and those of The NASDAQ Stock Market, or the NASDAQ, have imposed various requirements on public companies including requiring establishment and maintenance of effective disclosure and financial controls. Our management and other personnel have and will need to continue to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations are continuously being revised, have increased and will continue to increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. In addition, we are

required to have our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting. Our compliance with Section 404 of the Sarbanes-Oxley Act, as applicable, requires us to incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and we will need to continue to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. If we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the NASDAQ, the SEC or other regulatory authorities, which would require additional financial and management resources.

Our ability to successfully implement our business plan and comply with Section 404, as applicable, requires us to be able to prepare timely and accurate financial statements. We expect that we will need to continue to improve existing, and implement new operational and financial systems, procedures and controls to manage our business effectively. Any delay in the implementation of, or disruption in the transition to, new or enhanced systems, procedures or controls, may cause our operations to suffer and we may be unable to conclude that our internal control over financial reporting is effective and to obtain an unqualified report on internal controls from our auditors as required under Section 404 of the Sarbanes-Oxley Act. If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results, and current and potential stockholders may lose confidence in our financial reporting. This, in turn, could have an adverse impact on trading prices for our common stock, and could adversely affect our ability to access the capital markets.

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

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical studies and will face an even greater risk if we commercially sell any products that we may develop. For example, the manufacturers of currently marketed Factor Xa inhibitors and other manufacturers of anti-coagulants have faced substantial litigation due to certain alleged bleeding risks. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of patients from clinical studies or cancellation of studies;
- significant costs to defend the related litigation;
- substantial monetary awards to patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

We currently hold $10.0 million in product liability insurance coverage, which may not be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus on research programs and product candidates for specific indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products.

If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological or hazardous materials. In addition, we may be required to incur substantial costs to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or manmade disasters or business interruptions. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. Our corporate headquarters is located in California near major earthquake faults. Our operations and financial condition could suffer in the event of a major earthquake, fire or other natural or manmade disaster.

If we obtain approval to commercialize any approved products outside of the United States, a variety of risks associated with international operations could materially adversely affect our business. If any product candidates that we may develop are approved for commercialization outside the United States, we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

In connection with our Betrixaban and Andexanet alfa development, we are currently utilizing certain suppliers outside of the United States, which subjects us to certain of the above risks.

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

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. While we have not experienced any such system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs. For example, the loss of clinical study data from completed or ongoing clinical studies for any of our product candidates could result in delays in our regulatory

approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach was to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed.

RISKS RELATED TO INTELLECTUAL PROPERTY

If we fail to comply with our obligations in our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are a party to intellectual property license agreements with third parties, including with respect to Betrixaban, Cerdulatinib and one of our selective Syk inhibitors, and expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that our future license agreements will impose, various diligence, milestone payment, royalty, insurance and other obligations on us. If we fail to comply with these obligations, our licensors may have the right to terminate these agreements, in which event we may not be able to develop and market any product that is covered by these agreements. Termination of these licenses or reduction or elimination of our licensed rights may result in our having to negotiate new or reinstated licenses with less favorable terms or our not having sufficient intellectual property rights to operate our business. The occurrence of such events could materially harm our business.

Our ability to successfully commercialize our technology and products may be materially adversely affected if we are unable to obtain and maintain effective intellectual property rights for our technologies and product candidates.

Our success depends in large part on our and our licensors' ability to obtain and maintain patent and other intellectual property protection in the United States and in other countries with respect to our proprietary technology and products. In some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology or products that we license from third parties. Therefore, we cannot be certain that these patents and applications will be prosecuted and enforced in a manner consistent with the best interests of our business. In addition, if third parties who license patents to us fail to maintain such patents, or lose rights to those patents, the rights we have licensed may be reduced or eliminated.

We have sought to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and products that are important to our business. This process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from using our technologies or from developing competing products and technologies.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain and involves complex legal and factual questions for which legal principles remain unresolved. In recent years patent rights have been the subject of significant litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our and our licensors' patent rights are highly uncertain. Our and our licensors' pending and future patent applications may not result in patents being issued which protect our technology or products or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. The laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in our owned and licensed patents or pending patent applications, or that we or our licensors were the first to file for patent protection of such inventions. Assuming the other requirements for patentability are met, prior to March 16, 2013, in the United States, the first to make the claimed invention is entitled to the patent, while outside the United States, the first to file a patent application is entitled to the patent. On March

16, 2013, under the recently enacted America Invents Act, the United States moved to a first to file system.

The effects of these changes are currently unclear as the United States Patent and Trademark Office, or USPTO, has only recently implemented various regulations, the courts have only just begun to issue decisions addressing these provisions and the applicability of the act and new regulations on specific patents discussed herein have not been determined and would need to be reviewed. We may become involved in opposition or other proceedings challenging our patent rights or the patent rights of others, and the outcome of any proceedings are highly uncertain. For example, in November 2013, Zentiva k.s. and Günter SÖLCH separately filed papers with the European Patent Office opposing European Patent 2101760, assigned to Millennium Pharmaceuticals, Inc., to which we have an exclusive license. The European Patent Office decided in favor of revoking the European patent. Portola will appeal this revocation. This patent is related to a formulation of Betrixaban. Should the appeal or other proceedings be unsuccessful, this could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

Even if our owned and licensed patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. The issuance of a patent is not conclusive as to its scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in patent claims being narrowed, invalidated or held unenforceable, which could limit our ability to stop or prevent us from stopping others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours or otherwise provide us with a competitive advantage.

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

Competitors may infringe our patents. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability and the ability of our collaborators to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing, misappropriating or otherwise violating the proprietary rights or intellectual property of third parties. We may become party to, or be threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including interference proceedings before the USPTO. An interference proceeding is a proceeding before the USPTO to determine the priority among multiple patents or patent applications. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future. If we are found to infringe a third-party’s intellectual property rights, we could be required to obtain a license from such third-party to continue developing and marketing our products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all.

Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties can have a similar negative impact on our business.

We may be unable to protect the confidentiality of our trade secrets, thus harming our business and competitive position.

In addition to our patented technology and products, we rely upon trade secrets, including unpatented know-how, technology and other proprietary information to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. We also have agreements with our employees and consultants that obligate them to assign their inventions to us. However, it is possible that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees, consultants or collaborators that are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could be disclosed, misappropriated or otherwise become known or be independently discovered by our competitors. In addition, intellectual property laws in foreign countries may not protect our intellectual property to the same extent as the laws of the United States. If our trade secrets are disclosed or misappropriated, it would harm our ability to protect our rights and have a material adverse effect on our business.

We may be subject to claims that our employees have wrongfully used or disclosed intellectual property of their former employers. Intellectual property litigation or proceedings could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other intellectual property-related proceedings could have a material adverse effect on our ability to compete in the marketplace.

RISKS RELATED TO GOVERNMENT REGULATION

The regulatory approval process is expensive, time consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, which regulations differ from country to country. We will not be permitted to market our product candidates in the United States until we receive approval of an NDA or a BLA, from the FDA. We have submitted a BLA for Andexanet alfa but have not submitted an application or received marketing approval for any of our other product candidates. Obtaining approval of an NDA or BLA can be a lengthy, expensive and uncertain process. In addition, failure to comply with FDA and other applicable U.S. and foreign regulatory requirements may subject us to administrative or judicially imposed sanctions, including the following:

- warning letters;
- civil or criminal penalties and fines;
- injunctions;
- suspension or withdrawal of regulatory approval;
- suspension of any ongoing clinical studies;
- voluntary or mandatory product recalls and publicity requirements;
- refusal to accept or approve applications for marketing approval of new drugs or biologics or supplements to approved applications submitted by us;
- restrictions on operations, including costly new manufacturing requirements; or
- seizure or detention of our products or import bans.

Prior to receiving approval to commercialize any of our product candidates in the United States or abroad, we must demonstrate with substantial evidence from well-controlled clinical studies, and to the satisfaction of the FDA and other regulatory authorities abroad, that such product candidates are safe and effective for their intended uses. Results

from preclinical studies and clinical studies can be interpreted in different ways. Even if we and our collaboration partners believe the preclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. Administering any of our product candidates to humans may produce undesirable side effects, which could interrupt, delay or cause suspension of clinical studies of our product candidates and result in the FDA or other regulatory authorities denying approval of our product candidates for any or all targeted indications.

Regulatory approval of an NDA or BLA is not guaranteed, and the approval process is expensive and may take several years. The FDA also has substantial discretion in the approval process. Despite the time and expense exerted, failure can occur at any stage, and we could encounter problems that cause us to abandon or repeat clinical studies, or perform additional preclinical studies and clinical studies. The number of preclinical studies and clinical studies that will be required for FDA approval varies depending on the product candidate, the disease or condition that the product candidate is designed to address and the regulations applicable to any particular product candidate. The FDA can delay, limit or deny approval of a product candidate for many reasons, including, but not limited to, the following:

- a product candidate may not be deemed safe or effective;
- FDA officials may not find the data from preclinical studies and clinical studies sufficient;
- the FDA may find our manufacturing data insufficient to support approval
- the FDA might not approve our or our third-party manufacturer's processes or facilities; or
- the FDA may change its approval policies or adopt new regulations.

If any of our product candidates fails to demonstrate safety and efficacy in clinical studies or does not gain regulatory approval, our business and results of operations will be materially and adversely harmed.

Even if we receive regulatory approval for a product candidate, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and subject us to penalties if we fail to comply with applicable regulatory requirements.

Once regulatory approval has been granted, the approved product and its manufacturer are subject to continual review by the FDA and non-U.S. regulatory authorities. Any regulatory approval that we or our collaboration partners receive for our product candidates may be subject to limitations on the indicated uses for which the product may be marketed or contain requirements for potentially costly post-marketing follow-up studies to monitor the safety and efficacy of the product. In addition, if the FDA or non-U.S. regulatory authorities approve any of our product candidates, we will be subject to extensive and ongoing regulatory requirements by the FDA and other regulatory authorities with regard to the labeling, packaging, adverse event reporting, storage, advertising, promotion, price reporting, aggregate spend or "sunshine" reporting and recordkeeping for our products. In addition, manufacturers of our drug products are required to comply with cGMP regulations, which include requirements related to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Further, regulatory authorities must approve these manufacturing facilities before they can be used to manufacture our drug products, and these facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. If we or a third party discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory authority may impose restrictions on that product, the manufacturer or us, including requiring withdrawal of the product from the market or suspension of manufacturing.

The regulatory requirements and policies may change and additional government regulations may be enacted for which we may also be required to comply. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or in other countries. If we are not able to maintain regulatory compliance, we may not be permitted to market our future products and our business may suffer.

Unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives could harm our business.

There is increasing pressure on biotechnology companies to reduce healthcare costs. In the U.S., these pressures come from a variety of sources, such as managed care groups, institutional, and government purchasers. Increased purchasing power of entities that negotiate on behalf of federal healthcare programs and private sector beneficiaries

could increase pricing pressures in the future. Such pressures may also increase the risk of litigation or investigation by the government regarding pricing calculations. The biotechnology industry will likely face greater regulation and political and legal action in the future.

The regulations that govern marketing approvals, pricing and reimbursement for new therapeutic products vary widely from country to country. Some countries, including European Union, or EU, member countries, require approval of the sale price of a product before it can be marketed. In many countries, including EU member countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. In some foreign markets, including the EU member countries, current standard of care and/or competitive products may be used as a benchmark or reference to determine pricing and reimbursement level for novel products such as Andexanet alfa and Betrixaban. To the extent that comparators are available at lower prices than our anticipated pricing for Andexanet alfa or Betrixaban, the pricing and reimbursement level of our products in the EU could be negatively impacted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product and negatively impact the revenue we are able to generate from the sale of the product in that country, or even reduce the commercial viability of the product to an extent that prevents the launch altogether.

Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval. Adverse pricing limitations prior to approval will also adversely affect us by reducing our commercial potential. Our ability to commercialize any products successfully also will depend in part on the extent to which reimbursement for these products and related treatments becomes available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Reimbursement may impact the demand for, or the price of, any product for which we obtain marketing approval. Obtaining reimbursement for our products may be particularly difficult because of the higher prices often associated with products administered under the supervision of a physician. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any product candidate that we successfully develop.

There may be significant delays in obtaining reimbursement for approved products, and coverage may be more limited than the purposes for which the product is approved by the FDA or regulatory authorities in other countries. Moreover, eligibility for reimbursement does not imply that any product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim payments for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Payment rates may vary according to the use of the product and the clinical setting in which it is used, may be based on payments allowed for lower cost products that are already reimbursed and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of products from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government funded and private payors for new products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Failure to obtain regulatory approvals in foreign jurisdictions will prevent us from marketing our products internationally.

We may pursue commercialization of our future products in international markets, either through distribution and marketing partners or our own commercial organization. In order to market our future products in the European Economic Area, or EEA, and many other foreign jurisdictions, we must obtain separate regulatory approvals. Specifically, in the EEA, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. Before granting the MA, the EMA or the competent authorities of the member states of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

We have had limited interactions with foreign regulatory authorities, and the approval procedures vary among countries and can involve additional clinical testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Clinical studies conducted in one country may not be accepted by regulatory authorities in other countries. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other foreign countries or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. We may not be able to submit for regulatory approvals and even if we submit we may not receive necessary approvals to commercialize our products in any market.

Healthcare reform measures could hinder or prevent our product candidates' commercial success.

In the United States, there have been and we expect there will continue to be a number of legislative and regulatory changes to the healthcare system in ways that could affect our future revenue and profitability and the future revenue and profitability of our potential customers. Federal and state lawmakers regularly propose and, at times, enact legislation that would result in significant changes to the healthcare system, some of which are intended to contain or reduce the costs of medical products and services. For example, one of the most significant healthcare reform measures in decades, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, collectively, the Affordable Care Act, was enacted in 2010. The Affordable Care Act contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse measures, all of which will impact existing government healthcare programs and will result in the development of new programs. The Affordable Care Act, among other things:

- imposes a non-deductible annual fee on pharmaceutical manufacturers or importers who sell "branded prescription drugs," effective 2011;
- increases the minimum level of Medicaid rebates payable by manufacturers of brand-name drugs from 15.1% to 23.1%, effective 2011;
- could result in the imposition of injunctions;
- expanded Medicaid drug rebates to cover drugs paid by Medicaid managed care organizations;
- changes the Medicaid rebate rates for line extensions or new formulations of oral solid dosage form;
- expands the types of entities eligible for the "Section 340B discounts" for outpatient drugs;
- requires manufacturers to participate in a coverage gap discount program, under which they must agree to offer 50% point-of-sale discounts off negotiated prices of applicable branded drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and
- creates a process for approval of biologic therapies that are similar or identical to approved biologics.

While the U.S. Supreme Court upheld the constitutionality of most elements of the Affordable Care Act in June 2012, other legal challenges are still pending final adjudication in several jurisdictions. In addition, Congress has in the past proposed and likely will continue to propose a number of legislative initiatives, including possible repeal of the Affordable Care Act. At this time, it remains unclear whether there will be any changes made to the Affordable Care Act, whether to certain provisions or its entirety. We cannot assure that the Affordable Care Act, as currently enacted or as amended in the future, will not adversely affect our business and financial results and we cannot predict how future federal or state legislative or administrative changes relating to healthcare reform will affect our business.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. For example, the Budget Control Act of 2011, or Budget Control Act, among other things, created the Joint Select Committee on Deficit Reduction to recommend proposals in spending reductions to Congress. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, which triggered the legislation's automatic reduction to several government programs, including aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which delayed for another two months the budget cuts mandated by the sequestration provisions of the Budget Control Act. The ATRA, among other things, also reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In March 2013, the President signed an executive order implementing sequestration, and in April 2013, the 2% Medicare reductions went into effect. In December 2013, Congress amended the Budget Control Act to provide greater discretionary spending in 2014 and 2015 than originally budgeted and provide relief from the FDA user fee for two years. This amendment also extended the prohibition against reducing payments to Medicare providers by more than 2% until 2023. In December 2014, Congress passed the Consolidated and Further Continuing Appropriations Act, 2015 and a tax extenders bill, both of which may negatively impact coverage and reimbursement of healthcare items and services.

There likely will continue to be legislative and regulatory proposals at the federal and state levels directed at containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future or their full impact. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect:

- our ability to set a price we believe is fair for our products;
- our ability to generate revenue and achieve or maintain profitability; and
- the availability of capital.

Further, changes in regulatory requirements and guidance may occur and we may need to amend clinical study protocols to reflect these changes. Amendments may require us to resubmit our clinical study protocols to Institutional Review Boards for reexamination, which may impact the costs, timing or successful completion of a clinical study. In light of widely publicized events concerning the safety risk of certain drug products, regulatory authorities, members of Congress, the Governmental Accounting Office, medical professionals and the general public have raised concerns about potential drug safety issues. These events have resulted in the recall and withdrawal of drug products, revisions to drug labeling that further limit use of the drug products and establishment of risk management programs that may, for instance, restrict distribution of drug products or require safety surveillance and/or patient education. The increased attention to drug safety issues may result in a more cautious approach by the FDA to clinical studies and the drug approval process. Data from clinical studies may receive greater scrutiny with respect to safety, which may make the FDA or other regulatory authorities more likely to terminate or suspend clinical studies before completion, or require longer or additional clinical studies that may result in substantial additional expense and a delay or failure in obtaining approval or approval for a more limited indication than originally sought.

Given the serious public health risks of high profile adverse safety events with certain drug products, the FDA may require, as a condition of approval, costly risk evaluation and mitigation strategies, which may include safety surveillance, restricted distribution and use, patient education, enhanced labeling, special packaging or labeling, expedited reporting of certain adverse events, preapproval of promotional materials and restrictions on direct-to-consumer advertising.

If we fail to comply with healthcare regulations, we could face substantial penalties and our business, operations and financial condition could be adversely affected.

Pharmaceutical companies are heavily regulated by federal, state and local regulations in the countries in which business activities occur. Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. We could be subject to laws and regulations governing healthcare fraud and abuse, advertising and other promotional activities, data privacy and patient rights by both the federal government and the states in which we conduct our business. The regulations that may affect our ability to operate include, without limitation:

- the federal Anti-Kickback Statute, which prohibits, among other things, any person from knowingly and willfully offering, soliciting, receiving or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs, such as the Medicare and Medicaid programs;
- the federal Physician Payment Sunshine Act or Open Payments Program provisions and the implementing regulations which will require extensive tracking of physician and teaching hospital payments, maintenance of a payments database, and public reporting of the payment data;
- the federal False Claims Act, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, false claims, or knowingly using false statements, to obtain payment from the federal government;
- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;
- the Foreign Corrupt Practices Act and similar statutes and regulations in foreign jurisdictions, which makes it unlawful for certain classes of persons and entities to make payments to foreign government officials to assist in obtaining or retaining business;
- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; and
- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers.

The Affordable Care Act, among other things, amends the intent requirement of the Federal Anti-Kickback Statute and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. In addition, the Affordable Care Act provides that the government may assert that a claim including items or services resulting from a violation of the Federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to substantial penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could adversely affect our ability to operate our business and our financial results. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security and fraud laws may prove costly.

RISKS RELATED TO OWNERSHIP OF OUR COMMON STOCK

Our stock price may be volatile, and investors in our common stock could incur substantial losses.

Our stock price has fluctuated in the past and may be volatile in the future. The stock market in general, and the market for biotechnology companies in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investment in our stock. The market price for our common stock may be influenced by many factors, including the following:

- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- market conditions in the pharmaceutical and biotechnology sectors;

- actual or anticipated changes in earnings estimates or changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;
- general economic, industry and market conditions; and
- the other risks described in this "Risk factors" section.

These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market, securities class-action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

Our executive officers, directors and principal stockholders have the ability to significantly influence all matters submitted to stockholders for approval.

Based, in part, on a review of SEC filings, we believe that our executive officers, directors and stockholders who own more than 5% of our outstanding common stock beneficially own a significant percentage of our outstanding shares of common stock, based on shares of common stock outstanding as of December 31, 2015. As a result, if these stockholders were to choose to act together, they would be able to significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these stockholders, if they choose to act together, will significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of voting power could delay or prevent an acquisition of our company on terms that other stockholders may desire.

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about our business, our stock price and trading volume could decline.

