

RIGEL PHARMACEUTICALS INC
Form 10-K
March 07, 2017
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10 K

(Mark One)

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

For the fiscal year ended December 31, 2016

or

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

Commission file number 0 29889

RIGEL PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	94 3248524
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
1180 Veterans Blvd.	
South San Francisco, California	94080
(Address of principal executive offices)	(Zip Code)

(650) 624 1100

(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 \$.001 per share	The Nasdaq Global Market

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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 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

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 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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) 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 a check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

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

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

The approximate aggregate market value of the Common Stock held by non-affiliates of the registrant, based upon the closing price of the registrant's Common Stock as reported on the Nasdaq Global Market on June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, was \$210,660,442. Shares of the registrant's outstanding Common Stock held by each executive officer, director and affiliates of the registrant's outstanding Common Stock have been excluded. The determination of affiliate status for the purposes of this calculation is not necessarily a conclusive determination for other purposes.

As of March 1, 2017, there were 122,285,861 shares of the registrant's Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K incorporate information by reference from the definitive proxy statement for the registrant's 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

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FORWARD LOOKING STATEMENTS

This Annual Report on Form 10 K contains statements indicating expectations about future performance and other forward looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), and the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. We usually use words such as “may,” “will,” “should,” “could,” “expect,” “plan,” “anticipate,” “might,” “believe,” “estimate,” “predict,” “intend” or the negative of similar expressions to identify these forward looking statements. These statements appear throughout this Annual Report on Form 10 K and are statements regarding our current intent, belief or expectation, primarily with respect to our operations and related industry developments. Examples of these statements include, but are not limited to, statements regarding the following: our business and scientific strategies; the progress of our product development programs, including clinical testing, and the timing of commencement and results thereof; our corporate collaborations, and revenues that may be received from collaborations and the timing of those potential payments; our drug discovery technologies; our research and development expenses; protection of our intellectual property; and sufficiency of our cash resources and need for additional capital. You should not place undue reliance on these forward looking statements. Our actual results could differ materially from those anticipated in these forward looking statements for many reasons, including as a result of the risks and uncertainties discussed under the heading “Risk Factors” in Part I, Item 1A of this Annual Report on Form 10 K. A forward looking statement speaks only as of the date on which it is made, and, except as required by law, we undertake no obligation to update any forward looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor 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.

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PART I

Item 1. Business

Overview

Rigel Pharmaceuticals, Inc. was incorporated in Delaware in June 1996, and is based in South San Francisco, California. We are a clinical-stage biotechnology company dedicated to the discovery and development of novel, targeted drugs in the therapeutic areas of immunology, oncology and immuno-oncology. Our pioneering research focuses on signaling pathways that are critical to disease mechanisms. Our current clinical programs include clinical studies of fostamatinib, an oral spleen tyrosine kinase (SYK) inhibitor in a number of indications. We completed and reported results from the FIT Phase 3 clinical program of fostamatinib in chronic immune thrombocytopenia (ITP). We are also conducting a Phase 2 clinical study with fostamatinib in autoimmune hemolytic anemia (AIHA) and a Phase 2 clinical study for IgA nephropathy (IgAN). In addition, we have two oncology product candidates in development with partners BerGenBio AS (BerGenBio) (Phase 2) and Daiichi Sankyo (Daiichi) (Phase 1).

Since the beginning of 2016, we have experienced the following significant business events:

- In February 2017, we completed an underwritten public offering in which we sold 23,000,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$2.00 per share. We received net proceeds of approximately \$43.0 million after deducting underwriting discounts and commissions and estimated offering expenses.
- In January 2017, we announced the following:
 - i.) we completed the first cohort in the Phase 2 study of fostamatinib in IgAN; and
 - ii.) we received \$3.0 million from our immuno-oncology partnership with Bristol-Myers Squibb Company (BMS) in the fourth quarter of 2016 due to BMS identifying the TGF beta-receptor kinase inhibitor molecule for IND-enabling toxicology studies.
- In August 2016, we reported results from the first Phase 3 clinical trial for ITP and in October 2016, we reported the results for a second Phase 3 study in ITP, as well as the results for the Phase 3 open label extension study in ITP with fostamatinib. Data from the Phase 3 studies demonstrate a consistent fostamatinib response rate. In addition, we announced that Esteban Masuda, Ph.D. was promoted to Senior Vice President for Research and that Joseph Lasaga rejoined the Company as Vice President, Business Development and Alliance Management.
- In September 2016, we announced the following:

- i.) we reduced our workforce by 38% resulting in the elimination of 46 positions, mostly in the research area;
 - ii.) Donald G. Payan, M.D. has retired from the board of directors and from his position as Executive Vice President and President of Discovery and Research, effective September 15, 2016; and
 - iii.) Eldon C. Mayer III joined the Company as Executive Vice President and Chief Commercial Officer.
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- In April 2016, we announced we had completed enrollment for the first two studies in our Phase 3 clinical program for fostamatinib in ITP.