The trading market for our common stock depends, in part, on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts may cease to publish research on our company at any time in their discretion. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline. In addition, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If our operating results fail to meet the forecasts of analysts, our stock price will likely decline.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions include the following:

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our board of directors is divided into three classes with staggered three-year terms which may delay or prevent a change of our management or a change in control;

- our board of directors has the right to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- our stockholders may not act by written consent or call special stockholders' meetings; as a result, a holder, or holders, controlling a majority of our capital stock would not be able to take certain actions other than at annual stockholders' meetings or special stockholders' meetings called by the board of directors, the chairman of the board, the chief executive officer or the president;

- our certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- stockholders must provide advance notice and additional disclosures in order to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company; and
- our board of directors may issue, without stockholder approval, shares of undesignated preferred stock; the ability to issue undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Our employment agreements with our executive officers may require us to pay severance benefits to any of those persons who are terminated in connection with a change in control of us, which could harm our financial condition or results.

Certain of our executive officers are parties to employment agreements that contain change in control and severance provisions providing for aggregate cash payments of up to approximately $2.5 million for severance and other benefits and acceleration of vesting of stock options with a value of approximately $47.5 million as of December 31, 2015, based on the closing price of our common stock of $51.45 on such date in the event of a termination of employment in connection with a change in control of us. The accelerated vesting of options could result in dilution to our existing stockholders and harm the market price of our common stock. The payment of these severance benefits could harm our financial condition and results. In addition, these potential severance payments may discourage or prevent third parties from seeking a business combination with us.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be our stockholders' sole source of gain.

We have never declared or paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of existing or any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be our stockholders' sole source of gain for the foreseeable future.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We lease approximately 74,000 square feet of research and office space in South San Francisco, California under a lease that expires in March 2020. Thereafter, at our option, we may extend the term for an additional three years to March 2023. We believe that our existing facilities are sufficient for our current needs for the foreseeable future.

ITEM 3. LEGAL PROCEEDINGS

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

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

PRICE RANGE OF COMMON STOCK

Our common stock is listed on The NASDAQ Global Select Market under the symbol "PTLA". The following table sets forth for the periods indicated the high and low sales prices per share of our common stock as reported on The NASDAQ Global select Market:

	Low	High
Fiscal Year ending December 31, 2014		
First Quarter	$23.00	$30.39
Second Quarter	$19.59	$30.58
Third Quarter	$23.34	$31.48
Fourth Quarter	$24.75	$31.38
Fiscal Year ending December 31, 2015		
First Quarter	$26.26	$43.63
Second Quarter	$35.00	$49.37
Third Quarter	$39.76	$57.96
Fourth Quarter	$40.89	$52.89

On February 22, 2016, the last reported sale price of our common stock as reported on The NASDAQ Global Select Market was $30.04 per share.

As of February 22, 2016, there were 56,362,311 shares of our common stock issued and outstanding with 31 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders, and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

STOCK PRICE PERFORMANCE GRAPH

The following stock performance graph compares our total stock return with the total return for (i) the NASDAQ Composite Index and the (ii) the NASDAQ Biotechnology Index for the period from May 22, 2013 (the date our common stock commenced trading on the NASDAQ Global Select Market) through December 31, 2015. The figures represented below assume an investment of $100 in our common stock at the closing price of $15.15 on May 22, 2013 and in the NASDAQ Composite Index and the NASDAQ Biotechnology Index on May 22, 2013 and the reinvestment of dividends into shares of common stock. The comparisons in the table are required by the Securities and Exchange Commission, or SEC, and are not intended to forecast or be indicative of possible future performance of our common stock. This graph shall not be deemed “soliciting material” or be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended, or the Securities Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

$100 investment in

stock or index	Ticker	May 22, 2013	June 30, 2013	September 30, 2013	December 31, 2013
Portola Pharmaceuticals, Inc.	PTLA	$ 100.00	$ 162.08	$ 176.57	$ 169.97
NASDAQ Composite Index	IXIC	$ 100.00	$ 96.08	$ 115.99	$ 125.56
NASDAQ Biotechnology Index	NBI	$ 100.00	$ 98.27	$ 108.90	$ 120.60

$100 investment in

stock or index	Ticker	March 31, 2014	June 30, 2014	September 30, 2014	December 31, 2014
Portola Pharmaceuticals, Inc.	PTLA	$ 170.96	$ 192.61	$ 166.86	$ 186.93
NASDAQ Composite Index	IXIC	$ 121.24	$ 127.28	$ 129.74	$ 136.75
NASDAQ Biotechnology Index	NBI	$ 130.83	$ 142.35	$ 151.50	$ 168.38

$100 investment in stock or index	Ticker	March 31, 2015	June 30, 2015	September 30, 2015	December 31, 2015
Portola Pharmaceuticals, Inc.	PTLA	$ 250.56	$ 300.66	$ 281.32	$ 339.60
NASDAQ Composite Index	IXIC	$ 141.51	$ 143.99	$ 133.40	$ 144.58
NASDAQ Biotechnology Index	NBI	$ 190.61	$ 204.79	$ 167.93	$ 187.61

DIVIDEND POLICY

We have never declared or paid, and do not anticipate declaring, or paying in the foreseeable future, any cash dividends on our capital stock. Future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our operating results, financial conditions, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

USE OF PROCEEDS

On May 21, 2013, our registration statement on Form S-1 (File No. 333-187901) was declared effective for our initial public offering. As a result of our initial public offering and the exercise of the overallotment option, both of which closed on May 28, 2013, we received net proceeds of approximately $131.0 million, after underwriting discounts and commissions of approximately $9.4 million. In addition, we incurred other expenses associated with our initial public offering of approximately $5.2 million. No payments for such expenses were made directly or indirectly to any of our officers or directors. There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus filed with the SEC pursuant to Rule 424(b) under the Securities Act on May 21, 2013, and all net proceeds from the initial public offering were used to fund the ongoing clinical program for Betrixaban, the continued development of Andexanet alfa, a Phase 1/2 study in hematologic cancers for Cerdulatinib, and for sales, marketing, working capital and general corporate purposes.

RECENT SALE OF UNREGISTERED SECURITIES

In January 2015, we issued 3,041 shares of common stock upon the net exercise of a warrant by General Electric Capital Corporation. The warrant was initially exercisable into shares of Series A Preferred Stock and was issued in January 2005 in connection with a private placement of equity securities not involving a public offering pursuant to Section 4(2) of the Securities Act of 1933, as amended. The conversion of the warrant into common stock was an exempt exchange under Section 3(a)(9) of the Securities Act. The shares were issued pursuant to a “cashless” exercise of warrants and we received no proceeds.

Issuer Purchases of Equity Securities

None.

ITEM 6. SELECTED FINANCIAL DATA

You should read the following consolidated selected financial data together with the section of this report entitled "Management's discussion and analysis of financial condition and results of operations" and our consolidated financial statements and the related notes included in this report. The consolidated statement of operations data for the years ended December 31, 2015, 2014 and 2013 and the consolidated balance sheet data as of December 31, 2015 and 2014 are derived from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K. The consolidated statements of operations data for the years ended December 31, 2012 and 2011, and the consolidated balance sheet data as of December 31, 2013, 2012 and 2011 were derived from our audited consolidated financial statements that are not included in this Annual Report on Form 10-K.

	Year Ended December 31,				
	2015	2014	2013	2012	2011
Consolidated statements of operations data:					
Collaboration and license revenue	$12,070	$9,625	$10,531	$72,042	$78,029
Operating expenses:					
Research and development	200,376	123,639	79,286	49,717	46,089
Selling general and administrative	38,869	23,552	15,423	11,469	12,071
Total operating expenses	239,245	147,191	94,709	61,186	58,160
(Loss) Income from operations	(227,175)	(137,566)	(84,178)	10,856	19,869
Interest and other income, net	305	441	826	510	136
Interest expense	–	–	–	–	(21)
(Loss) Income before income taxes	(226,870)	(137,125)	(83,352)	11,366	19,984
Income tax benefit	(365)	–	–	–	0
Net (loss) income	$(226,505)	$(137,125)	$(83,352)	$11,366	$19,984
Net loss attributable to Noncontrolling interest (Development Partner)	$–	$–	$–	$–	$–
Net (loss) income attributable to Portola:					
Basic	$(226,505)	$(137,125)	$(83,352)	$–	$79
Diluted	$(226,505)	$(137,125)	$(83,352)	$–	$127
Net (loss) income per share attributable to Portola stockholders:					
Basic	$(4.36)	$(3.19)	$(3.65)	$–	$0.06
Diluted	$(4.36)	$(3.19)	$(3.65)	$–	$0.06
Shares used to compute net (loss) income per share attributable to Portola common stockholders:					
Basic	51,981,463	42,977,463	22,842,443	1,350,939	1,249,778
Diluted	51,981,463	42,977,463	22,842,443	2,048,867	2,089,206

(1) To date, substantially all of our revenue has been generated from our collaboration agreements, and we have not generated any commercial product revenue. Revenue in the year ended December 31, 2011 includes $8.3 million that represents the recognition of all remaining deferred revenue following the termination of an exclusive worldwide license and collaboration agreement with Merck & Co., Inc., effective September 30, 2011. Revenue in the year ended December 31, 2012 includes $65.1 million that represents the recognition of all remaining deferred revenue following the termination of an exclusive worldwide license agreement with Novartis Pharma A.G., effective July 1, 2012. See the section of this report entitled “Management’s discussion and analysis of financial condition and results of operations—Financial operations overview—Revenue” for a more detailed description of our revenue recognition with respect to our collaboration agreements.

	As of December 31,				
	2015	2014	2013	2012	2011
Consolidated balance sheet data:					
Cash, cash equivalents and investments	$460,161	$392,303	$319,036	$137,384	$188,089
Working capital	414,431	273,946	247,153	116,089	169,128
Total assets	502,924	416,495	325,731	146,001	193,403
Convertible preferred stock	–	–	–	317,280	317,280
Noncontrolling interest (Development Partner)	2,927	–	–	–	–
Total Portola stockholders' equity (deficit)	427,396	347,802	296,335	(191,569)	(206,105)

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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

Overview

We are a biopharmaceutical company focused on the development and commercialization of novel therapeutics in the areas of thrombosis, other hematologic disorders and inflammation for patients who currently have limited or no approved treatment options. We are advancing our three wholly-owned compounds using novel biomarker and genetic approaches that may increase the likelihood of clinical, regulatory and commercial success of our potentially life-saving therapies. Two of these compounds were discovered through our internal research efforts and one was discovered by Portola scientists during their time at a prior company.

Our Phase 3 programs address significant unmet medical needs in the area of thrombosis, or blood clots. Betrixaban, a U.S. Food and Drug Administration, or FDA,-designated Fast-Track novel oral once-daily inhibitor of Factor Xa, or fXa, is in a Phase 3 clinical trial for extended duration prophylaxis, or preventive treatment, of a form of thrombosis known as venous thromboembolism, or VTE, in acute medically ill patients for 35 days of in-hospital and post-discharge use. We completed enrollment of 7,514 patients in the fourth quarter of 2015 and expect to report top line data from our APEX study in early April 2016. We plan to submit a New Drug Application, or NDA, to the FDA in the second half of 2016, subject to positive APEX data. Currently, there is no anticoagulant approved for extended duration VTE prophylaxis in the acute medically ill population.

Our second Phase 3 compound Andexanet alfa, an FDA-designated breakthrough therapy and orphan drug, is a recombinant protein designed to reverse anticoagulant activity in patients treated with a fXa inhibitor. Andexanet alfa has potential indications for patients anticoagulated with a direct or indirect fXa inhibitor when reversal of anticoagulation is needed, such as in life-threatening or uncontrolled bleeding or for emergency surgery or urgent procedures. We have completed Phase 3 registration studies in healthy volunteers and are currently evaluating Andexanet alfa in Phase 2 clinical trials. We are also conducting a Phase 4 confirmatory trial in patients. We filed a Biologics License Application, or BLA, to the FDA in the first quarter of 2016. The BLA is subject to review under an Accelerated Approval pathway with a Prescription Drug User Fee Act, or PDUFA, date of August 17, 2016. The PDUFA date is the goal date for the FDA to complete its review of the BLA.

Our third product candidate, Cerdulatinib, is an orally available dual kinase inhibitor that inhibits spleen tyrosine kinase, or Syk, and Janus kinases, or JAK, enzymes that regulate important signaling pathways. Cerdulatinib is being developed for hematologic, or blood, cancers and inflammatory disorders. We are currently conducting a Phase 1/2a proof-of-concept study for Cerdulatinib in patients with non-Hodgkin's lymphoma, or NHL, or chronic lymphocytic leukemia, or CLL, who have failed or relapsed on existing marketed therapies or products in development, including patients with identified mutations. In the Phase 1 dose escalation portion of the study, we have yet to reach the maximum tolerated dose and enrollment continues. Based on interim Phase 1 data, we plan to advance Cerdulatinib to the Phase 2a portion of the study, which includes expansion cohorts in select hematologic cancers.

We have a program of highly selective Syk inhibitors, one of which is partnered with Ora Inc., or Ora. We also have entered into an agreement with an early development stage Company to explore a novel approach to develop a drug in

the field of hypercholesterolemia. Based on the terms of the agreement and accounting requirements, we consolidated the early development stage Company and recognized an intangible asset associated with the in-process research and development and a corresponding non-controlling interest in our consolidated financial statements.

We have full worldwide commercial rights to Betrixaban and Cerdulatinib and to Andexanet alfa outside of Japan. In January 2016, we licensed commercial rights to Andexanet alfa in Japan to Bristol-Myers Squibb Company, or BMS, and Pfizer Inc., or Pfizer. We believe we can maximize the value of our company by retaining substantial commercialization rights to these three product candidates and, where appropriate, entering into additional partnerships to develop and commercialize these product candidates. We plan on building a successful enterprise to commercialize Betrixaban and Andexanet alfa, using a hospital-based sales team in the United States and possibly other major markets and with additional partners in other territories.

Financial operations overview

Revenue

Our revenue to date has been generated from collaboration and license revenue pursuant to our collaboration agreements. We have not generated any revenue from commercial product sales to date.

We may also be entitled to additional milestone payments and other contingent payments upon the occurrence of specific events. Due to the nature of these collaboration agreements and the nonlinearity of the earnings process associated with certain payments and milestones, we expect that our revenue will continue to fluctuate in future periods.

In the future, we may receive revenue from sale of our products, if approved. We hope to receive approval for Andexanet alfa in the third quarter of 2016, following which we expect to access the market through a focused, specialized sales force in the United States.

The following table summarizes the sources of our collaboration and license revenue for the years ended December 31, 2015, 2014 and 2013, in thousands:

	Year Ended December 31,		
	2015	2014	2013
Bayer and Janssen	$5,740	$3,598	$3,876
Daiichi Sankyo	4,578	4,287	2,419
BMS and Pfizer	1,540	1,497	4,042
Lee's Pharmaceutical	212	243	194
Total collaboration and license revenue	$12,070	$9,625	$10,531

Research and development expenses

Research and development expenses represent costs incurred to conduct research, such as the discovery and development of our un-partnered product candidates, as well as discovery and development of clinical candidates pursuant to our collaboration agreements. We recognize all research and development costs as they are incurred. Our research and development expenses may increase or decrease by amounts we may pay or receive under various cost-sharing provisions of our collaboration and license agreements.

Payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods are received or services are rendered.

We expect our research and development expenses to be similar or slightly higher in the future as we continue to advance our Phase 3 programs through clinical development and prepare for commercialization. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the size and duration of late stage clinical trials as compared to earlier clinical trials and preclinical development. Upon FDA approval of Andexanet alfa in the United States, which is expected in 2016, a substantial portion of our manufacturing costs will be capitalized as inventory and subsequently expensed as costs of goods sold when the inventory is sold. Expenses incurred for setting up additional manufacturing facilities may be categorized as research and development expense or as manufacturing start-up costs, a component of operating

expenses, based on the significance of the process changes and enhancements at the additional manufacturing facility. The timing and amount of expenses incurred will depend upon FDA approval and the outcomes of current or future clinical studies for our product candidates as well as the related regulatory requirements, start-up manufacturing and supply chain costs and any costs associated with the advancement of our preclinical programs.

The following table summarizes our research and development expenses by product candidate:

	Phase of Development	Year Ended December 31, 2015	2014	2013
		(in thousands)		
Product candidate				
Betrixaban	Phase 3	$80,425	$64,252	$40,641
Andexanet alfa	Phase 3 and 4	106,754	52,576	33,420
Cerdulatinib	Phase 1/2a	10,723	5,861	5,242
Syk selective inhibitor	Pre-clinical	117	(41)	(113)
Other research and development expenses[1]		2,357	991	96
Total research and development expenses[2]		$200,376	$123,639	$79,286

[1] Amounts in all periods include costs for other potential product candidates.

[2] Our research and development expenses have been reduced by reimbursements of certain research and development expenses pursuant to the cost-sharing provisions of our agreements with Biogen Idec commencing in the fourth quarter of 2011 and MyoKardia, Inc. and Global Blood Therapeutics, Inc. commencing in the fourth quarter of 2012.

The program-specific expenses summarized in the table above include costs directly attributable to our product candidates. We allocate research and development salaries, benefits, stock-based compensation and indirect costs to our product candidates on a program-specific basis, and we include these costs in the program-specific expenses. The largest component of our total operating expenses has historically been our investment in research and development activities, including the clinical development and manufacturing of our product candidates. The process of conducting the necessary clinical research to obtain FDA approval is costly and time consuming. We consider the active management and development of our clinical pipeline to be crucial to our long-term success. The actual probability of success for each product candidate and clinical program may be affected by a variety of factors including: the quality of the product candidate, early clinical data, investment in the program, competition, manufacturing capability and commercial viability. Furthermore, in the past we have entered into collaborations with third parties to participate in the development and commercialization of our product candidates, and we may enter into additional collaborations in the future. In situations in which third parties have control over the preclinical development or clinical study process for a product candidate, the estimated completion dates are largely under the control of such third parties and not under our control. We cannot forecast with any degree of certainty which of our product candidates, if any, will be subject to future collaborations or how such arrangements would affect our development plans or capital requirements. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates.

Selling, general and administrative expenses

Selling, general and administrative expenses consist primarily of personnel costs, allocated facilities costs and other expenses for outside professional services, including legal, human resources, audit and accounting services and sales and marketing expenses related to commercial launch preparation. Personnel costs consist of salaries, benefits and stock-based compensation. We also incur additional expenses as a result of operating as a public company, including expenses related to compliance with the rules and regulations of the SEC and those of The NASDAQ Global Select

Market, additional insurance expenses, investor relations activities and other administration and professional services. In addition, if any of our product candidates receive regulatory approval for commercial sale, we expect to incur significant expenses associated with the establishment of a hospital-based sales force in the United States and possibly other major markets, as well as commercial infrastructure initiatives including information technology systems and personnel support for the commercial organization.

Interest and other income, net

Interest and other income, net consists primarily of interest received on our cash, cash equivalents and investments, unrealized gains and losses from the remeasurement of our foreign currency deposits and foreign currency forward contracts.

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 consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the consolidated financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 of our financial statements included in this Annual Report on Form 10-K, we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our financial statements.

Variable Interest Entities

We review agreements we enter into with third party entities, pursuant to which we may have a variable interest in the entity, in order to determine if the entity is a variable interest entity, or VIE. If the entity is a VIE, we assess whether or not we are the primary beneficiary of that entity. In determining whether we are the primary beneficiary of an entity, we apply a qualitative approach that determines whether we have both (1) the power to direct the economically significant activities of the entity and (2) the obligation to absorb losses of, or the right to receive benefits from, the entity that could potentially be significant to that entity. If we determine we are the primary beneficiary of a VIE, we consolidate the statements of operations and financial condition of the VIE into our consolidated financial statements.

Our determination about whether we should consolidate such VIEs is made continuously as changes to existing relationships or future transactions may result in a consolidation or deconsolidation event.