 - In March 2016, we announced the appointment of Anne-Marie Duliege, M.D., M.S. to the role of chief medical officer, replacing Elliott Grossbard, M.D., who retired from that position after 14 years with the Company.

 - In February 2016, we announced that we initiated a Phase 2 clinical trial to evaluate fostamatinib as a potential treatment for AIHA.

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- In January 2016, we announced that we completed patient enrollment of the first Phase 3 study with fostamatinib for the treatment of ITP.

Strategy

Our research team is focused on creating a portfolio of product candidates that may be developed as therapeutics for our own proprietary programs or for development by potential collaborative partners. We recognize that the product development process is subject to both high costs and a high risk of failure. We believe that identifying a variety of product candidates and working in conjunction with other pharmaceutical partners may minimize the risk of failure, fill the product pipeline gap at major pharmaceutical companies, and ultimately increase the likelihood of advancing clinical development and potential commercialization of the product candidates.

The key elements to our business and scientific strategy are to:

- develop and commercialize fostamatinib in the United States where we believe a company our size can successfully compete;
- outlicense European and Asian rights to fostamatinib;
 - develop and commercialize fostamatinib for possible additional indications;
- develop a diverse portfolio of drug candidates that address a focused brand of therapeutic indications or that represent significant market opportunities;
- utilize our discovery engine to discover and validate new product candidates in a focused range of therapeutic indications; and
- develop drug candidates and establish strategic collaborations with pharmaceutical and biotechnology companies to further develop and market our product candidates.

Product Development Programs

Our product development portfolio features multiple novel, targeted drug candidates in the therapeutic areas of immunology, oncology and immuno-oncology.

Pipeline	Current Stage	Status
Fostamatinib—Oral SYK Inhibitor	Phase 3	We completed and reported results from the two Phase 3 clinical studies in August 2016 and October 2016. We are also conducting a long-term open-label extension study of certain patients from the first two Phase 3 clinical studies and who opted to receive treatment with fostamatinib.
Immune Thrombocytopenic Purpura (ITP)		

We plan to submit the New Drug Application (NDA) with the U.S. Food and Drug Administration (FDA) in the first quarter of 2017 and would expect to receive a decision on approval from the FDA in the first quarter of 2018, with a potential commercial launch in the U.S. in the first half of 2018.

IgA Nephropathy
(IgAN)

Phase 2

In January 2017, we announced that we completed the first cohort in the Phase 2 study of fostamatinib in IgAN. The Phase 2 study for the second cohort is currently enrolling patients and we expect to have data in the first part of 2018.

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Autoimmune Hemolytic Anemia (AIHA)	Phase 2	The Phase 2 clinical trial continues to enroll patients with AIHA. The trial is a two-stage study and we expect to have results of the Stage 1 segment of the trial in 2017. With this data, we will evaluate the best way forward and potentially an expedited path for pursuing AIHA.
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Clinical Stage Programs

Fostamatinib—Immune Thrombocytopenic Purpura

Disease background. Chronic ITP affects an estimated 60,000 to 125,000 people in the U.S. In patients with ITP, the immune system attacks and destroys the body's own blood platelets, which play an active role in blood clotting and healing. ITP patients can suffer extraordinary bruising, bleeding and fatigue as a result of low platelet counts. Current therapies for ITP include steroids, blood platelet production boosters that imitate thrombopoietin (TPOs) and splenectomy.

Orally-available SYK inhibitor program. Taken in tablet form, fostamatinib blocks the activation of SYK inside immune cells. ITP is typically characterized by the body producing antibodies that attach to healthy platelets in the blood stream. Immune cells recognize these antibodies and affix to them, which activates the SYK enzyme inside the immune cell, and triggers the destruction of the antibody and the attached platelet. When SYK is inhibited by fostamatinib, it interrupts this immune cell function and allows the platelets to escape destruction. The results of our Phase 2 clinical trial, in which fostamatinib was orally administered to sixteen adults with chronic ITP, published in *Blood*, showed that fostamatinib significantly increased the platelet counts of certain ITP patients, including those who had failed other currently available agents.

In October 2013, we met with the FDA for an end-of-Phase 2 meeting for fostamatinib in ITP. Based on that meeting, we designed a Phase 3 clinical program, called fostamatinib in thrombocytopenia (FIT), in which a total of 150 ITP patients were randomized into two identical multi-center, double-blind, placebo-controlled clinical trials. The patients will have been diagnosed with persistent or chronic ITP, and have blood platelet counts consistently below 30,000 per microliter of blood. Two-thirds of the subjects will receive fostamatinib orally at 100 mg bid (twice daily) and the other third will receive placebo on the same schedule. Subjects were expected to remain on treatment for 24 weeks. At week four of treatment, subjects who failed to meet certain platelet count and met certain tolerability thresholds could have their dosage of fostamatinib (or corresponding placebo) increased to 150 mg bid. The primary efficacy endpoint of this program is a stable platelet response by week 24 with platelet counts at or above 50,000 per microliter of blood for at least four of the final six qualifying blood draws. In August 2015, the FDA granted our request for Orphan Drug designation to fostamatinib, our oral SYK inhibitor, for the treatment of ITP. On April 1, 2016, we announced that we completed enrollment for these two studies in the FIT Phase 3 clinical program of fostamatinib in ITP.