Revenue recognition

We generate revenue from collaboration and license agreements for the development and commercialization of our products. Collaboration and license agreements may include non-refundable or partially refundable upfront license fees, partial or complete reimbursement of research and development costs, contingent consideration payments based on the achievement of defined collaboration objectives and royalties on sales of commercialized products. Our performance obligations under our collaborations include the transfer of intellectual property rights (licenses), obligations to provide research and development services and related clinical drug supply, obligation to provide regulatory approval services and obligations to participate on certain development and/or commercialization committees with the collaborators. Upfront payments are recorded as deferred revenue in our consolidated balance sheet and are recognized as collaboration revenue over our estimated period of performance that is consistent with the terms of the research and development obligations contained in each collaboration agreement. We regularly review the estimated periods of performance related to our collaborations based on the progress made under each arrangement. Our estimates of our performance period may change over the course of the collaboration term. Such a change could have a material impact on the amount of revenue we record in future periods.

Payments that are contingent upon achievement of a substantive milestone are recognized in their entirety in the period in which the milestone is achieved. A milestone is defined as an event that can only be achieved based on our performance and there is substantive uncertainty about whether the event will be achieved at the inception of the arrangement. Events that are contingent only on the passage of time or only on counterparty performance are not

considered milestones subject to this guidance. Further, the amounts received must relate solely to prior performance, be reasonable relative to all of the deliverables and payment terms within the agreement and commensurate with our performance to achieve the milestone after commencement of the agreement. Payments contingent upon achievement of events that are not considered substantive milestones are allocated to the respective arrangements' unit of accounting when received and recognized as revenue based on the revenue recognition policy for that unit of accounting.

Amounts from sales of licenses are recognized as revenue. Amounts received as funding of research and development or regulatory approval activities are recognized as revenue if the collaboration arrangement involves the sale of our research or development and regulatory approval services at amounts that exceed our cost. However, such funding is recognized as a reduction in research and development expense when we engage in a research and development project jointly with another entity, with both entities participating in project activities and sharing costs and potential benefits of the arrangement.

Amounts related to research and development and regulatory approval funding are recognized as the related services or activities are performed, in accordance with the contract terms. Payments may be made to or by us based on the number of full-time equivalent researchers assigned to the collaboration project and the related research and development expenses incurred.

Research and development expenses and related accruals

Research and development costs are expensed as incurred and consist of salaries and benefits, lab supplies, materials and facility costs, as well as fees paid to other nonemployees and entities that conduct certain research and development activities on our behalf. Amounts incurred in connection with collaboration and license agreements are also included in research and development expense. Payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received.

Clinical trial costs are a component of research and development expenses. We accrue and expense clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. We determine the actual costs through monitoring patient enrollment and discussions with internal personnel and external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services.

Manufacturing start-up costs are a component of research and development expenses. We accrue and expense manufacturing start up activities performed by third parties based upon actual work completed in accordance with agreements established with contract manufacturers.

As part of the process of preparing financial statements, we are required to estimate and accrue expenses, the largest of which are research and development expenses. This process involves the following:

- 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;
- estimating and accruing expenses in our financial statements as of each balance sheet date based on facts and circumstances known to us at the time; and
- periodically confirming the accuracy of our estimates with selected service providers and making adjustments, if necessary.

Examples of estimated research and development expenses that we accrue include:

- fees paid to CROs in connection with preclinical and toxicology studies and clinical studies;
- fees paid to investigative sites in connection with clinical studies;
- fees paid to CMOs in connection with the production of clinical study materials; and
- professional service fees for consulting and related services.

We base our expense accruals related to clinical studies on our estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage clinical studies on our behalf. The financial terms of these agreements vary from contract to contract and may result in uneven payment flows. Payments under some of these contracts depend on factors, such as the successful enrollment of patients and the completion of clinical study milestones. Our service providers invoice us monthly in arrears for services performed. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If we do not identify costs that we have begun to incur or if we underestimate or overestimate the level of services performed or the costs of these services, our actual expenses could differ from our estimates.

To date, we have not experienced significant changes in our estimates of accrued research and development expenses after a reporting period. However, due to the nature of estimates, we cannot assure you that we will not make changes to our estimates in the future as we become aware of additional information about the status or conduct of our clinical studies and other research activities.

Stock-based compensation

We recognize compensation costs related to stock options granted to employees based on the estimated fair value of the options on the date of grant, net of estimated forfeitures. We estimate the grant date fair value, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the stock-based option is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective options.

The Black-Scholes option-pricing model requires the use of highly subjective and complex assumptions which determine the fair value of stock-based awards, including the expected term and the price volatility of the underlying stock. The expected term of employee options granted is determined using the simplified method (based on the midpoint between the vesting date and the end of the contractual term). As sufficient trading history does not yet exist for our common stock, therefore our estimate of expected volatility is based on the volatility of other companies with similar products under development, market, size and other factors.

Prior to our IPO in May 2013, stock based compensation cost was measured at the date of grant, based on the estimated fair value of the award as determined by our board of directors and recognized as expense on a straight-line basis over the requisite service period. Our board of directors, with the assistance of management and, in some cases, an independent third-party valuation specialist, determined the estimated fair value of our common stock. In determining the estimated fair value of our common stock, our board of directors used a combination of the market multiple approach and the IPO value approach to estimate the enterprise value of our company in accordance with the American Institute of Certified Public Accountants Accounting and Valuation Guide: Valuation of Privately-Held-Company Equity Securities Issued as Compensation. The per share common stock value was estimated by allocating the enterprise value using the probability-weighted expected return method at each valuation date prior to December 2011 and commencing in December 2012. The per share common stock value was estimated by using the option pricing method at each valuation date between December 2011 and December 2012. For the options granted subsequent to our IPO, the exercise price of stock options is equal to the closing market price of the underlying common stock on the grant date.

We account for stock-based compensation arrangements with non-employees using a fair value approach. The fair value of these options is measured using the Black-Scholes option pricing model reflecting the same assumptions as applied to employee options in each of the reported periods, other than the expected life, which is assumed to be the remaining contractual life of the option. The compensation costs of these arrangements are subject to remeasurement over the vesting terms as earned.

We estimate the fair value of restricted stock units, or RSUs, and performance stock units, or PSUs, based on the fair market values of the underlying stock on the dates of grant. The estimated fair value of RSUs is expensed over the vesting period and the estimated fair value of PSUs is expensed using an accelerated method over the requisite service period based on management's best estimate as to whether it is probable that the shares awarded are expected to vest. We assess the probability of the performance indicators being met on a continuous basis.

We estimate fair value of market-based PSUs, or M-PSUs, based on Monte Carlo simulation models with assistance from an independent third-party valuation specialist. The Monte Carlo simulation models require the use of highly subjective and complex assumptions which determine the fair value of M-PSUs including price volatility of the underlying stock and derived service periods. The assumptions used in calculating the fair value of M-PSUs and expected attainment of performance-based PSUs represent our best estimates, but these estimates involve inherent uncertainties and the application of management judgment.

We expect to continue to grant stock options and awards in the future, and to the extent that we do, our actual stock-based compensation expense recognized in future periods will likely increase.

Income taxes

We file U.S. federal income tax returns and California, Maryland, North Carolina and Pennsylvania state tax returns. To date, we have not been audited by the Internal Revenue Service or any state income tax authority.

We provide for income taxes under the asset and liability method. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Deferred income tax assets and liabilities are determined based on differences between the financial statement reporting and tax bases of assets and liabilities and net operating loss and credit carryforwards, and are measured using the enacted tax rates and laws that will be in effect when such items are expected to reverse. Deferred income tax assets are reduced, as necessary, by a valuation allowance when management determines it is more likely than not that some or all of the tax benefits will not be realized. The recognition, derecognition and measurement of a tax position is based on management's best judgment given the facts, circumstances and information available at the reporting date. Our policy is to recognize interest and penalties related to the underpayment of income taxes as a component of income tax expense or benefit. To date, there have been no interest or penalties charged in relation to the underpayment of income taxes.

As of December 31, 2015, our total deferred tax assets were $ 250.9 million. The deferred tax assets were primarily comprised of federal and state tax net operating losses and tax credit carryforwards. For the year ended December 31, 2015, we have written-off approximately a $194.0 million of the 2013 and 2014 California net operating losses and associated deferred tax assets of $11.3 million relating to the outcome of California Supreme Court case of Gillette Company et al. v. Franchise Tax Board and associated Utilization of the net operating loss and tax credit carryforwards may be subject to an annual limitation due to historical or future ownership percentage change rules provided by the Internal Revenue Code of 1986, and similar state provisions. The annual limitation may result in the expiration of certain net operating loss and tax credit carryforwards before their utilization. In 2016, we performed an analysis on annual limitation as a result of ownership changes that may have occurred through December 2015. Our analysis indicates that a change occurred during 2013. As a result of this change, our net operating loss and tax credit carryforwards will not be subject to limitation in total, but we may be subject to a limitation as it relates to the timing of utilization. However, due to a lack of historical earnings and uncertainties surrounding our ability to generate future taxable income to realize these tax assets, a full valuation allowance has been established to offset our deferred tax assets.

Comparison of the years ended December 31, 2015 and 2014

Collaboration and license revenue

	Year Ended December 31,			
	2015	2014	Increase	% Increase
	(in thousands, except percentages)			
Collaboration and license revenue	$12,070	$9,625	$ 2,445	25 %

The increase in collaboration and license revenue during 2015 compared to 2014 was primarily due to the increase in revenue from Bayer and Janssen of $2.1 million which was attained by an increase in Phase 3 agreement revenue of $2.7 million partially off-set by a decrease in Phase 2 agreement revenue of $623,000. The increase in Phase 3 agreement revenue was driven by achievement of a milestone in 2015 of $2.0 million. Additionally, the Phase 3 agreement was executed at the end of January 2014 and by comparison 2015 included twelve months of upfront consideration recognized compared to eleven months in 2014. Collaboration revenue from Daiichi Sankyo increased net by $291,000 mainly due to an increase from the Phase 3 agreement of $1.8 million, partially offset by a decrease in Phase 2 agreement revenue of $1.5 million. These fluctuations were mainly due to timing differences in the recognition periods. There were immaterial fluctuations in collaboration revenue from BMS and Pfizer and Lee

Pharmaceuticals.

We expect revenue recognized in future periods to fluctuate as we recognize revenue related to our existing collaboration agreements, enter into new collaboration agreements and begin to recognize product revenue following FDA approval and commercial launch of our Phase 3 compounds.

Research and development expenses

	Year Ended December 31,			
	2015	2014	Increase	% Increase
	(in thousands, except percentages)			
Research and development expenses	$200,376	$123,639	$76,737	62 %

The increase in 2015 research and development expenses compared to 2014 was primarily due to the following:

- increased program costs of $54.2 million to advance Andexanet alfa;
- increased program costs of $16.2 million to advance Betrixaban;

- increased program costs of $4.9 million to advance Cerdulatinib; and
- increased development costs of $1.5 million to support early research programs that are not related to or in support of our primary programs of development.

We expect our research and development expenses to be similar or slightly higher as we continue to advance our product candidates through clinical development and prepare for commercialization. The timing and amount of expenses incurred will depend largely upon the outcomes of current or future clinical studies for our product candidates as well as the related regulatory requirements, manufacturing costs and any costs associated with the advancement of our preclinical programs.

Selling, general and administrative expenses

	Year Ended December 31,			
	2015	2014	Increase	% Increase
	(in thousands, except percentages)			
Selling, general and administrative expenses	$38,869	$23,552	$15,317	65 %

The increase in selling, general and administrative expenses during 2015 compared to 2014 was primarily due to increased headcount- related costs of $9.8 million, including an increase in stock-based compensation expense of $5.8 million, increased costs associated with professional and legal fees to support business development collaboration arrangements of $2.9 million and increased expenses for pre-commercial activities such as market research of $2.6 million.

We expect selling, general and administrative expenses to continue to increase as we continue to support our growing business and prepare for commercialization.

Interest and other income, net

	Year Ended December 31,			
	2015	2014	Decrease	% Decrease
	(in thousands, except percentages)			
Interest and other income, net	$305	$441	$ (136)	(31 %)

Interest and other income, net decreased during 2015 compared to 2014 as a result of unfavorable fluctuations in the Euro compared to the U.S. dollar. We incurred higher realized and unrealized foreign exchange fluctuation losses of $1.0 million in 2015 compared to $418,000 in 2014. The decrease was partially off-set by an increase in interest income by $442,000 due to higher cash, cash equivalents and investment balances in 2015.

Comparison of the years ended December 31, 2014 and 2013

Revenue

	Year Ended December 31,			
	2014	2013	Decrease	% Decrease
	(in thousands, except percentages)			
Collaboration and license revenue	$9,625	$10,531	$ (906)	(9)%

The decrease in collaboration and license revenue during 2014 compared to 2013 was primarily due to the decrease in revenue following the completion of our Phase 2 agreement with BMS and Pfizer. We recognized $1.5 million from our Phase 2 agreement with BMS and Pfizer during 2014, compared to revenue of $4.0 million recognized from the same agreement with BMS and Pfizer during 2013. This decrease in collaboration and license revenue was partially offset by an increase in revenue recognized during 2014 from our agreements with Daiichi Sankyo of $4.3 million compared to revenue recognized during 2013 of $2.4 million due to revenue recognized from the second collaboration agreement entered into with Daiichi Sankyo in the third quarter of 2014.

Research and development expenses

	Year Ended December 31,			
	2014	2013	Increase	% Increase
	(in thousands, except percentages)			
Research and development expenses	$123,639	$79,286	$44,353	56%

The increase in research and development expenses during 2014 compared with 2013 was primarily due to the following:

- increased program costs of $23.6 million to advance Betrixaban;
- increased program costs of $19.2 million to advance Andexanet alfa;
- increased program costs of $0.6 million to advance Cerdulatinib; and
- increased development costs of $1.0 million to support early research programs that are not related to or in support of our primary programs of development.

General and administrative expenses

	Year Ended December 31,			
	2014	2013	Increase	% Increase
	(in thousands, except percentages)			
General and administrative expenses	$23,552	$15,423	$8,129	53 %

The increase in general and administrative expenses during 2014 was primarily related to increased headcount related costs including an increase in stock based compensation expense of $3.3 million, and increased costs associated with being a public company including directors and officer’s insurance and director fees of $0.4 million, and higher professional and legal fees to support business development, collaboration arrangements and pre-commercial activities of $4.3 million.

Interest and other income, net

	Year Ended December 31,			
	2014	2013	Decrease	% Decrease
	(in thousands, except percentages)			
Interest and other income (expense), net	$441	$826	$ (385)	(47 %)

Interest and other income, net decreased during 2014 compared with 2013 as a result of unfavorable fluctuations in the Euro compared to the U.S. dollar and the losses related to our Euro forward contracts and foreign currency exchange losses of $0.7 million, partially offset by increased interest income of $0.4 million earned on higher cash, cash equivalents and investments balances.

Liquidity and capital resources

Due to our significant research and development expenditures, we have generated significant operating losses since our inception. We have funded our operations primarily through the sale of equity securities and payments received

from our collaboration partners. Our expenditures are primarily related to research and development activities which include clinical trial costs, manufacturing costs and commercial preparation costs. At December 31, 2015, we had available cash, cash equivalents and investments of $460.2 million. Our cash, cash equivalents and investments are held in a variety of interest-bearing instruments, including investments backed by U.S. government agencies, corporate debt securities and money market accounts. Cash in excess of immediate requirements is invested with a view toward liquidity and capital preservation, and we seek to minimize the potential effects of concentration and degrees of risk.

Since inception, in connection with our agreements with Novartis, Merck, Biogen Idec, BMS and Pfizer, Bayer and Janssen, Lee's and Daiichi, we have received payments in the aggregate amount of $222.2 million, as initial upfront payments, contingent consideration and a milestone payment of which $6.5 million is subject to a 50% refund provision, pursuant to our Phase 3 clinical collaboration agreement with BMS and Pfizer.

In March 2015, we completed an underwritten public offering of 2,870,000 shares of our Common Stock, which included 374,348 shares of Common Stock issued pursuant to the over-allotment option granted to our underwriters, at a public offering price of $40.00 per share. The net proceeds to us from the offering including the over-allotment option, net of underwriting discounts, commissions and offering expenses of approximately $358,000, were approximately $108.4 million.

In December 2015, we completed another underwritten public offering of 3,593,750 shares of our Common Stock, which included 468,750 shares of Common Stock issued pursuant to the over-allotment option granted to our underwriters, at a public offering price of $48.00 per share. The net proceeds to us from the offering, including the over-allotment option, net of underwriting discounts, commissions and offering expenses of approximately $765,000, were approximately $162.7 million.

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,		
	2015	2014	2013
	(in thousands)		
Cash used in operating activities	$(207,252)	$(100,706)	$(63,615)
Cash provided by/(used in) investing activities	$52,945	$(139,152)	$(120,736)
Cash provided by financing activities	$283,282	$179,599	$248,511
Net increase (decrease) in cash	$128,974	$(60,259)	$64,160

Cash used in operating activities

Cash used in operating activities was $207.3 million for the year ended December 31, 2015 reflecting a net loss of $226.5 million, which was decreased by non-cash charges of $22.9 million for stock-based compensation, $3.2 million for amortization of premium on investments and $1.3 million for depreciation and amortization. Cash used in operating activities reflected an increase in net operating assets of $7.7 million, primarily due to an increase in prepaid research and development expense of $15.3 million partially offset by a decrease in prepaid and other long-term assets of $3.6 million related to batch initiation payments to CMC Biologics pursuant to our commercial supply agreement with CMC Biologics, and amortization of upfront payments made to CMC Biologics. Prepaid and other current assets decreased by $1.0 million, mainly due to a decrease in interest receivable on our investment portfolio of $547,000 due to the timing and duration of investments. Our receivables from collaborators increased by $1.0 million relating to achievement of a milestone under our Phase 3 collaboration agreement with Bayer and Janssen. Cash used in operating activities also reflected an increase in accrued research and development costs of $11.7 million related to higher clinical study and related costs as we continue to increase our research and development activities, an increase in accrued compensation and employee benefits of $2.1 million related to our increased headcount, an increase in short term deferred rent balance of $594,000 and long term deferred rent balance of $2.3 million related to our corporate office lease. Accounts payable decreased by $4.1 million, due to timely resolution and processing of invoices. Our deferred revenue decreased by $9.6 million due to amortization and recognition of revenue from various Phase 3 collaboration agreements entered into in 2014.

Cash used in operating activities was $100.9 million for the year ended December 31, 2014 reflecting a net loss of $137.1 million, which was decreased by non-cash charges of $9.3 million for stock-based compensation, $3.7 million for amortization of premium on investments and $1.5 million for depreciation and amortization. Cash used in operating activities also reflected an increase in net operating assets of $21.7 million primarily due to increases in accounts payable and accrued and other liabilities of $6.7 million related to higher clinical study and related costs as we continue to increase our research and development activities, an increase in deferred revenue of $31.4 million due to an increase in deferred revenue of $13.0 million related to the upfront payments received from Bayer and Janssen, $15.0 million related to the upfront payments received from Daiichi Sankyo and $13.0 million related to the upfront payments received from BMS and Pfizer in the year ended December 31, 2014, partially offset by the recognition of collaboration revenue earned of $9.6 million from our collaboration agreements and an increase in accrued compensation and employee benefits of $1.1 million related to our increased headcount. Cash used in operating activities also reflected an increase in prepaid expenses and other current assets of $2.1 million and an increase of prepaid and other long-term assets of $15.6 million related to our upfront payment to CMC Biologics of $14.6 million pursuant to our commercial supply agreement with CMC Biologics. Also reflected in cash used in operating activities is a decrease in receivables from collaborations of $0.3 million due to the receipt of research and development expenses reimbursable from Biogen Idec pursuant to our agreement with Biogen Idec.