On August 30, 2016, we announced the results of the first study, reporting that fostamatinib met the study's primary efficacy endpoint. The study showed that 18% of patients receiving fostamatinib achieved a stable platelet response compared to none receiving a placebo control ($p=0.0261$). On October 20, 2016, we announced the results of the second study, reporting that the response rate was 18%, consistent with the first study. However, one patient in the placebo group (4%) achieved a stable platelet response, therefore the difference between those on treatment and those on placebo did not reach statistical significance ($p=0.152$) and the study did not meet its primary endpoint. When the data from both studies are combined, however, this difference is statistically significant ($p=0.007$). In the combined datasets for the first two Phase 3 studies, patients who met the primary endpoint had their platelet counts increase from a median of 18,500/uL of blood at baseline to more than 100,000/uL at week 24 of treatment. These patients benefited substantially and typically did so within weeks of initiating treatment, providing early feedback as to whether fostamatinib may be a viable option for treating their ITP. In the combined datasets, the frequency of patients who achieved a stable platelet response was statistically superior in the fostamatinib group versus the placebo group in the following subgroups: prior splenectomy or not; prior exposure to TPO agents or not; platelet counts below or above 15,000/uL of blood at baseline, demonstrating that the effect of fostamatinib is consistent across various clinical and treatment backgrounds.

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Patients from the first two Phase 3 studies were given the option to enroll in a long-term open-label extension study and receive treatment with fostamatinib, also a Phase 3 trial. As of September 2016, 124 patients had been enrolled in this study. All the patients who responded to fostamatinib in the parent studies and enrolled in the long-term open-label extension study had maintained a median platelet count of 106,500/uL at a median of 16 months. In addition, there were 44 placebo non-responders that enrolled in the long-term open-label extension study. 41 of these patients had at least 12 weeks of follow-up. Of those, 9 patients (22%) have achieved a prospectively defined stable platelet response, which is statistically significant ($p=0.0078$) and similar to the response rate fostamatinib achieved in the parent studies.

In the combined dataset of both stable and intermediate responders for the first two Phase 3 studies, the response rate was 29% (29/101), compared to 2% (1/49) for placebo ($p<0.0001$). A stable response was defined as a patient achieving platelet counts of greater than 50,000/uL on more than 4 of the 6 visits between weeks 14 and 24. In the post-study analysis performed by the Company, an intermediate response was defined to include patients achieving at least two consecutive median platelet counts over 50,000/uL during the trial without rescue, but who did not otherwise meet the stable response criteria.

The most frequent adverse events were gastrointestinal-related, and the safety profile of the product was consistent with prior clinical experience, with no new or unusual safety issues uncovered. Data from the first two Phase 3 studies as well as our ongoing open-label extension study demonstrates the consistent benefit of fostamatinib in ITP. We plan to submit an NDA for fostamatinib in ITP in the first quarter of 2017 and would expect to receive a decision on approval from the FDA in the first quarter of 2018, with a potential commercial launch in the U.S. in the first half of 2018.

Fostamatinib—IgAN

Disease background. IgAN is an autoimmune disease that severely affects the functioning of the kidneys. An estimated 12,000 Americans are diagnosed with this type of glomerulonephritis each year, with 25% of its victims eventually requiring dialysis and/or kidney transplantation over time. IgAN is characterized by the deposition of IgA immune complexes in the glomeruli of the kidneys leading to an inflammatory response and subsequent tissue damage that ultimately disrupts the normal filtering function of the kidneys. By inhibiting SYK in kidney cells, fostamatinib may block the signaling of IgA immune complex receptors and arrest or slow destruction of the glomeruli.

Orally-available SYK inhibitor program. Our Phase 2 clinical trial in patients with IgAN, called SIGN (SYK Inhibition for Glomerulonephritis) completed enrollment for the first cohort and is currently enrolling patients for the second cohort. In January 2017, we announced that the first cohort in the Phase 2 study of fostamatinib in IgAN was completed in various centers throughout Asia, the U.S. and Europe. This cohort evaluated the efficacy, safety, and tolerability of a low dose of fostamatinib (100mg BID, n=26; placebo n=12) as measured by change in proteinuria,

renal function, and histology (comparing the pre- and post-study renal biopsies). The primary efficacy endpoint was the mean change in proteinuria from baseline at 24 weeks. The study found that at 24 weeks fostamatinib was well tolerated with a good safety profile. The initial data suggest a trend towards a greater reduction in proteinuria in fostamatinib treated patients relative to placebo. We are performing further analysis of data from the first cohort, particularly the histology review of the renal biopsies, as well as other secondary efficacy endpoints, which we will present later in 2017. The Phase 2 study for the second cohort is currently enrolling patients. We expect that the second cohort, evaluating a higher dose of fostamatinib (150 mg BID) for IgAN, will finish enrollment in 2017, with results in 2018.

Fostamatinib—AIHA

Disease background. AIHA is a rare, serious blood disorder where the immune system produces antibodies that result in the destruction of the body's own red blood cells. Symptoms can include fatigue, shortness of breath, rapid heartbeat, jaundice or enlarged spleen. While no medical treatments are currently approved for AIHA, physicians generally treat acute and chronic cases of the disorder with corticosteroids, other immuno-suppressants, or splenectomy. Research has shown that inhibiting SYK with fostamatinib may reduce the destruction of red blood cells. This disorder affects an estimated 40,000 Americans, for whom no approved treatment options currently exist.

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Orally available SYK inhibitor program. We initiated a Phase 2 clinical trial in patients with AIHA in February 2016. The trial is an open-label, multi-center, two-stage study that will evaluate the efficacy and safety of fostamatinib in patients with warm antibody AIHA who have previously received treatment for the disorder, but have relapsed. Stage 1 will enroll 17 patients who will receive 150 mg of fostamatinib orally twice a day for a period of 12 weeks. The patients will return to the clinic every two weeks for blood draws and medical assessment. The primary efficacy endpoint of this study is to achieve increased hemoglobin levels by week 12 of greater than 10 g/dL, and greater than or equal to 2 g/dL higher than baseline. Stage 2 will include an additional 20 patients who will receive the same treatment protocol as Stage 1. We expect to have results of the Stage 1 segment of the trial in 2017. With this data, we will evaluate the best way forward and potentially an expedited path for pursuing AIHA.

R348—Dry Eye in Patients with Ocular Graft-Versus-Host Disease (GvHD)

Disease background. According to an article published by the American Academy of Ophthalmology, a significant number (22% to 80%) of patients with acute or chronic GvHD develop a secondary incidence of dry eye (keratoconjunctivitis sicca). In general, these patients are severely ill and have a great medical need for a topical therapy that may better manage their symptoms.

Topical Ophthalmic JAK/SYK inhibitor program. We recently completed our Phase 2 study of patients with ocular GvHD to determine if R348, an ophthalmic JAK/SYK inhibitor, reduces inflammation and limits the damage to the eye tissue caused by the disease. The study was comprised of 35 patients that were randomized to receive either R348 at 0.2%, 0.5% or a placebo eye drops for 12 weeks. The primary endpoint was a mean change from baseline at 12 weeks in total fluorescein staining score (CFS) of all corneal regions, a measure of corneal epithelial damage. In the “per protocol” population which is the pre-specified efficacy analysis population, the mean change from baseline at 12 weeks in CFS scores was -2.11 for the placebo group, -4.14 in the R348 0.2% group ($p=0.186$ versus placebo group), and -6.00 in the R348 0.5% group ($p=0.053$ versus placebo, using nonparametric testing). As such, the primary endpoint was not met based on the results of the study. R348 was well tolerated by patients at both doses. In light of the overall findings, we have decided not to pursue this program.

Research/Preclinical Programs

We are conducting proprietary research in the broad disease areas of inflammation/immunology, immuno-oncology, cancers and muscle wasting/muscle endurance. Within each disease area, our researchers are investigating mechanisms of action as well as screening compounds against potential novel targets and optimizing those leads that appear to have the greatest potential.

We are conducting preclinical studies to identify a lead molecule for our IRAK program. Inhibitors of IRAK activity represent valuable therapeutic tools to treat cytokine-driven autoimmune and inflammatory diseases. We plan on

selecting a molecule from our IRAK program for preclinical development in 2017. It is expected that the program will include clinical evaluation in immunology areas, such as for lupus, gout and/or psoriasis.

Sponsored Research and License Agreements

We conduct research and development programs independently and in connection with our corporate collaborators. We do not have ongoing participation obligations under our agreements with BMS for the discovery, development and commercialization of cancer immunotherapies based on our small molecule TGF beta receptor kinase inhibitors, Aclaris Therapeutics International Limited (Aclaris) for the development and commercialization of certain janus kinase (JAK) inhibitors for the treatment of alopecia areata and other dermatological conditions, AstraZeneca (AZ) for the development and commercialization of R256, an inhaled JAK inhibitor, BerGenBio for the development and commercialization of an oncology program, and Daiichi to pursue research related to a specific target from a novel class of drug targets called ligases. Under these agreements, which we entered into in the ordinary course of business, we received or may be entitled to receive upfront cash payments, progress dependent contingent payments on events achieved by such partners and royalties on any net sales of products sold by such partners under the agreements. Total future contingent payments to us under all of these current agreements could exceed \$531.9 million if all potential product candidates achieved all of the payment triggering events under all of our current agreements (based on a single

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product candidate under each agreement). Of this amount, up to \$148.8 million relates to the achievement of development events, up to \$345.6 million relates to the achievement of regulatory events and up to \$37.5 million relates to the achievement of certain commercial or launch events. This estimated future contingent amount does not include any estimated royalties that could be due to us if the partners successfully commercialize any of the licensed products. Future events that may trigger payments to us under the agreements are based solely on our partners' future efforts and achievements of specified development, regulatory and/or commercial events. Because we do not control the research, development or commercialization of the product candidates generated under these agreements, we are not able to reasonably estimate when, if at all, any contingent payments would become payable to us. As such, the contingent payments we could receive thereunder involve a substantial degree of risk to achieve and may never be received in the next 12 months or thereafter. Accordingly, we do not expect, and investors should not assume, that we will receive all of the potential contingent payments provided for under these agreements and it is possible that we may never receive any additional significant contingent payments or royalties under these agreements.