74

Cash used in operating activities was $63.6 million for the year ended December 31, 2013, reflecting a net loss of $83.4 million, which was decreased by non-cash charges of $5.0 million for stock-based compensation, $2.3 million for amortization of premium on investments and $1.4 million for depreciation and amortization. Cash used in operating activities also reflected an increase in net operating assets of $11.1 million, primarily due to increases in accounts payable and accrued and other liabilities of $10.1 million related to higher clinical study and related costs, an increase in deferred revenue of $1.2 million due to an increase in deferred revenue of $5.0 million related to the upfront payments received from Bayer and Janssen, $6.0 million related to the upfront payments received from Daiichi Sankyo and $0.7 million related to the upfront payments received from Lee's in the year ended December 31, 2013, partially offset by the recognition of collaboration revenue earned of $10.5 million from our collaboration agreements and an increase in accrued compensation and employee benefits of $0.7 million to support our increased headcount. Cash used in operating activities also reflected an increase in prepaid expenses and other current assets of $0.7 million primarily reflecting higher interest receivable on our investment portfolio of $0.4 million, unrealized gains on our foreign currency forward contracts of $0.4 million, other receivables of $0.4 million related to our agreements with MyoKardia and Global Blood Therapeutics, prepaid premiums for corporate director's and officer's insurance of $0.1 million following the renewal of our corporate insurance program and placement of our public company policies, and prepaid rent of $0.2 million in 2013 partially offset by recognition of clinical trial upfront fees upon contract execution of $0.7 million. Also reflected in 2013 cash used in operating activities is a decrease in other assets following payment and classification of deferred offering costs of $1.6 million and a decrease in receivables from collaborations of $0.4 million due to the receipt of research and development expenses reimbursable from Biogen Idec pursuant to our agreement with Biogen Idec.

Cash provided by/ (used in) investing activities

Cash provided by investing activities of $52.9 million for the year ended December 31, 2015 was primarily related to purchases of investments of $266.1 million and capital equipment purchases of $4.7 million, and increase in restricted cash (Development Partner) of $341,000, partially offset by proceeds from maturities of investments of $324.1 million.

Cash used in investing activities of $139.2 million for the year ended December 31, 2014 was primarily related to purchases of investments of $332.2 million and capital equipment purchases of $1.6 million, partially offset by proceeds from sales of investments of $2.6 million and proceeds from maturities of investments of $192.0 million.

Cash used in investing activities of $120.7 million for the year ended December 31, 2013 was primarily related to purchases of investments of $219.8 million and capital equipment purchases of $0.9 million, partially offset by proceeds from sales of investments of $8.0 million and proceeds from maturities of investments of $92.0 million.

Cash provided by financing activities

Cash provided by financing activities of $283.3 million for the year ended December 31, 2015, was primarily related to proceeds from our public offering, net of underwriting discounts and commissions, of $272.2 million, partially offset by payments of offering costs of $882,000 and proceeds from the exercise of stock options of $11.1 million and proceeds from purchases under our Employee Stock Purchase Plan of $837,000

Cash provided by financing activities of $179.6 million for the year ended December 31, 2014, was primarily related to proceeds from our public offering, net of underwriting discounts and commissions, of $175.2 million, partially offset by payments of offering costs of $0.6 million, and proceeds from the exercise of stock options of $5.0 million.

Cash provided by financing activities of $248.5 million for the year ended December 31, 2013, was primarily related to proceeds from our initial public offering, net of underwriting discounts and commissions, of $131.0 million,

partially offset by payments of deferred offering costs of $5.0 million and proceeds from our follow-on public offering, net of underwriting discounts and commissions, of $120.8 million, partially offset by payments of deferred offering costs of $0.9 million, and proceeds from the exercise of stock options of $2.5 million.

We believe that our existing capital resources, together with interest thereon, will be sufficient to meet our projected operating requirements for at least the next 12 months. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Further, our operating plan may change, and we may need additional funds to meet operational needs and capital requirements for product development and commercialization sooner than planned. We currently have no credit facility or committed sources of capital other than potential milestones receivable under our current collaboration. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates and the extent to which we may enter into additional collaborations with third parties to participate in their development and commercialization, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical studies. Our future funding requirements will depend on many factors, including the following:

- the timing of, and the costs involved in, obtaining regulatory approvals for Andexanet alfa and Betrixaban in the United States, and other international territories, including the cost of any studies or additional activities that the FDA or other regulatory agencies may require us to complete;
- the cost of commercialization activities if Andexanet alfa, Betrixaban or any future product candidates are approved for sale, including marketing, sales and distribution cost and preparedness of our corporate infrastructure; the scope, rate of progress, results and cost of our clinical studies, preclinical testing and other related activities;
- the cost of manufacturing clinical supplies, and establishing commercial supplies, of our product candidates and any products that we may develop, including process improvements in order to manufacture Andexanet alfa at commercial scale;
- the receipt of any collaboration payments;
- the number and characteristics of product candidates that we pursue;
- the cost, timing and outcomes of regulatory approvals;
- the cost and timing of establishing sales, marketing and distribution capabilities;
- the terms and timing of any other collaborative, licensing and other arrangements that we may establish;
- the timing, receipt and amount of sales, profit sharing or royalties, if any, from our potential products;
- the cost of preparing, filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the extent to which we acquire or invest in businesses, products or technologies, although we currently have no commitments or agreements relating to any of these types of transactions;
- any product liability or other lawsuits related to our products or commenced against us;
- the expenses needed to attract and retain skilled personnel; and
- the costs associated with being a public company.

If we need to raise additional capital to fund our operations, funding may not be available to us on acceptable terms, or at all. If we are unable to obtain adequate financing when needed, we may have to delay, reduce the scope of or suspend one or more of our clinical studies, research and development programs or commercialization efforts. We may seek to raise any necessary additional capital through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing and distribution arrangements. To the extent that we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we do raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

Off-balance sheet arrangements and contractual obligations

On July 1, 2014, we entered into a commercial supply agreement with CMC Biologics, pursuant to which CMC Biologics will manufacture clinical and commercial supply of Andexanet alfa and perform pre-validation and validation work on our behalf. Total fixed commitments under the agreement for the purchases of clinical and commercial batches, not taking into account possible price and batch adjustments, are $276.1 million over the life of the agreement from 2016 through 2021.

Under the consolidation accounting guidance, we determined that CMC Biologics is a VIE but that Portola is not CMC Biologics' primary beneficiary and therefore consolidation of CMC Biologics by us is not required. We based this determination on, among other factors, the upfront and reservation payment being akin to a form of subordinated financing, the fixed pricing terms of the arrangement creating variability that is absorbed by the Company, and that we do not have the power to direct the activities that most significantly affect the economic performance of CMC Biologics.

We may terminate the agreement unilaterally if we discontinue the development and commercialization of Andexanet alfa for regulatory, safety, efficacy or other commercial reasons, or if the projected market demand or gross margin of Andexanet alfa is below a minimum threshold, in which case we will be obligated to pay CMC Biologics a termination payment ranging from between $5.0 million and $30.0 million, depending on the time of termination. See Note 7 in the Notes to Consolidated Financial Statements contained in the section of this report entitled "Financial Statements and Supplementary Data" for a more detailed description of these agreements.

The following table summarizes our future contractual obligations, including fixed commitments for the purchase of clinical and commercial batches under the CMC Biologics commercial supply agreement, as of December 31, 2015:

	Payments due by period				
	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years	Total
	(in thousands)				
Contractual Obligations:					
Batch Purchase Commitments	$77,480	$133,640	$52,000	$13,000	$276,120
Purchase commitments	33,204	8,826	–	–	42,029
Operating lease obligations	2,525	5,286	3,460	–	11,271
Total Contractual obligations	$113,209	$147,752	$55,460	$13,000	$329,420

Pursuant to our asset purchase agreement with Millennium Pharmaceuticals, Inc., or Millennium, we are obligated to pay to Millennium royalties on sales of certain products if product sales are ever achieved, which royalty payments will continue until the expiration of the relevant patents or 10 years after the launch, whichever is later. Pursuant to the license agreement between Millennium and us, we are required to make certain license fee, milestone, royalty and sublicense sharing payments to Millennium as we develop, commercialize or sublicense Betrixaban and other products from certain fXa programs as described in the agreement. The Millennium license agreement further provides for additional payments to Millennium of up to $35.0 million based on the achievement of certain milestones related to Betrixaban and the fXa programs. See the section of this report entitled "Business—Collaboration and license agreements—Millennium agreements" for a more detailed description of these agreements.

We have also entered into an agreement pursuant to which a contract manufacturer, Lonza Group Ltd., will fully develop a commercial scale manufacturing process for Andexanet alfa and produce approval-enabling validation lots. The agreement includes purchase commitments aggregating approximately $79.1 million over several years of which $33.6 million is non-cancellable and included in the contractual obligations table above as a purchase commitment.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The primary objective of our investment activities is to preserve our capital to fund our operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of cash equivalents and investments in a variety of securities of high credit quality. As of December 31, 2015, we had cash, cash equivalents and investments of $460.2 million consisting of cash and liquid investments deposited in highly rated financial institutions in the United States. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. However, because our investments are primarily short-term in duration, we believe that our exposure to interest rate risk is not significant and a 1% movement in market interest rates would not have a significant impact on the total value of our portfolio. We actively monitor changes in interest rates.

We contract for the conduct of certain clinical development and manufacturing activities with vendors in Europe. Beginning in 2012, we have utilized foreign currency forward contracts to mitigate our exposure to foreign currency gains and losses. The balance of forward contracts was zero at December 31, 2015. We made payments in the aggregate amount of €22.2 million and £6.1 million to our European vendors during the year ended December 31, 2015. We are subject to exposure due to fluctuations in foreign exchange rates in connection with these agreements and with our cash balance denominated in Euros and British Pounds, to a lesser extent. For the year ended December 31, 2015, the effect of the exposure to these fluctuations in foreign exchange rates was not material.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The Consolidated Financial Statements and related disclosures included in Part IV, Item 15 of this annual report are incorporated by reference into this Item 8.

PORTOLA PHARMACEUTICALS, INC.

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Portola Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Portola Pharmaceuticals, Inc. (the "Company") as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), convertible preferred stock and stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Portola Pharmaceuticals, Inc. at December 31, 2015 and 2014, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Portola Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 29, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Redwood City, California

February 29, 2016

PORTOLA PHARMACEUTICALS, INC.

Consolidated Balance Sheets

(In thousands, except share and per share data)

	December 31, 2015 [1]	2014
Assets		
Current assets:		
Cash and cash equivalents	$186,488	$57,514
Short-term investments	257,713	251,759
Restricted cash (Development Partner)	341	–
Receivables from collaborators	1,000	57
Prepaid research and development	16,976	1,686
Prepaid expenses and other current assets	3,059	4,061
Total current assets	465,577	315,077
Property and equipment, net	6,243	2,776
Intangible asset	3,151	–
Long-term investments	15,960	83,030
Prepaid and other long-term assets	11,993	15,612
Total assets	$502,924	$416,495
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$10,279	$14,084
Accrued compensation and employee benefits	5,459	3,512
Accrued research and development	24,195	12,545
Accrued and other liabilities	2,826	1,421
Deferred revenue, current portion	8,387	9,569
Total current liabilities	51,146	41,131
Deferred revenue, long-term	18,629	27,016
Other long-term liabilities	2,826	546
Total liabilities	72,601	68,693
Stockholders' equity:		
Preferred stock, $0.001 par value, 5,000,000 shares authorized; no shares issued and outstanding	–	–
Common stock, $0.001 par value, 100,000,000 shares authorized at December 31, 2015 and 2014; 56,359,515 shares and 48,766,806 shares issued and outstanding at December 31, 2015 and 2014, respectively	57	49
Additional paid-in capital	1,076,791	770,789
Accumulated deficit	(649,302)	(422,797)
Accumulated other comprehensive income/(loss)	(150)	(239)
Total Portola stockholders' equity	427,396	347,802

Noncontrolling interest (Development Partner)	2,927	–
Total stockholders' equity	430,323	347,802
Total liabilities and stockholders’ equity	$502,924	$416,495

(1) Amounts include the assets and liabilities of a consolidated variable interest entity (“VIE”). Portola's interests and obligations with respect to the VIE's assets and liabilities are limited to those accorded to Portola in its agreement with the VIE. See Note 8, “Asset Acquisition and License Agreements,” to these consolidated financial statements.

See accompanying notes

PORTOLA PHARMACEUTICALS, INC.

Consolidated Statements of Operations

(In thousands, except share and per share data)

	Year Ended December 31,		
	2015	2014	2013
Collaboration and license revenue	$12,070	$9,625	$10,531
Operating expenses:			
Research and development	200,376	123,639	79,286
Selling, general and administrative	38,869	23,552	15,423
Total operating expenses	239,245	147,191	94,709
Loss from operations	(227,175)	(137,566)	(84,178)
Interest and other income, net	305	441	826
Loss before taxes	$(226,870)	$(137,125)	$(83,352)
Income tax benefit	$365	$–	$–
Net loss	$(226,505)	$(137,125)	$(83,352)
Net loss attributable to noncontrolling interest (Development Partner)	$–	$–	$–
Net loss attributable to Portola	$(226,505)	$(137,125)	$(83,352)
Net loss per share attributable to Portola common stockholders:			
Basic and diluted	$(4.36)	$(3.19)	$(3.65)
Shares used to compute net loss per share attributable to Portola common stockholders:			
Basic and diluted	51,981,463	42,977,463	22,842,443

See accompanying notes

PORTOLA PHARMACEUTICALS, INC.

Consolidated Statements of Comprehensive Income (Loss)

(In thousands)

	Year Ended December 31,		
	2015	2014	2013
Net loss	$(226,505)	$(137,125)	$(83,352)
Other comprehensive income:			
Unrealized gain on available-for-sale securities, net of tax	89	(294)	22
Comprehensive loss	(226,416)	(137,419)	(83,330)
Comprehensive loss attributable to noncontrolling interest (Development Partner)	-	-	-
Total comprehensive loss attributable to Portola	$(226,416)	$(137,419)	$(83,330)

See accompanying notes

PORTOLA PHARMACEUTICALS, INC.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)

(In thousands, except share and per share data)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interest (Deve Partner)	Total Stockholders Equity (Defi
	Shares	Amount	Shares	Amount					
Balance at December 31, 2012	24,026,797	317,280	1,385,508	1	10,717	(202,320)	33	–	(191,569)
Exercise of employee stock options for cash	–	–	403,468	–	2,529	–	–	–	2,529
Lapse of repurchase rights related to common shares issued pursuant to early exercises	–	–	500	–	4	–	–	–	4
Conversion of preferred stock warrants to common stock warrants	–	–	–	–	659	–		–	659
Conversion of preferred stock to common stock	(24,026,797)	(317,280)	24,026,797	24	317,256	–	–	–	317,280
Issuance of common stock in connection with initial public offering, net of underwriting discounts, commissions and issuance costs	–	–	9,686,171	11	125,861	–	–	–	125,872
Issuance of common stock in connection with follow-on offering, net of underwriting	–	–	5,412,686	5	119,970	–	–	–	119,975

discounts, commissions and issuance costs									
Employee stock-based compensation expense	–	–	–	–	4,140	–	–	–	4,140
Compensation expense relating to stock options granted to consultants	–	–	–	–	775	–	–	–	775
Unrealized gain on available-for-sale securities, net of tax	–	–	–	–	–	–	22	–	22
Net loss	–	–	–	–	–	(83,352)	–	–	(83,352)
Balance at December 31, 2013	–	–	40,915,130	41	581,911	(285,672)	55	–	296,335
Exercise of employee stock options for cash	–	–	652,125	1	4,398	–	–	–	4,399
Lapse of repurchase rights related to common shares issued pursuant to early exercises	–	–	500	–	4	–	–	–	4
Issuance of common stock upon cashless exercise of common stock warrants	–	–	40,314	–	–	–	–	–	–
Issuance of common stock pursuant to ESPP purchase			28,737	–	579	–	–	–	579
Issuance of common stock in connection with public offering, net of underwriting discounts, commissions and issuance costs	–	–	7,130,000	7	174,614	–	–	–	174,621
Employee stock-based compensation	–	–	–	–	8,514	–	–	–	8,514

expense									
Compensation expense relating to stock options granted to consultants	–	–	–	–	769	–	–	–	769
Unrealized loss on available-for-sale securities, net of tax	–	–	–	–	–	–	(294)	–	(294)
Net loss	–	–	–	–	–	(137,125)	–	–	(137,125)
Balance at December 31, 2014	–	$–	48,766,806	$49	$770,789	$(422,797)	$(239)	$–	$347,802
Exercise of employee stock options for cash	–	–	1,095,486	1	11,110	–	–	–	11,111
Lapse of repurchase rights related to common shares issued pursuant to early exercises	–	–	125	–	–	–	–	–	–
Issuance of common stock upon cashless exercise of common stock warrants	–	–	3,041	–	–	–	–	–	–
Issuance of common stock pursuant to ESPP purchase	–	–	30,307	1	836	–	–	–	837
Issuance of common stock in connection with public offering, net of underwriting discounts, commissions and issuance costs	–	–	6,463,750	6	271,090	–	–	–	271,096
Employee stock-based compensation expense	–	–	–	–	20,172	–	–	–	20,172
Compensation expense relating to stock options granted to consultants	–	–	–	–	2,794	–	–	–	2,794

Unrealized gain on available-for-sale securities, net of tax	–	–	–	–	–	–	89	–	89
Development Partner's noncontrolling interest upon consolidation	–	–	–	–	–	–	–	2,927	2,927
Net loss	–	–	–	–	–	(226,505)	–	–	(226,505)
Balance at December 31, 2015	–	$–	56,359,515	$57	$1,076,791	$(649,302)	$(150)	$2,927	$430,323

See accompanying notes

PORTOLA PHARMACEUTICALS, INC.

Consolidated Statements of Cash Flows

(In thousands)

	Year Ended December 31,		
	2015	2014	2013
Operating activities			
Net loss	$(226,505)	$(137,125)	$(83,352)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation and amortization	1,311	1,542	1,359
Amortization of premium on investment securities	3,174	3,703	2,333
Stock-based compensation expense	22,858	9,333	4,974
Change in reserve for uncertain tax position	(365)	–	–
Revaluation of convertible preferred stock warrant liability	–	–	(24)
Unrealized (gain) loss on foreign currency forward contracts	–	114	(261)
Changes in operating assets and liabilities:			
Receivables from collaborations	(943)	252	353
Prepaid research and development	(15,290)	(745)	718
Prepaid expenses and other current assets	1,001	(1,383)	(1,187)
Prepaid and other long-term assets	3,619	(15,559)	396
Accounts payable	(4,061)	10,763	(1,773)
Accrued compensation and employee benefits	2,054	893	650
Accrued research and development	11,650	(3,565)	12,742
Accrued and other liabilities	1,531	(261)	(834)
Deferred revenue	(9,569)	31,374	1,169
Other long-term liabilities	2,281	(42)	(878)
Net cash used in operating activities	(207,252)	(100,706)	(63,615)
Investing activities			
Purchases of property and equipment	(4,746)	(1,629)	(933)
Increase in restricted cash (Development Partner)	(341)	–	–
Purchases of investments	(266,068)	(332,171)	(219,813)
Proceeds from sales of investments	–	2,603	8,009
Proceeds from maturities of investments	324,100	192,045	92,001
Net cash provided by/ (used in) investing activities	52,945	(139,152)	(120,736)
Financing activities			
Proceeds from public offering of common stock, net of underwriters discount	272,216	175,185	251,865
Payment of public offering costs	(882)	(564)	(5,883)
Proceeds from issuance of common stock pursuant to equity award plans	11,948	4,978	2,529
Net cash provided by financing activities	283,282	179,599	248,511
Net increase (decrease) in cash and cash equivalents	128,974	(60,259)	64,160

Cash and cash equivalents at beginning of year	57,514	117,773	53,613
Cash and cash equivalents at end of year	186,488	57,514	117,773
Noncash investing and financing activities:			
Net change in accrued offering cost	$238	$–	$–
Net change in accounts payable related to purchase of property and equipment	$5	$89	$165

See accompanying notes

PORTOLA PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements

1. Organization

Portola Pharmaceuticals, Inc. (the "Company" or "we" or "our" or "us") is a biopharmaceutical company focused on the development and commercialization of novel therapeutics in the areas of thrombosis, other hematologic disorders and inflammation for patients who currently have limited or no approved treatment options. We were incorporated in September 2003 in Delaware. Our headquarters and operations are located in South San Francisco, California and we operate in one segment.