In October 2015, we entered into a non-exclusive license agreement with a third party, pursuant to which we received a payment in the single-digit millions in exchange for granting a non-exclusive license to certain limited intellectual property rights. We concluded that the granting of the license, which was fully delivered to such third party in the fourth quarter of 2015, represents the sole deliverable under this agreement. Accordingly, we recognized the payment as revenue during the year ended December 31, 2015.

In August 2015, we entered into a license agreement with Aclaris, pursuant to which Aclaris will have exclusive rights and will assume responsibility for the continued development of certain JAK inhibitor compounds for the treatment of alopecia areata and other dermatological conditions. Under the license agreement, we received a non-creditable and non-refundable upfront payment of \$8.0 million in September 2015. We are also entitled to receive development and regulatory contingent fees that could exceed \$80.0 million for a successful compound approved in certain indications. In addition, we are also eligible to receive tiered royalties on the net sales of any products under the agreement. We concluded that the granting of the license, which has been fully delivered to Aclaris in the third quarter of 2015, represents the sole deliverable under this agreement. Accordingly, we recognized the \$8.0 million payment as revenue during the year ended December 31, 2015.

In February 2015, we entered into a collaboration agreement with BMS for the discovery, development and commercialization of cancer immunotherapies based on our extensive portfolio of small molecule TGF beta receptor kinase inhibitors. Under the collaboration agreement, BMS will have exclusive rights and will be solely responsible for the clinical development and commercialization of any products. Pursuant to the collaboration agreement with BMS, we received a non-creditable and non-refundable upfront payment of \$30.0 million in March 2015. We are also entitled to receive development and regulatory contingent fees that could exceed \$309.0 million for a successful compound approved in certain indications. In addition, we are also eligible to receive tiered royalties on the net sales of any products from the collaboration. BMS shall also reimburse us for agreed upon costs based on a contractual cost per full-time equivalent employee in connection with the performance of research activities during the research term. Under the collaboration agreement, we were obligated to provide the following deliverables: (i) granting of license rights to our program, (ii) participation in the Joint Research Committee, and (iii) performance of research activities. We concluded that these deliverables were a single unit of accounting as the license did not have stand-alone value apart from the other deliverables. Accordingly, the \$30.0 million upfront payment was recognized ratably as revenue from the effective date of the agreement through September 2016, the end of the research term. We believed that

straight-line recognition of this revenue was appropriate as the research was performed ratably over the research period. At the end of the initial research term, we were not notified by BMS of its intention to extend the initial research term under which we would perform research activities. However, BMS does continue to evaluate compounds from the extensive portfolio under the agreement, on its own. During the years ended December 31, 2016 and 2015, we recognized revenue of \$13.4 million and \$16.6 million, respectively, relating to the upfront payment, and \$290,000 and \$822,000, respectively, relating to the research activities we performed. We do not have any deferred revenue as of December 31, 2016.

BMS is responsible for evaluating the compounds from the extensive portfolio under the agreement, on its own, for designation of a compound as an early candidate nomination. In November 2016, we were notified by BMS that it has designated one compound as an early drug candidate and received \$3.0 million in December 2016, triggered by this development event. All deliverables under the agreement had been previously delivered, as such, the above payment

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was recognized as revenue during the fourth quarter of 2016.

In June 2011, we entered into an exclusive license agreement with BerGenBio for the development and commercialization of an oncology program. BerGenBio is responsible for all activities it wishes to perform under the license we granted to it. In June 2016, we received contingent payments of \$1.7 million relating to a time-based non-refundable fee and \$2.0 million relating to BerGenBio's exercise of certain option rights before the prescription period to exercise the rights expired. All deliverables under the agreement had been previously delivered, as such, the above payments of \$3.7 million triggered by the above time-based and contingent events were recognized as revenue in the second quarter of 2016.

Our Discovery Engine

The approaches that we use in connection with both our proprietary product development programs and our corporate collaborations are designed to identify protein targets for compound screening and validate the role of those targets in the disease process. Unlike genomics based approaches, which begin by identifying genes and then searching for their functions, our approach identifies proteins that are demonstrated to have an important role in a specific disease pathway. By understanding the disease pathway, we attempt to avoid studying genes that will not make good drug targets and focus only on the subset of expressed proteins of genes that we believe are specifically implicated in the disease process.

We begin by developing assays that model the key events in a disease process at the cellular level. We then identify potential protein targets. In addition, we identify the proteins involved in the intracellular process and prepare a map of their interactions, thus giving us a comprehensive picture of the intracellular disease pathway. We believe that our approach has a number of advantages, including:

- improved target identification: it focuses only on the subset of expressed proteins of genes believed to be specifically implicated in the disease process;
- rapid validation of protein targets: it produces validated protein targets quickly because it uses key events in the disease process as the basis to design the functional, disease based screen;
- improved disease pathway mapping: it produces a comprehensive map of the intracellular disease pathway, enabling the identification of a large number of potential protein targets;
- informed target selection: it provides a variety of different types of targets and information concerning the role each plays in their endogenous state to better select targets more susceptible to pharmaceutical intervention;
- efficient compound screening: it increases the probability and speed with which compound screening will identify "hits" because it provides detailed knowledge of the target that can be used to guide the design of the compound screen; and
- risk reduction: it may reduce the risk of failure in the product development process due to serious side effects, including toxicity or other reasons, by selecting only targets that are specific to the disease in question and that have no apparent role in other cell types or signaling pathways.

Because of the very large numbers of screens employed, our technology is labor intensive. The complexity of our technology requires a high degree of skill and diligence to perform successfully. We believe we have been and will continue to be able to meet these challenges successfully and increase our ability to identify targets for drug discovery.

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Pharmacology and Preclinical Development

We believe that the rapid characterization and optimization of compounds identified in high throughput screening (HTS) will generate high quality preclinical development candidates. Our pharmacology and preclinical development group facilitates lead optimization by characterizing lead compounds with respect to pharmacokinetics, potency, efficacy and selectivity. The generation of proof of principle data in animals and the establishment of standard pharmacological models with which to assess lead compounds represent integral components of lead optimization. As programs move through the lead optimization stage, our pharmacology and preclinical development groups support our chemists and biologists by performing the necessary studies, including toxicology, for IND application submissions.

Clinical Development

We have assembled a team of experts in drug development to design and implement clinical trials and to analyze the data derived from these trials. The clinical development group possesses expertise in project management and regulatory affairs. We work with external clinical research organizations with expertise in managing clinical trials, drug formulation, and the manufacture of clinical trial supplies to support our drug development efforts.

Intellectual Property

We are able to protect our technology from unauthorized use by third parties only to the extent that it is covered by valid and enforceable patents or is effectively maintained as a trade secret. Accordingly, patents and other proprietary rights are an essential element of our business. As of December 31, 2016, we had 67 pending patent applications and 341 issued and active patents in the United States, as well as corresponding pending foreign patent applications and issued foreign patents. Our policy is to file patent applications to protect technology, inventions and improvements to inventions that are commercially important to the development of our business. We seek U.S. and international patent protection for a variety of technologies, including new screening methodologies and other research tools, target molecules that are associated with disease states identified in our screens, and lead compounds that can affect disease pathways. We also intend to seek patent protection or rely upon trade secret rights to protect other technologies that may be used to discover and validate targets and that may be used to identify and develop novel drugs. We seek protection, in part, through confidentiality and proprietary information agreements. We are a party to various license agreements that give us rights to use technologies in our research and development.

Our patents extend for varying periods according to the date of patent filing or grant and the legal term of patents in the various countries where patent protection is obtained. Our material patents relate to compositions of matter covering specific drug candidates in clinical trials that target SYK. These patents will expire, excluding patent term extensions, in 2023, 2024 and 2026. Several of these patents will have patent term extensions, depending on the length of time required to conduct clinical trials.

We currently hold a number of issued patents in the United States, as well as corresponding applications that allow us to pursue patents in other countries, some of which have been allowed and/or granted and others of which we expect to be granted. Specifically, in most cases where we hold a U.S. issued patent, the subject matter is covered at least by an application filed under the Patent Cooperation Treaty (PCT), which is then used or has been used to pursue protection in certain countries that are members of the treaty. Our material patents relate to fostamatinib, an oral SYK inhibitor, and R406, the active metabolite of fostamatinib.

Fostamatinib. Fostamatinib is covered as a composition of matter in a U.S. issued patent that has an expiration date in September 2026, after taking into account a patent term adjustment, and may be granted further protection under the patent term extension rules related to conducting clinical trials. Fostamatinib is also covered under broader

composition of matter claims in a U.S. issued patent that has an expiration date in March 2026, after taking into account a patent term adjustment. Methods of using fostamatinib to treat various indications, methods of making fostamatinib, and compositions of matter covering certain intermediates used to make fostamatinib are also covered, respectively, in three U.S. issued patents; the earliest expiration date of any of these patents is in April 2023 and the latest expiration date is in June 2026, after taking into account patent term adjustments. Corresponding applications have been filed in foreign jurisdictions under the PCT, and are at various stages of prosecution. Of note, a patent covering fostamatinib as a

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composition of matter and in compositions for use treating various diseases has been granted by the European Patent Office.

R406. R406 is covered as a composition of matter in a U.S. issued patent and, with a patent term adjustment, has an expiration date in February 2025. R406 is also covered under two broader composition of matter patents issued in the U.S. expiring in February 2023 and July 2024. Methods of using R406 to treat various indications and compositions of matter covering certain intermediates used to make R406 are also covered under patents described above. Corresponding applications have been filed in foreign jurisdictions under the PCT and are at various stages of prosecution.