Our Phase 3 programs address significant unmet medical needs in the area of thrombosis, or blood clots. Betrixaban, a U.S. Food and Drug Administration, or FDA, designated Fast-Track novel oral once-daily inhibitor of Factor Xa, or fXa, is in a Phase 3 clinical trial for extended duration prophylaxis, or preventive treatment, of a form of thrombosis known as venous thromboembolism, or VTE, in acute medically ill patients for 35 days of in-hospital and post-discharge use. Our second Phase 3 compound, Andexanet alfa, an FDA-designated breakthrough therapy and orphan drug, is a recombinant protein designed to reverse anticoagulant activity in patients treated with a fXa inhibitor. Our third product candidate, Cerdulatinib, is an orally available dual kinase inhibitor that inhibits spleen tyrosine kinase, or Syk, and janus kinases, or JAK, enzymes that regulate important signaling pathways. Cerdulatinib is being developed for hematologic, or blood, cancers and inflammatory disorders. We also have a program of highly selective Syk inhibitors, one of which is partnered with Ora, Inc., or Ora.

Initial Public and Other Offerings

In May 2013, we closed our initial public offering ("IPO") of 9,686,171 shares of our common stock, which included 1,263,413 shares of common stock issued pursuant to the over-allotment option granted to our underwriters. The public offering price of the shares sold in the offering was $14.50 per share. The total proceeds from the offering to us, net of underwriting discounts and commissions of approximately $9.4 million, were approximately $131.0 million. After deducting offering expenses payable by us of approximately $5.2 million, net proceeds to us were $125.8 million. Upon the closing of the IPO, all shares of convertible preferred stock then outstanding converted into 24,026,797 shares of common stock. In addition, all of our convertible preferred stock warrants were converted into warrants to purchase common stock.

In October 2013, we completed a follow-on offering of 6,366,513 shares of our common stock, which included 1,908,803 shares of common stock sold by certain existing stockholders, at a public offering price of $23.75 per share. In November 2013, the underwriters exercised their over-allotment option to purchase an additional 954,976 shares from us at the public offering price. The total proceeds from the offering and over-allotment option, net of underwriting discounts and commissions of approximately $7.7 million, were approximately $120.8 million. After deducting offering expenses of approximately $862,000, net proceeds to us were $119.9 million.

In October 2014, we completed an underwritten public offering of 6,200,000 shares of our common stock at a public offering price of $26.00 per share. In addition, the underwriters exercised their over-allotment option to purchase an additional 930,000 shares from us at the public offering price of $26.00. The net proceeds from the offering to us including the over-allotment option, net of underwriting discounts and commissions of approximately $10.2 million were approximately $175.2 million. After deducting offering expenses of approximately $564,000, net proceeds to us were $174.6 million.

In March 2015, we completed an underwritten public offering of 2,870,000 shares of our Common Stock, which included 374,348 shares of Common Stock issued pursuant to the over-allotment option granted to our underwriters, at a public offering price of $40.00 per share. The net proceeds from the offering to us including the over-allotment option, net of underwriting discounts, commissions and offering expenses of approximately $358,000, were approximately $108.4 million.

In December 2015, we completed an underwritten public offering of 3,593,750 shares of our Common Stock, which included 468,750 shares of Common Stock issued pursuant to the over-allotment option granted to our underwriters, at a public offering price of $48.00 per share. The net proceeds from the offering to us including the over-allotment option, net of underwriting discounts, commissions and offering expenses of approximately $765,000 were approximately $162.7 million.

2. Summary of Significant Accounting Policies

Basis of Consolidation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). The accompanying consolidated financial statements include the accounts of Portola and its wholly owned subsidiaries and a Development Partner that is a variable interest entity (a "VIE") for which Portola is deemed, under applicable accounting guidance to be the primary beneficiary as of December 31, 2015. For the consolidated VIE, we record net loss attributable to noncontrolling interests in our Consolidated Statements of Operations equal to the percentage of the economic or ownership interest retained in such VIE by the respective noncontrolling parties. Unless otherwise specified, references to the Company are references to Portola and its consolidated subsidiaries and VIE. All intercompany transactions and balances have been eliminated upon consolidation.

Reclassification

Prepaid expenses and other current assets in the prior year Consolidated Balance Sheet of $5.7 million have been reclassified to $1.7 million and $4.0 million in Prepaid research and development and Prepaid expenses and other current assets, respectively, and Accrued and other liabilities in the prior year Consolidated Balance Sheet of $14.0 million has been reclassified to $12.6 million and $1.4 million in Accrued research and development and Accrued and other liabilities, respectively, to conform to current-period presentation. Corresponding changes in Changes in operating assets and liabilities within the Consolidated Statement of Cash Flows have been adjusted to conform to these reclassifications.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent liabilities and the reported amounts of revenues and expenses in the consolidated financial statements and the accompanying notes. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, clinical trial accruals, fair value of assets and liabilities, income taxes, in-process research and development, the consolidation of VIEs and deconsolidation of VIEs and stock-based compensation. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results may differ from those estimates.

Variable Interest Entities

We review agreements we enter into with third party entities, pursuant to which we may have a variable interest in the entity, in order to determine if the entity is a VIE. If the entity is a VIE, we assess whether or not we are the primary beneficiary of that entity. In determining whether we are the primary beneficiary of an entity, we apply a qualitative approach that determines whether we have both (1) the power to direct the economically significant activities of the entity and (2) the obligation to absorb losses of, or the right to receive benefits from, the entity that could potentially be significant to that entity. If we determine we are the primary beneficiary of a VIE, we consolidate the statements of operations and financial condition of the VIE into our consolidated financial statements.

Our determination about whether we should consolidate such VIEs is made continuously as changes to existing relationships or future transactions may result in a consolidation or deconsolidation event.

In-process Research and Development Asset

In-process research and development asset relates to our consolidated VIE and are considered to be indefinite-lived until the completion or abandonment of the associated R&D efforts. We recorded the value of the in-process research and development asset at its fair value as of the transaction date. This asset is accounted for as an indefinite-lived intangible asset and maintained on the Company's consolidated balance sheet until either the project underlying it is completed or the asset becomes impaired. If the project is completed, which generally occurs if and when regulatory approval to market a product is obtained, the carrying value of the related intangible asset is amortized as a part of cost of product revenues over the remaining estimated life of the asset beginning in the period in which the project is completed. If the asset becomes impaired or is abandoned, the carrying value of the related intangible asset is written down to its fair value and an impairment charge is taken in the period in which the impairment occurs. In-process research and development asset is tested for impairment on an annual basis, and more frequently if indicators are present or changes in circumstances suggest that impairment may exist. Please refer to Note 8, “Asset Acquisition and License Agreements,” for further information.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and other highly liquid investments with original maturities of three months or less from the date of purchase.

Investments in Marketable Securities

All investments in marketable securities have been classified as “available-for-sale” and are carried at estimated fair value as determined based upon quoted market prices or pricing models for similar securities. Management determines the appropriate classification of our investments in debt securities at the time of purchase and reevaluates such designation as of each balance sheet date. Unrealized gains and losses are excluded from earnings and were reported as a component of accumulated comprehensive income (loss). Realized gains and losses and declines in fair value judged to be other than temporary, if any, on available-for-sale securities are included in interest and other income, net. The cost of securities sold is based on the specific-identification method. Interest on marketable securities is included in interest and other income, net.

Fair Value Measurements

Fair value accounting is applied for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis.

Concentration of Risk

Financial instruments that potentially subject us to concentrations of credit risk consist of cash, cash equivalents, receivables from collaborations and investments. Our investment policy limits investments to certain types of debt securities issued by the U.S. government, its agencies and institutions with investment-grade credit ratings and places restrictions on maturities and concentration by type and issuer. We are exposed to credit risk in the event of a default by the financial institutions holding our cash, cash equivalents and investments and issuers of investments to the extent recorded on the consolidated balance sheets.

Receivables from collaborations are typically unsecured and are concentrated in the pharmaceutical industry. Accordingly, we may be exposed to credit risk generally associated with pharmaceutical companies or specific to our collaboration agreements. To date, we have not experienced any losses related to these receivables.

Certain materials and key components that we utilize in our operations are obtained through single suppliers. Since the suppliers of key components and materials must be named in a biologics drug application (BLA) or new drug application (NDA) filed with the U.S. Food and Drug Administration (FDA) for a product, significant delays can occur if the qualification of a new supplier is required. If delivery of material from our suppliers were interrupted for any reason, we may be unable to supply any of our product candidates for clinical trials.

Collaboration Customer Concentration

Collaboration customers who accounted for 10% or more of total collaboration and license revenues were as follows:

	Year Ended December 31,		
	2015	2014	2013

Bayer Pharma, AG and Janssen Pharmaceuticals, Inc.	48%	37%	37%
Daiichi Sankyo, Inc.	38%	45%	23%
Bristol-Myers Squibb Company and Pfizer Inc.	13%	16%	38%

Property and Equipment

Property and equipment are stated at cost and depreciated using the straight-line method over the estimated useful lives of the assets, ranging from two to five years. Leasehold improvements are amortized over the shorter of their estimated useful lives or the related lease term.

Impairment of Long-Lived Assets

We review long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Specific potential indicators of impairment include a significant decrease in the fair value of an asset, a significant change in the extent or manner in which an asset is used or a significant physical change in an asset, a significant adverse change in legal factors or in the business climate that affects the value of an asset, an adverse action or assessment by the FDA or another regulator or a projection or forecast that demonstrates continuing losses associated with an income producing asset. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. Impairment, if any, is assessed using discounted cash flows or other appropriate measures of fair value. Through December 31, 2015, there have been no such losses.

Deferred Rent

We recognize rent expense on a straight-line basis over the noncancelable term of our operating lease and, accordingly, record the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. We also record lessor-funded lease incentives, such as reimbursable leasehold improvements, as a deferred rent liability, which is amortized as a reduction of rent expense over the noncancelable term of our operating lease.

Revenue Recognition

We generate revenue from collaboration and license agreements for the development and commercialization of our products. Collaboration and license agreements may include non-refundable or partially refundable upfront license fees, partial or complete reimbursement of research and development costs, contingent consideration payments based on the achievement of defined collaboration objectives and royalties on sales of commercialized products. Our performance obligations under our collaborations include the transfer of intellectual property rights (licenses), obligations to provide research and development services and related clinical drug supply, obligation to provide regulatory approval services and obligations to participate on certain development and/or commercialization committees with the collaborators. Upfront payments are recorded as deferred revenue in our consolidated balance sheet and are recognized as collaboration revenue over our estimated period of performance that is consistent with the terms of the research and development obligations contained in each collaboration agreement. We regularly review the estimated periods of performance related to our collaborations based on the progress made under each arrangement. Our estimates of our performance period may change over the course of the collaboration term. Such a change could have a material impact on the amount of revenue we record in future periods.

Payments that are contingent upon achievement of a substantive milestone are recognized in their entirety in the period in which the milestone is achieved. A milestone is defined as an event that can only be achieved based on our performance and there is substantive uncertainty about whether the event will be achieved at the inception of the arrangement. Events that are contingent only on the passage of time or only on counterparty performance are not considered milestones subject to this guidance. Further, the amounts received must relate solely to prior performance, be reasonable relative to all of the deliverables and payment terms within the agreement and commensurate with our performance to achieve the milestone after commencement of the agreement. Payments contingent upon achievement of events that are not considered substantive milestones are allocated to the respective arrangements unit of accounting when received and recognized as revenue based on the revenue recognition policy for that unit of accounting.

Amounts from sales of licenses are recognized as revenue. Amounts received as funding of research and development or regulatory approval activities are recognized as revenue if the collaboration arrangement involves the sale of our research or development and regulatory approval services at amounts that exceed our cost. However, such funding is

recognized as a reduction in research and development expense when we engage in a research and development project jointly with another entity, with both entities participating in project activities and sharing costs and potential benefits of the arrangement.

Amounts related to research and development and regulatory approval funding are recognized as the related services or activities are performed, in accordance with the contract terms. Payments may be made to or by us based on the number of full-time equivalent researchers assigned to the collaboration project and the related research and development expenses incurred.

Research and Development

Research and development costs are expensed as incurred and consist of salaries and benefits, lab supplies, materials and facility costs, as well as fees paid to other nonemployees and entities that conduct certain research and development activities on our behalf. Amounts incurred in connection with collaboration and license agreements are also included in research and development expense. Payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods are received or services are rendered.

Clinical Trial Accruals

Clinical trial costs are a component of research and development expenses. We accrue and expense clinical trial activities performed by third parties based upon actual work completed in accordance with agreements established with clinical research organizations and clinical sites. We determine the actual costs through monitoring patient enrollment and discussions with internal personnel and external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services. The Company has not experienced any material deviations between the accrued clinical trial expenses and actual clinical trial expenses. However, actual services performed, number of patients enrolled and the rate of patient enrollment may vary from our estimates, resulting in adjustments to clinical trial expense in futures periods.

Stock-Based Compensation

Employee stock-based compensation cost is measured at the grant date, based on the fair value of the award. The compensation cost is recognized as expense on a straight-line basis over the vesting period for options and restricted stock units (“RSUs”) and on an accelerated basis for market-based performance stock units (“M-PSUs”) and performance-based performance stock units (“PSUs”). For stock option grants, we use the Black-Scholes option pricing model to determine the fair value of stock options. This model requires us to make assumptions such as expected term, dividends, volatility and forfeiture rates that determine the stock options fair value. These key assumptions are based on peer companies compared to historical information and judgment regarding market factors and trends. If actual results are not consistent with our assumptions and judgments used in estimating these factors, we may be required to increase or decrease compensation expense, which could be material to its results of operations. For M-PSU awards, we use the Monte-Carlo option pricing model to determine the fair value of awards at the date of issue. The Monte-Carlo option-pricing model uses similar input assumptions as the Black-Scholes model; however, it further incorporates into the fair-value determination the possibility that the performance-based market condition may not be satisfied. Compensation costs related to awards with a market-based condition are recognized regardless of whether the market condition is ultimately satisfied. Compensation cost is not reversed if the achievement of the market condition does not occur. For RSUs and PSU awards, we base the fair value of awards on the closing market value of our common stock at the date of grant.

Equity instruments issued to nonemployees, consisting of stock options granted to consultants, are valued using the Black-Scholes option-pricing model. Stock-based compensation expense for nonemployee services is subject to remeasurement as the underlying equity instruments vest and is recognized as an expense over the period during which services are received.

Income Taxes

We provide for income taxes under the asset and liability method. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Deferred income tax assets and liabilities are determined based on differences between the consolidated financial statement reporting and tax basis of assets and liabilities and net operating loss and credit carryforwards, and are measured using the enacted tax rates and

laws that will be in effect when such items are expected to reverse. Deferred income tax assets are reduced, as necessary, by a valuation allowance when management determines it is more likely than not that some or all of the tax benefits will not be realized. The recognition, derecognition and measurement of a tax position is based on management's best judgment given the facts, circumstances and information available at the reporting date. Our policy is to recognize interest and penalties related to the underpayment of income taxes as a component of income tax expense or benefit. To date, there have been no interest or penalties charged in relation to the underpayment of income taxes.

Foreign Currency Transactions and Hedging

We have financial transactions denominated in foreign currencies, primarily the Euro and British Pound, and, as a result, are exposed to changes in foreign currency exchange rates. We manage a portion of these cash flow exposures through purchasing and holding of Euros and British Pounds and the use of foreign currency forward contracts. Our foreign currency forward contracts are not designated as hedges for accounting purposes. Gains or losses on foreign currency forward contracts are intended to offset gains or losses on the underlying net exposures in an effort to reduce the earnings and cash flow volatility resulting from fluctuating foreign currency exchange rates. Foreign currency deposits we hold are remeasured using period end spot rates. Foreign currency forward contracts are marked to market at the end of each period and recorded as gains and losses in the condensed consolidated statements of operations.

We held no foreign currency forward contracts at December 31, 2015 or December 31, 2014.

We recorded an unrealized loss of $114,000 in interest and other income (expense), net in our consolidated statements of operations related to foreign currency forward contracts for the year ended December 31, 2014. During the year ended December 31, 2014, we settled foreign currency forward contracts and recognized a realized loss of $258,000 in interest and other income (expense), net.

Net Loss per Share Attributable to Portola Common Stockholders

Basic net loss per share attributable to Portola Common Stockholders is calculated by dividing the net loss attributable to Portola Common Stockholders by the weighted-average number of shares of Common Stock outstanding for the period. Diluted net loss per share attributable to Portola Common Stockholders is computed by giving effect to all potential dilutive Common Stock equivalents outstanding for the period. Diluted net loss per share attributable to Portola Common Stockholders is the same as basic net loss per share attributable to Portola Common Stockholders, since the effects of potentially dilutive securities are antidilutive.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (the “FASB”), jointly with the International Accounting Standards Board, issued ASU 2014-09, Revenue from Contracts with Customers. In August 2015, FASB issued ASU 2015-14 to defer the effective date of this standard by one-year to 2018 for public companies, with an option that would permit companies to adopt the standard as early as the original effective date of 2017. Early adoption prior to the original effective date is not permitted. The new standard may be adopted either retrospectively or on a modified retrospective basis whereby the new standard would be applied to new contracts and existing contracts with remaining performance obligations as of the effective date, with a cumulative catch-up adjustment recorded to beginning retained earnings at the effective date for existing contracts with remaining performance obligations. We are currently evaluating the impact of our pending adoption of this standard on our consolidated financial statements.

In February 2015, the Financial Accounting Standards Board (the “FASB”) issued ASU 2015-02, Consolidation: amendment to the consolidation analysis that modifies existing consolidation guidance for reporting organizations that are required to evaluate whether they should consolidate certain legal entities. The new consolidation guidance is effective for the Company in the first quarter of fiscal 2016 and requires either a retrospective or a modified retrospective approach to adoption. Early adoption is permitted. We are currently evaluating the impact of our pending adoption of this standard on our consolidated financial statements.

In November 2015, the Financial Accounting Standards Board (“FASB”) issued ASU 2015-17, Income Taxes (Topic740): Balance Sheet Classification of Deferred Taxes, which simplifies the presentation of deferred income taxes. This ASU requires that deferred tax assets and liabilities be classified as non-current in a statement of financial

position. The standard will be effective for financial statements issued for annual periods beginning after December 15, 2016, and interim periods within those annual periods. Early adoption is permitted for financial statements that have not been previously issued. The ASU may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The Company has elected to early adopt ASU 2015-17, effective in the fourth quarter of calendar year 2015, and did not retrospectively adjust any prior periods.

3. Fair Value Measurements

Financial assets and liabilities are recorded at fair value. The carrying amounts of certain of our financial instruments, including cash and cash equivalents, short-term investments, receivables from collaborations, prepaid research and development prepaid expenses and other current assets and accounts payable, accrued research and development, accrued compensation and employee benefits, accrued and other liabilities and deferred revenue, approximate their fair value due to their short maturities. The accounting guidance for fair value provides a framework for measuring fair value, clarifies the definition of fair value and expands disclosures regarding fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date. The accounting guidance establishes a three-tiered hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value as follows:

Level 1 – Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2 – Inputs (other than quoted market prices included in Level 1) are either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument’s anticipated life.

Level 3 – Inputs reflect management’s best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

A financial instrument’s categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Where quoted prices are available in an active market, securities are classified as Level 1. We classify money market funds as Level 1. When quoted market prices are not available for the specific security, then we estimate fair value by using quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs obtained from various third party data providers, including but not limited to, benchmark yields, interest rate curves, reported trades, broker/dealer quotes and market reference data. We classify our corporate notes, commercial paper, U.S. Treasuries and government agency securities and foreign currency forward contracts as Level 2. Level 2 inputs for the valuations are limited to quoted prices for similar assets or liabilities in active markets and inputs other than quoted prices that are observable for the asset or liability. Mid-market pricing is used as a practical expedient for fair value measurements. The fair value measurement of any asset or liability must reflect the non-performance risk of the entity and the counterparty to the transaction. Therefore, the impact of the counterparty’s creditworthiness, when in an asset position, and our creditworthiness, when in a liability position, has also been factored into the fair value measurement of the derivative instruments and did not have a material impact on the fair value of these derivative instruments. Both we and the counterparty are expected to continue to perform under the contractual terms of the instruments.

There were no transfers between Level 1 and Level 2 during the periods presented.

In certain cases where there is limited activity or less transparency around inputs to valuation, securities are classified as Level 3. Our noncontrolling interest (Development Partner) includes the fair value of the contingent milestone and royalty payments, which is valued based on Level 3 inputs. Please refer to Note 8, "Asset Acquisition and License Agreements," for further information.