Competition

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. Many of the drugs that we are attempting to discover will be competing with existing therapies. In addition, a number of companies are pursuing the development of pharmaceuticals that target the same diseases and conditions that we are targeting. For example, there are existing therapies and drug candidates in development for the treatment of ITP that may be alternative therapies to fostamatinib, if it is ultimately approved for commercialization. We face, and will continue to face, intense competition from pharmaceutical and biotechnology companies, as well as from academic and research institutions and government agencies, both in the United States and abroad. Some of these competitors are pursuing the development of pharmaceuticals that target the same diseases and conditions as our research programs. Our major competitors include fully integrated pharmaceutical companies that have extensive drug discovery efforts and are developing novel small molecule pharmaceuticals. We also face significant competition from organizations that are pursuing the same or similar technologies, including the discovery of targets that are useful in compound screening, as the technologies used by us in our drug discovery efforts.

Competition may also arise from:

- new or better methods of target identification or validation;
- other drug development technologies and methods of preventing or reducing the incidence of disease;
- new small molecules; or
- other classes of therapeutic agents.

Our competitors or their collaborative partners may utilize discovery technologies and techniques or partner with collaborators in order to develop products more rapidly or successfully than we or our collaborators are able to do. Many of our competitors, particularly large pharmaceutical companies, have substantially greater financial, technical and human resources and larger research and development staffs than we do. In addition, academic institutions, government agencies and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies and may establish exclusive collaborative or licensing relationships with our competitors.

We believe that our ability to compete is dependent, in part, upon our ability to create, maintain and license scientifically advanced technology and upon our and our collaborators' ability to develop and commercialize pharmaceutical products based on this technology, as well as our ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary technology or processes and secure sufficient capital resources for the expected substantial time period between technological conception and commercial sales of products based upon our technology. The failure by any of our collaborators or us in any of those areas may prevent the successful commercialization of our potential drug targets.

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Many of our competitors, either alone or together with their collaborative partners, have significantly greater experience than we do in:

- identifying and validating targets;
- screening compounds against targets; and
- undertaking preclinical testing and clinical trials.

Accordingly, our competitors may succeed in obtaining patent protection, identifying or validating new targets or discovering new drug compounds before we do.

Our competitors might develop technologies and drugs that are more effective or less costly than any that are being developed by us or that would render our technology and product candidates obsolete and noncompetitive. In addition, our competitors may succeed in obtaining the approval of the FDA or other regulatory agencies for product candidates more rapidly. Companies that complete clinical trials, obtain required regulatory agency approvals and commence commercial sale of their drugs before us may achieve a significant competitive advantage, including certain patent and FDA marketing exclusivity rights that would delay or prevent our ability to market certain products. Any drugs resulting from our research and development efforts, or from our joint efforts with our existing or future collaborative partners, might not be able to compete successfully with competitors' existing or future products or obtain regulatory approval in the United States or elsewhere.

We face and will continue to face intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies, for establishing relationships with academic and research institutions and for licenses to additional technologies. These competitors, either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective than ours.

Our ability to compete successfully will depend, in part, on our ability to:

- identify and validate targets;
- discover candidate drug compounds that interact with the targets we identify;
- attract and retain scientific and product development personnel;
- obtain patent or other proprietary protection for our new drug compounds and technologies; and
- enter commercialization agreements for our new drug compounds.

Research and Development Expenses

A significant portion of our operating expenses is related to research and development and we intend to maintain our strong commitment to research and development. See "Item 8. Financial Statements and Supplementary Data" of this Annual Report on Form 10 K for costs and expenses related to research and development, and other financial information for each of the fiscal years 2016, 2015 and 2014.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, sales, post-approval monitoring and reporting, and import and export of pharmaceutical products. The processes for obtaining regulatory approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

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Review and Approval of Drugs in the United States

In the United States, the FDA approves and regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and implementing regulations. The failure to comply with requirements under the FDCA and other applicable laws at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties.

A drug product candidate must be approved by the FDA through the new drug application, or NDA. An applicant seeking approval to market and distribute a new drug product in the United States must typically undertake the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an IND, which must take effect before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, for each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCP, to establish the safety and efficacy of the proposed drug product for each indication;
- preparation and submission to the FDA of an NDA requesting marketing for one or more proposed indications;
- review by an FDA advisory committee, if requested by the FDA;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current Good Manufacturing Practices, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- payment of user fees and securing FDA approval of the NDA; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and potentially post-market requirement, or PMR, and commitment, or PMC, studies.

Before an applicant begins testing a compound with potential therapeutic value in humans, the drug candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation as well as in vitro and animal studies to assess the safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. The results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical studies, among other things, are submitted to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, and long term toxicity studies, may continue after the IND is submitted.