The following table sets forth the fair value of our financial assets and liabilities (excluding consolidated VIE's cash), allocated into Level 1, Level 2 and Level 3, that was measured on a recurring basis (in thousands):

	December 31, 2015			
	Level 1	Level 2	Level 3	Total
Financial Assets:				
Money market funds	$22,074	$–	$ –	$22,074
Corporate notes and commercial paper	–	242,033	–	242,033
U.S. government agency securities	–	180,876	–	180,876
Total financial assets	$22,074	$422,909	$ –	$444,983

	December 31, 2014			
	Level 1	Level 2	Level 3	Total
Financial Assets:				
Money market funds	$24,915	$–	$ –	$24,915
Corporate notes and commercial paper	–	226,047	–	226,047
U.S. government agency securities	–	120,169	–	120,169
Total financial assets	$24,915	$346,216	$ –	$371,131

4. Financial Instruments

Cash equivalents and short-term and long-term investments, all of which are classified as available-for-sale securities, consisted of the following (in thousands):

	December 31, 2015				December 31, 2014			
	Cost	Unrealized Gains	Unrealized (Losses)	Estimated Fair Value	Cost	Unrealized Gains	Unrealized (Losses)	Estimated Fair Value
Money market funds	$22,074	$ –	$ –	$22,074	$24,915	$ –	$ –	$24,915
Corporate notes and commercial paper	242,089	3	(59)	242,033	226,209	8	(170)	226,047
U.S. government agency securities	180,970	1	(95)	180,876	120,246	4	(81)	120,169
	$445,133	$ 4	$ (154)	$444,983	$371,370	$ 12	$ (251)	$371,131
Classified as:								
Cash equivalents				$171,310				$36,341
Short-term investments				257,713				251,759
Long-term investments				15,960				83,030
Total cash equivalents and investments				$444,983				$371,131

At December 31, 2015, the remaining contractual maturities of available-for-sale securities were less than two years. There have been no significant realized gains or losses on available-for-sale securities for the periods presented. Available-for-sale debt securities that were in a continuous loss position but were not deemed to be other than temporarily impaired were immaterial at both December 31, 2015 and 2014.

5. Balance Sheet Components

Property and Equipment

Property and equipment consists of the following (in thousands):

	December 31,	
	2015	2014
Computer equipment	$960	$734
Capitalized software	$865	674
Equipment	$5,874	4,852
Leasehold improvements	$7,529	4,217
	15,228	10,477
Less accumulated depreciation and amortization	(8,985)	(7,701)
Property and equipment, net	$6,243	$2,776

Accrued and Other Liabilities

Accrued and other liabilities consist of the following (in thousands):

	December 31,	
	2015	2014
Commercial related	$783	$–
Legal and accounting fees	506	354
Deferred rent	721	127
Other	816	940
Total accrued liabilities	$2,826	$1,421

6. Collaboration and License Agreements

Summary of Collaboration and License Revenue

We have recognized revenue from our collaboration and license agreements as follows (in thousands):

	Year Ended December 31,		
	2015	2014	2013
Bayer and Janssen	$5,740	$3,598	$3,876
Daiichi Sankyo	4,578	4,287	2,419
BMS and Pfizer	1,540	1,497	4,042
Lee's Pharmaceutical	212	243	194
Total collaboration and license revenue	$12,070	$9,625	$10,531

Bayer Pharma, AG (“Bayer”) and Janssen Pharmaceuticals, Inc. (“Janssen”)

In February 2013, we entered into a three-way agreement with Bayer and Janssen to include subjects dosed with rivaroxaban, their fXa inhibitor product, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting this clinical study. Under the terms of the agreement, Bayer and Janssen have each provided us with an upfront and non-refundable fee of $2.5 million, for total consideration of $5.0 million. The agreement also provides for additional non-refundable payments to us from Bayer and Janssen of $250,000 each for an aggregate of $500,000 following the delivery of the final written study report of our Phase 2 proof-of-concept studies of Andexanet alfa. Also, we are obligated to participate on a Joint Collaboration Committee (“JCC”) with Bayer and Janssen to oversee the collaboration activities under the agreement.

We identified the following performance deliverables under the agreement: 1) the obligation to provide research and development services, which includes supplying Andexanet alfa and providing a final written report, and 2) the obligation to participate on the JCC. We considered the provisions of the multiple-element arrangement guidance in determining how to recognize the revenue associated with these two deliverables. We have accounted for the research

and development services and our participation on the JCC as a single unit of accounting as neither deliverable has standalone value and both obligations will be delivered throughout the estimated period of performance. We originally estimated the period of performance to be through the fourth quarter of 2013. During 2013, we added more cohorts than originally planned as part of the original study design at the inception of our agreement and therefore adjusted our period of performance to be through the fourth quarter of 2014. The total upfront consideration under this agreement was recognized as revenue on a straight-line basis over the performance period through the fourth quarter of 2014.

For the year ended December 31, 2015, 2014 and 2013, we recognized $500,000, $1.1 million and $3.9 million in collaboration revenue, respectively. There was no deferred revenue balance under this agreement as of December 31, 2015 or 2014.

In January 2014, we entered into a three-way agreement with Bayer and Janssen to study the safety and efficacy of Andexanet alfa as a reversal agent to their oral fXa inhibitor, rivaroxaban, in our Phase 3 studies. We are responsible for the cost of conducting this clinical study. Pursuant to our agreement with Bayer and Janssen we are obligated to provide research, development and regulatory services and to participate in a JCC in exchange for an upfront nonrefundable fee of $10.0 million, up to three contingent payments totaling $7.0 million which are payable upon achievement of certain events associated with scaling up our manufacturing process to support a commercial launch, and up to three payments totaling $8.0 million which are payable upon initiation of our Phase 3 study and regulatory approval of Andexanet alfa as a reversal agent to rivaroxaban by the FDA and European Medicines Agency (“EMA”).

We identified the following non-cancellable performance deliverables under the agreement: 1) the obligation to provide research and development services, which include manufacturing and supplying Andexanet alfa and providing various reports, 2) the obligation to provide regulatory approval services, and 3) the obligation to participate on the JCC. We considered the provisions of the multiple-element arrangement guidance in determining how to recognize the total consideration of the agreement. We determined that none of the deliverables have standalone value; all of these obligations will be delivered throughout the estimated period of performance and therefore are accounted for as a single unit of accounting. The total upfront consideration under this agreement is being recognized as revenue on a straight-line basis over the estimated period of performance period. In the third quarter of 2014 we updated our estimated period of performance from the first quarter of 2017 to the first quarter of 2018 to reflect a modification to our clinical development and regulatory plans.

We have determined all but one of the future contingent payments meet the definition of a milestone and that such milestones are substantive in that the consideration is reasonable relative to all of the deliverables and payment terms within the agreement and commensurate with our performance to achieve the milestone after commencement of the agreement. Accordingly, revenue for the achievement of these milestones will be recognized in the period when the milestone is achieved and collectability is reasonably assured. For the year ended December 31, 2015, we recognized $2.0 million in collaboration revenue associated with achievement of a milestone. As of December 31, 2014, no amounts had been recognized as collaboration revenue for any of these milestones. The contingent payment of $3.0 million not considered to be a substantive milestone was received in the third quarter of 2014 and is being recognized as collaboration revenue on a straight-line basis over the estimated remaining performance period through the first quarter of 2018. All remaining contingent payments remained eligible for achievement as of December 31, 2015.

During the years ended December 31, 2015 and 2014, we recognized $5.2 million and $2.5 million in collaboration revenue under this agreement, respectively. The deferred revenue balance under this agreement as of December 31, 2015 and 2014 was $7.2 million and $10.5 million, respectively.

Daiichi Sankyo, Inc. (“Daiichi Sankyo”)

In June 2013, we entered into an agreement with Daiichi Sankyo to include subjects dosed with edoxaban, their fXa inhibitor product, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting this clinical study. Under the terms of the agreement, Daiichi Sankyo will provide us with an upfront fee of $6.0 million, $3.0 million of which was subject to refund should Daiichi Sankyo decide to terminate the agreement. We are obligated to participate on a JCC with Daiichi Sankyo to oversee the collaboration activities under the agreement.

We identified the following performance deliverables under the agreement: 1) the obligation to provide research and development services, which includes supplying Andexanet alfa and providing a final written report, and 2) the obligation to participate on the JCC.

We considered the provisions of the multiple-element arrangement guidance in determining how to recognize the revenue associated with these two deliverables. We have accounted for the research and development services and our participation on the JCC as a single unit of accounting as neither deliverable has standalone value and both obligations will be delivered throughout the estimated period of performance. We originally estimated the non-contingent consideration under this agreement of $3.0 million would be recorded as revenue on a straight-line basis over the estimated non-contingent performance period through the second quarter of 2014. In December 2013, the JCC agreed to forego certain preclinical studies that were planned in the original study design at the inception of the agreement. As a result of this change, we updated our non-contingent performance period to be through the first quarter of 2014. The recognition of contingent consideration under this agreement of $3.0 million commenced upon resolution of the contingency in the first quarter of 2014 and was originally being recognized over the estimated performance

period through the first quarter of 2015. During the fourth quarter of 2014 we decided to include edoxaban data in our initial BLA filing and thus updated the performance period associated with the contingent payment to be through the fourth quarter of 2015.

For the years ended December 31, 2015, 2014 and 2013, we recognized $1.0 million, $2.5 million and $2.4 million in collaboration revenue associated with the contingent and the non-contingent element of the arrangement, respectively. There was no deferred revenue balance under this agreement as of December 31, 2015. The deferred revenue balance under this agreement as of December 31, 2014 was $1 million.

In July 2014, we entered into an agreement with Daiichi Sankyo to study the safety and efficacy of Andexanet alfa as a reversal agent to their oral fXa inhibitor, edoxaban, in our Phase 3 and Phase 4 studies. We are responsible for the cost of conducting these clinical studies. Pursuant to our agreement with Daiichi Sankyo we are obligated to provide research, development and regulatory services and to participate in a JCC in exchange for an upfront nonrefundable fee of $15.0 million, up to two contingent payments totaling $5.0 million which are payable upon the initiation of our Phase 3 study and achievement of certain events associated with scaling up our manufacturing process to support a commercial launch, and up to four payments totaling $20.0 million which are payable upon acceptance of filing and regulatory approval of Andexanet alfa as a reversal agent to edoxaban by the FDA and EMA.

We identified the following non-cancellable performance deliverables under the agreement: 1) the obligation to provide research and development services, which include manufacturing and supplying Andexanet alfa and providing various reports, 2) the obligation to provide regulatory approval services, and 3) the obligation to participate on the JCC. We considered the provisions of the multiple-element arrangement guidance in determining how to recognize the total consideration of the agreement. We determined that none of the deliverables have standalone value; all of these obligations will be delivered throughout the estimated period of performance and therefore are accounted for as a single unit of accounting. The total upfront consideration under this agreement is being recognized as revenue on a straight-line basis over the estimated performance period through the third quarter of 2018.

We have determined all but one of the future contingent payments meet the definition of a milestone and that such milestones are substantive in that the consideration is reasonable relative to all of the deliverables and payment terms within the agreement are commensurate with our performance to achieve the milestone after commencement of the agreement. Accordingly, revenue for the achievement of these milestones will be recognized in the period when the milestone is achieved and collectability is reasonably assured. As of December 31, 2015, no amounts had been recognized as collaboration revenue for any of these milestones. All of the contingent payments remain eligible for achievement as of December 31, 2015. Amounts for the continent payment not considered to be a substantive milestone will be deferred when received and recognized as collaboration revenue on a straight-line basis over the remaining estimated performance period.

During the years ended December 31, 2015 and 2014 we recognized $3.5 million $1.8 million in collaboration revenue under this agreement, respectively. The deferred revenue balance under this agreement as of December 31, 2015 and 2014 was $9.7 million and $13.2 million, respectively.

Bristol-Myers Squibb Company (“BMS”) and Pfizer Inc. (“Pfizer”)

In October 2012, we entered into a three-way agreement with BMS and Pfizer to include subjects dosed with apixaban, their jointly owned product candidate, in one of our Phase 2 proof-of-concept studies of Andexanet alfa. We are responsible for the cost of conducting this clinical study. BMS and Pfizer will work closely with us on both development and regulatory aspects of Andexanet alfa in connection with our Phase 2 proof-of-concept studies to the extent such matters relate to apixaban. Pursuant to our agreement with BMS and Pfizer we are obligated to provide research and development services and participate on various committees. We originally estimated the period of performance of our obligations to extend through the second quarter 2013. During 2013, we added more cohorts than originally planned as part of the original study design at the inception of our agreement and therefore revised our estimated period of performance to be through the fourth quarter of 2013. The effects of these changes in estimates were not significant.

The total consideration under this agreement of $6.0 million was recognized as revenue on a straight-line basis over the estimated performance period through the fourth quarter of 2013. For the year ended December 31, 2013 we recognized $4.0 million in collaboration revenue.

In January 2014, we entered into a collaboration agreement with BMS and Pfizer to further study Andexanet alfa as a reversal agent for their jointly owned FDA approved oral fXa inhibitor, apixaban, through Phase 3 studies. We initiated Phase 3 studies in the first half of 2014. We are responsible for the cost of conducting this clinical study. Pursuant to our agreement with BMS and Pfizer we are obligated to provide research, development and regulatory approval services and participate in the Joint Collaboration Committee ("JCC") in exchange for a partially refundable upfront fee of $13.0 million and up to five contingent payments totaling $12.0 million due upon achievement of certain development and regulatory events. All consideration received and to be earned under this agreement is subject to a 50% refund contingent upon certain regulatory and/or clinical events.

We concluded that the January 2014 and October 2012 contracts should each be accounted for as standalone agreements. We identified the following non-cancellable performance deliverables under the January 2014 agreement: 1) the obligation to provide research and development services, which include manufacturing and supplying Andexanet alfa and providing various reports, 2) the obligation to provide regulatory approval services, and 3) the obligation to participate on the JCC. We considered the provisions of the multiple-elements arrangement guidance in determining how to recognize the total agreement consideration. We determined that none of the deliverables have standalone value and all of these obligations will be delivered throughout the estimated period of performance and therefore are accounted for as a single unit of accounting. The non-contingent upfront consideration under this agreement of $6.5 million is being recognized on a straight-line basis over the estimated period of performance. In the third quarter of 2014, we revised the remaining estimated period of performance from the first quarter of 2017 to the first quarter of 2018 to reflect a modification to our clinical development and regulatory plans. The contingent upfront consideration of $6.5 million will be recognized if and when the refundable nature of these amounts lapses based upon the achievement of specified regulatory and/or clinical events.

The contingent milestone payments under the January 2014 agreement are not considered substantive because a portion may be refunded upon certain events. The non-contingent portion of any milestone payments will be recognized as collaboration revenue on a straight-line basis from their receipt date thru the estimated remaining period of performance. The contingent portion of the milestone payments will be recognized upon receipt if and when the refundable nature of these amounts lapses based upon the achievement of specified regulatory and/or clinical events. None of these milestones payments had been received at December 31, 2015. Four of the contingent payments totaling $7.5 million remain eligible for payment as of December 31, 2015.

During the years ended December 31, 2015 and 2014 we recognized $1.5 million and $1.5 million in collaboration revenue under this agreement, respectively. The deferred revenue balance under this agreement as of December 31, 2015 and 2014 was $8.4 million and $11.5 million, respectively.

Lee’s Pharmaceutical (HK) Ltd (“Lee’s”)

In January 2013, we entered into an agreement with Lee’s to jointly expand our Phase 3 APEX Study of Betrixaban into China. Under the terms of the agreement, Lee’s provided us with an upfront and non-refundable fee of $700,000 and agreed to reimburse our costs in connection with the expansion of the APEX study into China. Lee’s contracted to lead this study and the regulatory interactions with China’s State Food and Drug Administration. We granted Lee’s an exclusive option to negotiate for the exclusive commercial rights to Betrixaban in China, which may be exercised by Lee’s for 60 days after it receives the primary data analysis report from the Phase 3 APEX study.

We identified the following deliverables under the agreement with Lee’s: 1) the granting of an exclusive option to negotiate for the exclusive commercial rights to Betrixaban in China, 2) the obligation to manufacture and supply product in support of the APEX study in China, 3) the obligation to participate in a joint working group, and 4) the delivery of the primary data analysis report from the APEX study. We considered the provisions of the multiple-element arrangement guidance in determining how to recognize the total consideration of the agreement. We determined that none of the deliverables have standalone value and therefore are accounted for as a single unit of accounting with the upfront fee recognized as revenue on a straight-line basis over the estimated period of performance through the first quarter of 2016. Any reimbursements we may receive from Lee’s for the costs we incur in connection with this agreement have not been material.

For the years ended December 31, 2015, 2014 and 2013, we recognized $212,000, $243,000 and $194,000 in collaboration revenue under this agreement, respectively. The deferred revenue balance as of December 31, 2015 and 2014 was $52,000 and $263,000, respectively.

Ora, Inc. (“Ora”)

In May 2015, we entered into a license and collaboration agreement with Ora pursuant to which we granted Ora an exclusive license to co-develop and co-commercialize one of our specific Syk inhibitors, PRT2761. Ora has the primary responsibility for conducting the research and development and regulatory activities under this agreement. We are obligated to provide assistance in accordance with the agreed- upon development plan as well as participate on various committees.

Under the terms of this risk and cost sharing agreement, each party will incur its own share of development costs. Third-party related development costs will be shared by Ora and us at approximately 60% and 40%, respectively, until an End of Phase 2 meeting with the FDA, and equally thereafter. We are entitled to receive either 50% of the profits, if any, generated by future sales of the products developed under the agreement or royalty payments on such sales, should we opt out of the agreement.

We may opt out of the agreement any time prior to 90 days after an End of Phase 2 meeting with the FDA. The timing of the exercise of our opt out rights would impact future royalties we would be entitled to receive from Ora. Each party may also buy out the rights and interests in the licensed compound by paying the greater of $6.0 million or two times the actual aggregate development cost incurred by both parties before or 90 days after an End of Phase 2 meeting with the FDA.

All costs we incur in connection with this agreement will be recognized as research and development expenses. During the year ended December 31, 2015, costs of $206,000 have been incurred related to this agreement.

Biogen Idec, Inc. (“Biogen Idec”)

In October 2011, we entered into an exclusive, worldwide license and collaboration agreement with Biogen Idec to develop and commercialize selective, novel oral Syk inhibitors for the treatment of autoimmune and inflammatory diseases. In November 2012, we exercised our option to convert the agreement to a fully out-licensed agreement. After the election, we relinquished our right to share profits from sales of products related to PRT2607 and other selective Syk inhibitors, but were entitled to receive future payments up to approximately $370.0 million based on the occurrence of certain development and regulatory events for all licensed compounds. In April 2014, we entered into an amendment to the Biogen Idec license and collaboration agreement under which Biogen Idec released one of the Syk kinase inhibitors to us and we would be required to pay Biogen Idec $15.0 million upon the completion of certain commercial milestones and pay royalties on sales of products approved for the Syk inhibitor.

In May 2015, our agreement with Biogen Idec terminated in its entirety, effective July 2015. The effect of termination resulted in return to us of all compounds subject to the license and collaboration agreement and eliminated all potential future payments from and to Biogen Idec. We did not record any reduction to research and development expense pursuant to the agreement for the year ended December 31, 2015. During the years ended December 31, 2014 and 2013 we recorded reductions in research expense of $210,000 and $804,000 respectively.

Aciex Therapeutics, Inc. (“Aciex”)

In February 2013, we entered into a license and collaboration agreement with Aciex pursuant to which we granted Aciex an exclusive license to co-develop and co-commercialize Cerdulatinib (PRT2070) and certain related compounds for nonsystemic indications, such as the treatment and prevention of ophthalmological diseases by topical administration and allergic rhinitis by intranasal administration. In April 2014, this agreement was amended to release all rights for Cerdulatinib to Portola. The collaboration is now focused on development of other related compounds for topical ophthalmic indications. There were no accounting consequences associated with the amendment. Under the terms of this risk and cost sharing agreement, Portola and Aciex will each incur and report their own internal research and development costs. Further, third-party related development costs will be shared by Aciex and us 60% and 40%, respectively, until the end of the Phase 2 clinical study, and then equally afterwards. Also, we are entitled to receive either one-half of the profits, if any, generated by future sales of the products developed under the agreement or royalty payments. Aciex has the primary responsibility for conducting the research and development activities under this agreement. We are obligated to provide assistance in accordance with the agreed upon development plan as well as participate on various committees. We can opt out of our obligation to share in the development costs at various points in time, the timing of which impacts future royalties we may receive based on product sales made by Aciex. All net costs we incur in connection with this agreement will be recognized as research and development expenses. During 2015, 2014 and 2013, no such costs have been incurred related to this agreement.

In July 2014, Aciex was acquired by Nicox S.A. and the acquisition closed in October 2014. As of December 31, 2015, there has been no change to our agreement with Aciex.

7. Commercial Supply Agreement

In July 2014, we entered into an agreement with CMC ICOS Biologics, Inc. (“CMC Biologics”), a subsidiary of CMC Biologics S.à.r.l., a privately-held contract manufacturing organization, pursuant to which CMC Biologics will manufacture clinical and commercial supply of Andexanet alfa.

Under the agreement, we are required to purchase an aggregate fixed number of batches of Andexanet alfa from CMC Biologics beginning in 2015 through 2021. Total batch commitments under the agreement can be increased or decreased based on the achievement of milestones relating to the regulatory approval process for Andexanet alfa, expansion of existing manufacturing capacity and operational qualification of CMC Biologics’ manufacturing facilities. We made an upfront payment to CMC Biologics in the amount of $10.0 million in July 2014 and have made a reservation payment to CMC Biologics of $4.6 million in November 2014. Both payments will be credited against our future purchases of batches under the agreement.

Total fixed commitments under the agreement for the purchases of clinical and commercial batches, not taking into account possible price and batch adjustments per the terms of the agreement, are approximately $276.1 million. Payments made for purchase of batches since inception of this agreement as of December 31, 2015 amount to $29.0 million.

The term of the agreement is seven years and may be early terminated by either party for the other party's uncured material breach or insolvency. We may also terminate the agreement if CMC Biologics is unable to add additional manufacturing capacity on a timely basis, if certain manufacturing-related regulatory events do not occur before certain deadlines, or if the batch yield is below a certain threshold, in which case we are not obligated to pay CMC Biologics a termination payment and CMC Biologics will be obligated to refund the uncredited amounts of the upfront payment and reservation payment.

In addition, we may terminate the agreement unilaterally if we discontinue the development and commercialization of Andexanet alfa for regulatory, safety, efficacy or other commercial reasons, or if the projected market demand or gross margin of Andexanet alfa is below a minimum threshold. The termination provisions will obligate us to pay CMC Biologics a termination fee between $5.0 million and $30.0 million, depending on the date of termination. The termination fee is highest from 2015 through 2017, and then decreases through 2021. Any remaining upfront payments or reservation payments we have made, not yet credited against the purchase of batches, at the time of termination will be applied against the termination fee.

Under the lease accounting guidance, we determined that the agreement does not contain an embedded lease because the agreement does not convey the right to control the use of CMC Biologics' facility. We based this determination on, among other factors, our right to physically access and/or operate CMC Biologics' facility and one or more parties, other than us, and taking more than a minor amount of the output that will be produced or generated by the CMC Biologics facility during the term of our agreement.

Under the consolidation guidance, we determined that CMC Biologics is a VIE, but that we are not CMC Biologics' primary beneficiary and therefore consolidation of CMC Biologics by us is not required. We based this determination on, among other factors, the upfront and reservation payment being akin to a form of subordinated financing, the fixed pricing terms of the arrangement creating variability that is absorbed by us, and that we do not have the power to direct the activities that most significantly affect the economic performance of CMC Biologics.

As of December 31, 2015, we have not provided financial, or other, support to CMC Biologics that was not previously contractually required. The upfront and reservation payment of $14.6 million is recorded as $11.4 million in prepaid and other long-term assets and $2.9 million in prepaid research and development in the consolidated balance sheet, net of amortization. The unamortized payments made for purchases of batches of $13.0 million are recorded in prepaid research and development in the consolidated balance sheet. These assets represent our maximum exposure to loss under this agreement at December 31, 2015. The upfront payment will be charged to research and development expense, prior to regulatory approval of Andexanet alfa, as batches are delivered. We are currently not able to quantify the exposure to losses associated with the fixed pricing terms of this agreement.

8. Asset Acquisition and License Agreements

Agreement with Early Development Stage Company ("Development Partner")

In December 2015, we entered into an agreement with an early development stage limited liability company to explore a novel approach to develop a drug in the field of hypercholesterolemia. We plan to advance the program in collaboration with the Development Partner through an agreed-upon development plan and are obligated to fund the development effort over the initial term of the arrangement expected to be through August 2016.

At the time of entry into the agreement, we determined that the Development Partner was a variable interest entity and we held a variable interest in the Development Partner's intellectual property assets and the related potential future product candidates these assets may produce. Due to the absence of other significant development programs at the Development Partner, we concluded that the variable interest was in the entity as a whole and not the intellectual property assets. Given the stage of development, we concluded that Development Partner was considered not to be a business as they lacked the processes required to generate outputs.

As we are primarily funding and have the power to unilaterally amend the development plan during the initial term and thus control those activities most significant to the Development Partner, we concluded that we are the primary beneficiary of the Development Partner. Accordingly, the Development Partner is subject to consolidation and we have consolidated the financial statements of the Development Partner since inception of the agreement on December 1, 2015 by (a) eliminating all intercompany balances and transactions; (b) allocating loss attributable to the noncontrolling interest in the Development Partner to net loss attributable to noncontrolling interest in our consolidated statement of operations and reflecting noncontrolling interest on our consolidated balance sheet. Our interest in the Development Partner is limited to the development of the intellectual property asset. The upfront payment of $500,000 and the obligation to fund the development plan represent our maximum exposure to loss under the agreement.

At the inception of the agreement, the identifiable assets, assumed liabilities and non-controlling interest of the Development Partner were recorded at their estimated fair value upon the initial consolidation of the Development Partner, including the intellectual property assets. We estimated the fair value of the intellectual property assets to be $3.2 million and the noncontrolling interest to be $2.9 million. The fair value were estimated using present-value models on potential contingent milestones and royalty payments, based on assumptions regarding the probability of achieving the development milestones, estimate of time to develop the drug candidate, estimates of future cash flows from potential product sales and assumptions regarding the appropriate discount rate.

As of December 31, 2015 we have recorded $2.9 million as the estimated fair value of the Development Partner’s non-controlling interest, $3.2 million as the estimated fair value of In-process research and development and $341,000 of restricted cash in connection with the consolidation of the Development Partner. As of December 31, 2015, we have not provided financial or other support to the Development Partner that was not previously contracted or required. We recorded Development Partner’s cash as restricted cash because (a) we do not have any interest in or control over Development Partner 's cash and (b) the agreement does not provide for these assets to be used for the development of the intellectual property assets developed pursuant to this agreement. Also, as we are funding the development effort since inception of the arrangement, we have not allocated any net loss to the noncontrolling interest.

Millennium Pharmaceuticals, Inc. (“Millennium”)

In November 2003, we acquired patent rights and intellectual property to an ADP Receptor Antagonist Program (“ADP Program”) and a Platelet Biology Program from Millennium. We are obligated to pay royalties on sales of products developed in the ADP Program if product sales are ever achieved.

In November 2007, we elected to continue our development of Betrixaban and the fXa backup chemistry beyond December 1, 2007 and accordingly, paid $5.0 million in cash to Millennium, which was charged to research and development expense, as the rights had no alternative future use. We could owe Millennium up to $35.0 million upon the occurrence of specified events related to Betrixaban and royalties on sales of fXa products, if such product sales are ever achieved.

Astellas Pharma, Inc. (“Astellas”)

In June 2005, we licensed certain rights to research, develop and commercialize Syk inhibitors, including Cerdulatinib, from Astellas.

In 2011, under the terms of the license agreement and in connection with the Biogen Idec collaboration agreement to develop Syk, we paid $7.2 million in cash to Astellas, which was charged to research and development expense as the rights had no alternative future use.

We may be required to pay Astellas up to $71.5 million upon the achievement of certain regulatory, approval and sales events for each Syk inhibitor we develop. In the event that we enter into an agreement with a third party to develop and commercialize Syk inhibitors, we would be required to pay Astellas 20% of any payments (excluding royalties) received under the collaboration. These payments would be creditable against the aforementioned milestone payments. In addition, we are required to pay Astellas royalties for worldwide sales for any commercial Syk inhibitor product.

9. Commitments and Contingencies

We conduct product research and development programs through a combination of internal and collaborative programs that include, among others, arrangements with universities, contract research organizations and clinical research sites. We have contractual arrangements with these organizations; however, these contracts are cancelable on 30 days' notice and our obligations under these contracts are largely based on services performed with the exception of our contract manufacturers. Non-cancelable purchase commitments with contract manufacturing organizations exclusive of the commercial supply agreement disclosed in footnote 7 amount to $33.2 million, $8.1 million and $685,000 in services to be performed in 2016, 2017 and 2018 respectively.

Facility Leases

We lease our corporate, laboratory and other facilities under an operating lease, which has been subject to several amendments necessary to secure additional space and extend the lease term through March 2020. These amendments provided for aggregate tenant improvement allowances of $6.3 million, which are amortized as a reduction to rent expense on a straight-line basis over the lease term. The facility lease agreement, as amended, provide for an early termination right effective March 2018 with nine months advance notice and a termination fee of $1.0 million. The facility lease agreement, as amended, contains scheduled rent increases over the lease term. The related rent expense for this lease is calculated on a straight-line basis, with the difference recorded as deferred rent.

At December 31, 2015, our future minimum commitments under our non-cancelable operating leases were as follows (in thousands):

Year ending December 31:	
2016	$2,525
2017	2,603
2018	2,683
2019	2,764
2020	696
Total	$11,271

Rent expense was $1.7 million, $1.2 million and $803,000 for the years ended December 31, 2015, 2014 and 2013, respectively.

Guarantees and Indemnifications

We indemnify each of our officers and directors for certain events or occurrences, subject to certain limits, while the officer or director is or was serving at our request in such capacity, as permitted under Delaware law and in accordance with our certificate of incorporation and bylaws. The term of the indemnification period lasts as long as an officer or director may be subject to any proceeding arising out of acts or omissions of such officer or director in such capacity.

The maximum amount of potential future indemnification is unlimited; however, we currently hold director and officer liability insurance. This insurance allows the transfer of risk associated with our exposure and may enable us to recover a portion of any future amounts paid. We believe that the fair value of these indemnification obligations is minimal. Accordingly, we have not recognized any liabilities relating to these obligations for any period presented.

10. Stock Based Compensation

Equity Incentive Plan

In January 2013, our Board of Directors adopted our 2013 Equity Incentive Plan, or the 2013 Plan, which became effective upon the closing of our IPO in May 2013. As of December 31, 2015, we are authorized to issue 9,387,452 shares of common stock under the 2013 Plan. The 2013 Plan had 1,422,745 shares of common stock available for future issuance as of December 31, 2015, subject to automatic annual increases each January 1st and will continue through January 1, 2023. The automatic annual share increase is equal to 5 % of the total number of outstanding shares of our common stock on December 31st of the preceding fiscal year, unless the Board of Directors elects to forego or reduce such increase. Further, all remaining shares available under the 2003 Equity Incentive Plan, or the 2003 Plan, were transferred to the 2013 Plan upon adoption. The 2013 Plan provides for the granting of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards and other stock awards to employees, officers, directors and consultants.

Stock Options

Incentive stock options may be granted with exercise prices of not less than 100% of the estimated fair value of our common stock and nonstatutory stock options may be granted with an exercise price of not less than 85% of the estimated fair value of the common stock on the date of grant. Stock options granted to a stockholder owning more than 10% of our voting stock must have an exercise price of not less than 110% of the estimated fair value of the common stock on the date of grant. Stock options are generally granted with terms of up to ten years and vest over a period of four years.

The following table summarizes stock option activity, under our 2013 Plan and related information:

	Shares Subject to Outstanding Stock Options	Weighted-Average Exercise Price Per Share
Balance at December 31, 2014	4,249,168	$ 14.77
Options granted	1,815,991	38.33
Options exercised	(1,095,486)	10.14
Options canceled	(238,190)	26.26
Balance at December 31, 2015	4,731,483	$ 24.19

Additional information related to the status of stock options at December 31, 2015, is as follows (aggregate intrinsic value in thousands):

	Shares	Weighted-Average Exercise Price Per Share	Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding	4,731,483	$ 24.19	7.3	$ 128,996
Vested and expected to vest	4,543,051	$ 23.73	7.2	$ 125,964
Vested	2,341,265	$ 14.92	5.6	$ 85,533

The aggregate intrinsic values of stock options outstanding and exercisable, vested and expected to vest were calculated as the difference between the exercise price of the stock options and the fair value of our common stock as of December 31, 2015. The aggregate intrinsic value of stock options exercised was $35.9 million, $12.5 million and $6.3million for the years ended December 31, 2015, 2014 and 2013, respectively.

The total estimated grant date fair value of stock options vested during the years ended December 31, 2015, 2014 and 2013 was $12.0 million, $9.0 million and $3.8 million, respectively. As of December 31, 2015, total unamortized employee and nonemployee stock-based compensation was $42.4 million, which is expected to be recognized over the remaining estimated vesting period of 2.8 years. The weighted-average grant date fair value of employee stock options granted during the years ended December 31, 2015, 2014 and 2013 was $22.84, $15.73 and $12.46 per share,

respectively.

Additional information regarding our stock options outstanding and vested and exercisable as of December 31, 2015 is summarized below:

	Stock Options Outstanding			Stock Options Vested	
Exercise Prices	Number of Stock Options Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price per Share	Number of Stock Options Vested	Weighted Average Exercise Price Per Share
$3.30 - $5.10	495,133	2.4	$ 4.55	495,133	$ 4.55
$5.30 - $9.00	767,038	4.9	8.18	743,033	8.21
$9.50 - $22.16	483,519	7.3	15.29	321,529	14.88
$22.60-$25.00	330,676	7.9	23.95	162,964	23.95
$25.08-$25.08	523,124	8.0	25.08	251,396	25.08
$25.14-$29.19	522,962	8.7	27.57	170,511	27.83
$29.72-$29.72	542,160	8.8	29.72	127,311	29.72
$35.69-$44.39	578,896	9.0	40.82	53,971	42.84
$44.63 - $51.45	479,225	9.5	47.71	14,506	47.21
$52.74 - $52.74	8,750	9.6	52.74	911	52.74
	4,731,483	7.3	$ 24.19	2,341,265	$ 14.92

Restricted stock units

In January 2015, the Compensation Committee of our Board of Directors approved the commencement of granting restricted stock units to our employees. RSUs are share awards that entitle the holder to receive freely tradable shares of our Common Stock upon vesting. The RSUs cannot be transferred, and until they vest, the awards are subject to forfeiture if employment terminates prior to the release of the vesting restrictions. The RSUs, generally vest equal amounts on each of the first three year anniversaries of the grant date, provided the employee remains continuously employed with us. The fair value of the RSUs is equal to the closing price of our Common Stock on the grant date.

The following table summarizes RSU activity, under our 2013 Plan and related information:

	Shares Subject to Outstanding RSU's	Weighted-Average grant date fair value per share
Balance at December 31, 2014	–	$ –
RSUs granted	187,200	30.74
RSUs canceled	(19,450)	29.72
Balance at December 31, 2015	167,750	$ 30.86

None of these RSUs vested in 2015. We recognized stock-based compensation expenses of $1.5 million in 2015 relating to these RSUs. As of December 31, 2015, there was $3.3 million of unrecognized compensation costs related to these RSUs, which is expected to be recognized over an estimated weighted-average period of 2.0 years.

Performance stock units

In January and June 2015, the Compensation Committee of our Board of Directors approved 165,000 M-PSU awards to our executive officers. Each M-PSU represents a contingent right to receive one share of our Common Stock upon achievement of market-based performance and subject to the recipient's continued employment. At any time during the four years following the date of the grant, a portion of the M-PSUs will vest one year after the date the average closing price of our Common Stock on the NASDAQ Global Select Market is above $50.00 per share for 45 consecutive trading days, and the remaining portion of the grant will vest one year after the date the average closing price of our Common Stock is above $60.00 per share for 45 consecutive trading days. The estimated M-PSU expense is being recognized, on an accelerated basis over the estimated requisite service period, with no adjustments in the future periods based upon our actual Common Stock price.

In June 2015, the Compensation Committee of our Board of Directors approved a program to award up to 69,625 PSUs to certain non-executive employees based on the achievement of goals related to the development of Andexanet alfa and Betrixaban. Each award represents a contingent right to receive one share of our Common Stock upon the achievement of certain performance conditions by pre-specified dates and the award recipient's continued employment. During the third and fourth quarter of 2015, performance conditions were achieved and 40,496 PSUs were granted. The estimated expense associated with these awards is also being recognized, on an accelerated basis, over the vesting period.

The following table summarizes PSU activity, under our 2013 Plan and related information:

	Shares Subject to Outstanding PSU's	Weighted-Average grant date fair value per share
Balance at December 31, 2014	–	$ –
PSUs granted	40,496	49.99
M-PSUs granted	165,000	24.29
PSUs canceled	(235)	49.44
Balance at December 31, 2015	205,261	$ 29.33

None of these PSUs vested in 2015. We recognized stock-based compensation expenses of $2.3 million in 2015 relating to these PSUs. As of December 31, 2015, there was $3.3 million of unrecognized compensation costs related to these PSUs, which is expected to be recognized over an estimated weighted-average period of 1.4 years.

Employee Stock Purchase Plan ("ESPP")

The Board of Directors adopted the 2013 ESPP, effective upon the completion of Portola's initial public offering of its common stock. As of December 31, 2015, we reserved a total of 1,818,314 shares of common stock for issuance under the 2013 ESPP. The reserve for shares available under the ESPP automatically increases on January 1st each year, beginning in 2014, by an amount equal to 2 % of the total number of outstanding shares of our common stock on December 31st of the preceding fiscal year unless the Board of Directors elects to forego or reduce such increases. In 2014, the Board of Directors elected to completely forego the automatic 2015 increase of shares available under the ESPP. The ESPP had 1,759,270 shares of common stock available for future issuance as of December 31, 2015. Eligible employees may purchase common stock at 85 % of the lesser of the fair market value of our Common Stock on the first or last day of the offering period.

Stock-Based Compensation

Stock-based compensation expense, net of estimated forfeitures, is reflected in the consolidated statements of operations as follows (in thousands):

	Year Ended December 31,		
	2015	2014	2013
Research and development	$11,653	$4,551	$2,295

Selling, general and administrative	11,205	4,782	2,679
Total stock-based compensation	$22,858	$9,333	$4,974

Valuation Assumptions

The Fair value of our stock options and purchase rights under our ESPP were determined using the Black-Scholes option valuation model. Option valuation models require the input of subjective assumptions and these assumptions can vary over time. The risk-free rate is based on U.S. Treasury zero-coupon issues with remaining terms similar to the expected terms of the awards. The expected term of employee options granted is determined using the simplified method (based on the midpoint between the vesting date and the end of the contractual term). As sufficient trading history does not yet exist for our common stock, therefore our estimate of expected volatility is based on the volatility of other companies with similar products under development, market, size and other factors. To date, we have not declared or paid any cash dividends and do not have any plans to do so in the future. Therefore, we used an expected dividend yield of zero.

The following table illustrates the weighted-average assumptions for the Black-Scholes option-pricing model used in determining the fair value of these awards:

	Year Ended December 31,		
	2015	2014	2013
Risk-free interest rate			
Stock options	1.54%-1.93%	1.81%-1.89%	1.43%
ESPP	0.14%	0.08%	–
Expected term			
Stock options	6.0 years	6.0 years	6.0 years
ESPP	0.5 years	0.5 years	–
Expected volatility			
Stock options	64% - 66%	69% - 80%	79%
ESPP	62%	73%	–
Dividend yield			
Stock options	–	–	–
ESPP	–	–	–

The weighted-average fair value of the M-PSUs was determined using the Monte Carlo simulation models incorporating the following assumptions:

	Year Ended December 31, 2015 PSUs	
Number of M-PSUs granted	165,000	
Weighted-average grant date stock price	$ 31.95	
Weighted-average risk-free interest rate	1.13	%
Weighted-average volatility	62	%
Dividend yield	–	
Weighted- average fair value per share of M-PSUs granted ($50 Vesting Hurdle)	$ 24.22	
Weighted- average fair value per share of M-PSUs granted ($60 Vesting Hurdle)	$ 24.34	

Options Granted to Nonemployees

We have granted options to purchase shares of common stock to consultants in exchange for services performed. We granted options to purchase, 66,041, 33,888 and 32,943 shares with average exercise prices of $40.85, $25.41 and $19.88 per share, respectively, during the years ended December 31, 2015, 2014 and 2013, respectively. These options vest upon grant or various terms up to four years. We recognized non-employees stock compensation expense of $2.79 million $769,000 and $775,000 during the years ended December 31, 2015, 2014 and 2013, respectively. The fair value of non-employees' options was measured using the Black-Scholes option-pricing model reflecting the same assumptions as applied to employee options in each of the reported years, other than the expected life assumption,

which is assumed to be the remaining contractual life of the option.

11. Net Loss per Share Attributable to Portola Common Stockholders

The following outstanding shares of common stock equivalents were excluded from the computation of diluted net loss per share attributable to Portola common stockholders for the periods presented because including them would have been antidilutive:

	Year Ended December 31,		
	2015	2014	2013
Stock options to purchase Common Stock	4,731,483	4,249,168	3,708,773
Common stock warrants	1,500	6,240	82,575
Restricted stock units	167,750	–	–
Performance stock units	205,261	–	–

12. Employee Benefit Plan

We sponsor a 401(k) Plan, which stipulates that eligible employees can elect to contribute to the 401(k) Plan, subject to certain limitations of eligible compensation. We match employee contributions up to a maximum of 3% of employee salary, $2,000, and $500 per employee for the years ended December 31, 2015, 2014 and 2013, respectively. During the years ended December 31, 2015, 2014 and 2013, we recognized total expense of $525,000, $153, 000 and $59, 000, respectively.

13. Income Taxes

The U.S. income tax provision (benefit) consists of the following (in thousands):

	Year Ended December 31,	
	2015	2014
Current:		
Federal	$ –	$ –
State	(365)	–
	(365)	–
Deferred:		
Federal	$ –	$ –
State	–	–
	–	–
Total provision (benefit) for income taxes	$ (365)	$ –

We recorded an income tax benefit of $365,000 for the year ended December 31, 2015. We did not record a tax provision for the years ended December 31, 2014 and 2013. The effective tax rate of our provision for income taxes differs from the federal statutory rate as follows:

	Year Ended December 31,		
	2015	2014	2013
Federal statutory income tax rate	34.0 %	34.0 %	34.0 %
State income taxes, net of federal benefit	(6.6)	11.2	0.4
Federal and state research credits	2.5	2.7	3.4
Stock based compensation	0.0	(1.6)	(0.2)
FIN 48 release	0.2	0.0	0.0
Other	0.0	(0.1)	(0.5)
Change in valuation allowance	(29.9)	(46.2)	(37.1)
Total tax benefit	0.2 %	0.0 %	0.0 %

The income tax benefit for the year ended December 31, 2015 is due to the release of uncertain tax positions reserve relating to state tax exposures, the statute of which expired during the current period.

The components of U.S. deferred tax assets and (liabilities) are as follows (in thousands):

	December 31,	
	2015	2014
Deferred tax assets:		
Federal and state net operating loss carryforwards	$207,898	$146,725
Federal and state research tax credit carryforwards	18,744	15,337
Deferred revenue	9,192	12,523
Stock options	10,197	3,776
Capitalized acquisition costs	974	1,322
Other	3,942	3,589
Net deferred tax assets before valuation allowance	250,947	183,272
Valuation allowance	(250,947)	(183,272)
Net deferred tax assets	$–	$–

Realization of the deferred tax assets is dependent upon the generation of future taxable income, if any, the amount and timing of which are uncertain. Based on available objective evidence, including the fact that we have incurred significant losses in almost every year since our inception, management believes it is more likely than not that our deferred tax assets are not recognizable. Accordingly, deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by approximately $67.0 million for the year ended December 31, 2015. The valuation allowance increased by approximately $64.0 million for the year ended December 31, 2014.

As of December 31, 2015, we had net operating loss carryforwards for federal income tax purposes of approximately $612.0 million and federal research tax credits of approximately $18.0 million, which expire at various dates in the period from 2024 to 2035. We also have California net operating loss carryforwards of approximately $223.0 million which expire at various dates in the period from 2017 to 2035 and California research tax credits of approximately $5.0 million. Our federal and state net operating loss carryforwards as of December 31, 2015 include amounts resulting from exercises and sales of stock option awards to employees and non-employees. When we realize the tax benefit associated with these stock option exercises as a reduction to taxable income in our returns, we will account for the tax benefit as a credit to stockholders' equity rather than as a reduction of our income tax provision in our consolidated financial statements. Based upon our stock option exercise history, such amounts were not material as of December 31, 2015.

For the year ended December 31, 2015, the Company has written-off approximately $194.0 million of the 2013 and 2014 California net operating losses relating to the outcome of the California Supreme Court case of Gillette Company et al. v. Franchise Tax Board.

We performed an analysis on annual limitation as a result of ownership changes that may have occurred through December 2015. Our analysis indicates that a change occurred during 2013. As a result of this change, our net operating loss and tax credit carryforwards will not be subject to limitation in total, but we may be subject to a limitation as it relates to the timing of utilization. However, due to a lack of historical earnings and uncertainties surrounding our ability to generate future taxable income to realize these tax assets, a full valuation allowance has been established to offset our deferred tax assets. The annual limitation may result in the expiration of net operating losses and credits before utilization.

Uncertain Tax Positions

We are subject to taxation in the United States. We have not been audited by the Internal Revenue Service or any state tax authority. We are no longer subject to audit by the Internal Revenue Service for income tax returns filed before 2013, and by the material state and local tax authorities for tax returns filed before 2012. However, carryforward tax attributes that were generated prior to these years may still be adjusted upon examination by tax authorities.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	Year Ended December 31,		
	2015	2014	2013
Unrecognized tax benefits, beginning of period	$2,906	$2,048	$1,435

Increases due to current period positions	1,091	858	619
Decreases due to current period positions	–	–	–
Decreases due to prior period positions	(404)	–	(6)
Decreases due to the lapse of statutes of limitations	(365)	–	–
Unrecognized tax benefits, end of period	$3,228	$2,906	$2,048

The amount of unrecognized income tax benefits that, if recognized, would affect our effective tax rate was zero and $365,000 as of December 31, 2015 and December 31, 2014, respectively. If the $3.2 million and $2.9 million of unrecognized income tax benefits as of December 31, 2015 and 2014, respectively, is recognized, there would be no impact to the effective tax rate as any change will fully offset the valuation allowance.

14. Related Party Transactions

Our former President and Chief Executive Officer, who is currently a member of our board of directors, is also a co-founder and member of the board of directors of Global Blood Therapeutics, Inc. (“Global Blood”), and a member of the board of directors of MyoKardia, Inc. (“MyoKardia”). In November 2012, we entered into Master Services Agreements with Global Blood and MyoKardia under which we provide certain consulting, preclinical, laboratory and clinical research related services to each of these companies. For the years ended December 31, 2015, 2014 and 2013, we recorded a reduction in research and development expense of $352,000, $594,000 and $816,000, respectively, related to amounts owed to us by Global Blood and MyoKardia under the Master Services Agreements.

As of December 31, 2015 and 2014, receivables from these related parties in the amount of $19,000 and $40,000, respectively, are included in prepaid expenses and other current assets on the consolidated balance sheet.

15. Subsequent Events

In January 2016, we entered into an agreement with BMS and Pfizer to out license development and commercial rights to develop Andexanet alfa as an antidote for apixaban and other fXa inhibitors in Japan. Under the terms of the agreement we will receive an upfront payment of $15.0 million and are eligible to receive potential regulatory and sales-based milestone payments totaling up to $90.0 million, as well as double-digit royalties based on Andexanet alfa net sales in Japan. BMS and Pfizer will be responsible for all development and regulatory activities for Andexanet alfa in Japan and for commercializing the drug in Japan. Separately, in January 2016 we also entered into a clinical collaboration agreement with Bayer to include its fXa inhibitor, rivaroxaban, in this clinical development program in Japan. Under the terms of the Bayer agreement, we will receive an upfront payment of $5.0 million and are eligible to receive an additional milestone payment based on Japanese regulatory approval of Andexanet alfa as an antidote for rivaroxaban. Bayer will provide technical support as well as fund clinical studies of Andexanet alfa with rivaroxaban in Japan. Bayer received no commercial rights under this agreement.

16. Quarterly Financial Data (unaudited)

The following table presents certain unaudited quarterly financial information. This information has been prepared on the same basis as the audited consolidated financial statements and includes all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the unaudited quarterly results of operations set forth herein.

	2015				2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Collaboration and license revenue	$2,359	$2,385	$2,912	$4,414	$2,372	$2,415	$2,427	$2,411

Operating expenses	$(48,863)	$(61,212)	$(58,476)	$(70,694)	$(33,396)	$(33,920)	$(38,204)	$(41,671)
Net loss	$(46,913)	$(58,329)	$(55,158)	$(66,105)	$(30,726)	$(31,350)	$(35,793)	$(39,256)
Net loss per share attributable to Portola common stockholders:								
Basic and diluted	$(0.95)	$(1.12)	$(1.05)	$(1.23)	$(0.75)	$(0.76)	$(0.86)	$(0.82)

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the rules and regulations thereunder, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by Rule 13a-15(b) under the Exchange Act, our management, under the supervision and with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2015. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2015, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the consolidated financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on criteria established in "Internal Control—Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Our management concluded that our internal control over financial reporting was effective as of December 31, 2015.

Our independent registered public accounting firm, Ernst & Young LLP, has audited the effectiveness of our internal control over financial reporting as of December 31, 2015 as stated in their report which is included herein.

Limitations on Effectiveness of Controls and Procedures and Internal Control over Financial Reporting

In designing and evaluating the disclosure controls and procedures and internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal controls over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Portola Pharmaceuticals, Inc.

We have audited Portola Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Portola Pharmaceuticals, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Portola Pharmaceuticals, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Portola Pharmaceuticals, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), convertible preferred stock and stockholders' equity (deficit) and cash flows for each of the three years in the period ended December 31, 2015 of Portola Pharmaceuticals, Inc. and our report dated February 29, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Redwood City, California

February 29, 2016

PART III

Certain information required by Part III is omitted from this annual report on Form 10-K and is incorporated herein by reference to our definitive Proxy Statement for our 2016 Annual Meeting of Stockholders, or the Proxy Statement, which we intend to file pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended, within 120 days after December 31, 2015.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item concerning our directors is incorporated by reference to the information set forth in the sections titled “Election of Directors” and “Corporate Governance” in our Proxy Statement. Information required by this item concerning our executive officers is incorporated by reference to the information set forth in the section entitled “Executive Officers of the Company” in our Proxy Statement. Information regarding Section 16 reporting compliance is incorporated by reference to the information set forth in the section entitled “Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement.

Our written code of ethics applies to all of our directors and employees, including our executive officers, including without limitation our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions. The code of ethics is available on our website at http://www.portola.com in the Investors section under “Corporate Governance.” Changes to or waivers of the code of ethics will be disclosed on the same website. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendment to, or waiver of, any provision of the code of ethics in the future by disclosing such information on our website.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item regarding executive compensation is incorporated by reference to the information set forth in the sections titled “Executive Compensation” in our Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item regarding security ownership of certain beneficial owners and management is incorporated by reference to the information set forth in the section titled “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in our Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item regarding certain relationships and related transactions and director independence is incorporated by reference to the information set forth in the sections titled “Certain Relationships and Related Party Transactions” and “Election of Directors”, respectively, in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item regarding principal accountant fees and services is incorporated by reference to the information set forth in the section titled “Principal Accountant Fees and Services” in our Proxy Statement.

80

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

(1) FINANCIAL STATEMENTS

Financial Statements—See Index to Financial Statements at Item 8 of this report.

(2) FINANCIAL STATEMENT SCHEDULES

Financial statement schedules have been omitted in this report because they are not applicable, not required under the instructions, or the information requested is set forth in the consolidated financial statements or related notes thereto.

(b) Exhibits. The exhibits listed in the accompanying index to exhibits are filed as part of, or incorporated by reference into, this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, State of California, on the 29th day of February 2016.

PORTOLA PHARMACEUTICALS, INC.

By: /s/ WILLIAM LIS
William Lis

Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints William Lis and Mardi C. Dier, jointly and severally, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her, and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/ S / WILLIAM LIS William Lis	Chief Executive Officer and Director (Principal Executive Officer)	February 29, 2016
/ S / MARDI C. DIER Mardi C. Dier	Chief Financial Officer (Principal Financial and Accounting Officer)	February 29, 2016
/ S / HOLLINGS C. RENTON Hollings C. Renton	Chairman of the Board of Directors	February 29, 2016

/ S / Jeffrey W. Bird, M.D., Ph.D. Jeffrey W. Bird, M.D., Ph.D.	Director	February 29, 2016
/ S / Laura A. Brege Laura A. Brege.	Director	February 29, 2016
/ S / Dennis Fenton, Ph.D. Dennis Fenton, Ph.D.	Director	February 29, 2016
/ S / CHARLES J. HOMCY, M.D. Charles J. Homcy, M.D	Director	February 29, 2016
/ S / JOHN H. JOHNSON John H. Johnson	Director	February 29, 2016
/ S / David C. Stump, M.D. David C. Stump, M.D.	Director	February 29, 2016
/ S / H. Ward Wolff H. Ward Wolff	Director	February 29, 2016

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation By Reference Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of Portola Pharmaceuticals, Inc.	8-K	001-35935	3.1	5/28/2013
3.2	Amended and Restated Bylaws of Portola Pharmaceuticals, Inc.	8-K	001-35935	3.2	5/28/2013
4.1	Form of Common Stock Certificate of Portola Pharmaceuticals, Inc.	S-1	333-187901	4.1	5/17/2013
4.2	Warrant to Purchase Shares of Series A Preferred Stock by and between the registrant and General Electric Capital Corporation, dated January 21, 2005.	10-Q	001-35935	4.4	11/06/13
4.4	Warrant to Purchase Shares of Series B Preferred Stock by and between the registrant and Comerica Incorporated, dated September 26, 2006.	10-Q	001-35935	4.6	11/06/13
4.5	Warrant to Purchase Shares of Common Stock by and between the registrant and Laurence Shushan and Magdalena Shushan Acosta, Trustees, The Laurence and Magdalena Shushan Family Trust, Under Agreement Dated October 8, 1997, dated December 15, 2006.	10-Q	001-35935	4.7	11/06/13
4.6	Warrant to Purchase Shares of Common Stock by and between the registrant and HCP Life Science Assets TRS, LLC, dated December 15, 2006.	10-Q	001-35935	4.8	11/06/13
4.7	Warrant to Purchase Shares of Common Stock by and between the registrant and Bristow Investments, L.P., dated December 15, 2006.	10-Q	001-35935	4.9	11/06/13
4.8	Reference is made to Exhibits 3.1 and 3.2				
10.1	Form of Indemnity Agreement between the Registrant and its directors and officers.	S-1	333-187901	10.1	4/12/2013
10.2+	Portola Pharmaceuticals, Inc. 2003 Equity Incentive Plan, as amended, and Form of Stock Option Grant Notice, Option Agreement and Form of Notice of Exercise.	S-1	333-187901	10.2	4/12/2013
10.3+	Portola Pharmaceuticals, Inc. 2013 Equity Incentive Plan and Form of Stock Option Agreement and Form of Stock	S-1	333-187901	10.3	4/12/2013

	Option Grant Notice thereunder.				
10.4+	Form of Executive Severance Benefits Agreement (amends and restates Form of 2006 Executive Change in Control Severance Benefits Agreement)	10-Q	001-35935	10.4	8/06/2014
10.5+*	Amended Non-Employee Director Compensation Policy.				
10.7†	License and Collaboration Agreement by and between the registrant and Biogen Idec MA Inc., dated as of October 26, 2011.	S-1	333-187901	10.7	5/7/2013
10.8†	License Agreement by and between the registrant and Millennium Pharmaceuticals, Inc., dated as of August 4, 2004.	S-1	333-187901	10.8	4/12/2013
10.9†	Asset Purchase Agreement by and between the registrant and Millennium Pharmaceuticals, Inc., dated as of November 7, 2003.	S-1	333-187901	10.9	4/12/2013
10.10†	Letter by and between the registrant and Millennium Pharmaceuticals, Inc., dated as of December 6, 2005.	S-1	333-187901	10.10	4/12/2013
10.11†	Second Amended and Restated License Agreement by and between the registrant and Astellas Pharma, Inc., dated as of December 20, 2010.	S-1	333-187901	10.11	4/12/2013
10.12†	Clinical Collaboration Agreement by and among the registrant, Bristol-Myers Squibb Company and Pfizer Inc., dated as of October 16, 2012.	S-1	333-187901	10.12	4/12/2013
10.13	Lease by and between the registrant and Britannia Pointe Grand Limited Partnership, dated as of December 15, 2006.	S-1	333-187901	10.13	4/12/2013

Exhibit Number	Exhibit Description	Incorporation By Reference Form	SEC File No.	Exhibit	Filing Date
10.14	First Amendment to Lease by and between the registrant and Britannia Pointe Grand Limited Partnership, dated as of May 21, 2010.	S-1	333-187901	10.14	4/12/2013
10.15	Offer Letter by and between the Registrant and William Lis, dated as of April 29, 2008.	S-1	333-187901	10.15	4/12/2013
10.16	Offer Letter by and between the Registrant and John T. Curnutte, M.D., Ph.D., dated as of January 6, 2011.	S-1	333-187901	10.16	4/12/2013
10.17	Offer Letter by and between the Registrant and Mardi C. Dier, dated as of July 28, 2006.	S-1	333-187901	10.17	4/12/2013
10.19	Portola Pharmaceuticals, Inc. 2013 Employee Stock Purchase Plan.	S-1	333-187901	10.19	4/12/2013
10.20	Master Contract Services Agreement for Preclinical and Clinical Services by and between the Registrant and PPD Development, LP, dated as of January 2, 2012, as amended by Amendment No.1 between the registrant and PPD Development, LLC (formerly PPD Development, LP).	S-1	333-187901	10.20	4/12/2013
10.22	Second Amendment to Lease made and entered into as of the 14th day of March 2014, by and between Portola Pharmaceuticals, Inc. and Britannia Pointe Grand Limited Partnership.	8-K	001-35935	10.22	3/19/2014
10.23†	First Amendment of the License and Collaboration Agreement made and effective as of April 7, 2014 by and between Biogen Idec MA Inc. and Portola Pharmaceuticals, Inc.	10-Q	001-35935	10.23	5/13/2014
10.24†	Commercial Supply (Manufacturing Services) Agreement between CMC ICOS Biologics, Inc. and Portola Pharmaceuticals, Inc. effective as of July 1, 2014.	10-Q	001-35935	10.24	11/10/2014
10.25+	Form of Restricted Stock Unit Award Grant Notice and Award Agreement—2013 Equity Incentive Plan.	10-K	001-35935	10.25	3/2/2015
10.26+*	Form of Performance Stock Unit Award Grant Notice and Award Agreement—2013 Equity Incentive Plan.				
10.27+	Offer Letter by and between Portola Pharmaceuticals, Inc. and Tao Fu, dated as of May 8, 2015	10-Q	001-35935	10.27	8/5/2015

23.1*	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (see signature page).
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32.1*	Certification of Principal Executive Officer and Principal Financial Officer pursuant to Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(1)
101.INS	XBRL Instance Document. (2)
101.SCH	XBRL Taxonomy Extension Schema Document. (2)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document. (2)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document. (2)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document. (2)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document. (2)

†Confidential Treatment Granted
+Management contract or compensatory plan

* Filed herewith

(1) This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

(2) Pursuant to applicable securities laws and regulations, the Registrant is deemed to have complied with the reporting obligation relating to the submission of interactive data files in such exhibits and is not subject to liability under any anti-fraud provisions of the federal securities laws as long as the Registrant has made a good faith attempt to comply with the submission requirements and promptly amends the interactive data files after becoming aware that the interactive data files fail to comply with the submission requirements. These interactive data files are deemed not filed or part of a registration statement or report for purposes of sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under these sections.