In support of the IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments. In addition, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature, among other things, are submitted to the FDA as part of an IND. The FDA requires a 30-day waiting period after the submission of each IND before clinical trials may begin. At any time during this 30-day period, or thereafter, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold or partial clinical hold. In this case, the IND sponsor and the FDA must resolve any

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outstanding concerns before clinical trials can begin or resume. An IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. An IRB can suspend or terminate approval of a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Human clinical trials are typically conducted in sequential phases, which may overlap or be combined:

- Phase 1. The drug is initially introduced into a small number of healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.
- Phase 2. The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3. These clinical trials are commonly referred to as “pivotal” studies, which denote a study that presents the data that the FDA or other relevant regulatory agency will use to determine whether or not to approve a drug. The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, identify adverse effects, establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product.
- Phase 4. Post-approval studies may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication.

The FDA or the sponsor or the data monitoring committee may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk.

Review of an NDA by the FDA

If clinical trials are successful, the next step in the drug development process is the preparation and submission to the FDA of a NDA. The NDA is the vehicle through which drug applicants formally propose that the FDA approve a new drug for marketing and sale in the United States for one or more indications. The NDA must contain a description of the manufacturing process and quality control methods, as well as results of preclinical tests, toxicology studies, clinical trials and proposed labeling, among other things. The submission of most NDAs is subject to an application user fee and the sponsor of an approved NDA is also subject to annual product and establishment user fees. These fees are typically increased annually.

Following submission of an NDA, the FDA conducts a preliminary review of an NDA to determine whether the application is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to goals to review and act within ten months from filing for standard review NDAs and within six months for NDAs that have been designated for “priority review”.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more

clinical sites to assure compliance with GCP. In addition, as a condition of approval, the FDA may require an applicant to develop a REMS. REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population likely to use the product, seriousness of the disease, expected benefit of the product, expected duration of treatment, seriousness of known or potential adverse events, and whether the product is a new molecular entity.

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The FDA is required to refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

On the basis of the FDA's evaluation of the NDA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter.

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

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label

uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, and its implementing regulations, as well as the Drug Supply Chain Security Act, or DSCA, which regulate the distribution and tracing of prescription drugs and prescription drug samples at the federal level, and set minimum standards for the regulation of drug distributors by the states. The PDMA, its implementing regulations and state laws limit the distribution of prescription pharmaceutical product samples, and the DSCA imposes requirements to

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ensure accountability in distribution and to identify and remove counterfeit and other illegitimate products from the market.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act, the FDA may designate a drug product as an “orphan drug” if it is intended to treat a rare disease or condition, generally meaning that it affects fewer than 200,000 individuals in the United States, or more in cases in which there is no reasonable expectation that the cost of developing and making a drug product available in the United States for treatment of the disease or condition will be recovered from sales of the product. A company must request orphan drug designation before submitting an NDA for the drug and rare disease or condition. Orphan drug designation does not shorten the goal dates for the regulatory review and approval process, although it does convey certain advantages such as tax benefits and exemption from the application fee.

If a product with orphan designation receives the first FDA approval for the disease or condition for which it has such designation, the product generally will receive orphan drug exclusivity. Orphan drug exclusivity means that the FDA may not approve another sponsor’s marketing application for the same drug for the same indication for seven years, except in certain limited circumstances. Orphan exclusivity does not block the approval of a different drug for the same rare disease or condition, nor does it block the approval of the same drug for different indications. If a drug designated as an orphan drug ultimately receives marketing approval for an indication broader than what was designated in its orphan drug application, it may not be entitled to exclusivity. Orphan exclusivity will not bar approval of another product under certain circumstances, including if a subsequent product with the same drug for the same indication is shown to be clinically superior to the approved product on the basis of greater efficacy or safety, or providing a major contribution to patient care, or if the company with orphan drug exclusivity is not able to meet market demand.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Thus, even if a product candidate is approved, sales of the product will depend, in part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover a product candidate could reduce physician utilization once the product is approved and have a material adverse effect on sales, results of operations and financial condition. Additionally, a payor’s decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor’s determination to provide coverage for a drug product does not assure that other payors will also provide coverage and

reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor.

The containment of healthcare costs also has become a priority of federal, state and foreign governments and the prices of drugs have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

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Healthcare Law and Regulation

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of drug products that are granted marketing approval. Arrangements with providers, consultants, third-party payors and customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, reporting of payments to physicians and teaching physicians and patient privacy laws and regulations and other healthcare laws and regulations that may constrain business and/or financial arrangements. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, paying, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid;
- the federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalties laws, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious or fraudulent or knowingly making, using or causing to made or used a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government.
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, and their respective implementing regulations, which impose obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal transparency requirements known as the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, or CMS, within the United States Department of Health and Human Services, information related to payments and other transfers of value made by that entity to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures.

Healthcare Reform

A primary trend in the United States healthcare industry and elsewhere is cost containment. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States.

With the new Administration and Congress, there will likely be additional legislative changes, including repeal and replacement of certain provisions of the Affordable Care Act. It remains to be seen, however, precisely what the new

legislation will provide, when it will be enacted and what impact it will have on the availability of healthcare and containing or lowering the cost of healthcare. Such reforms could have an adverse effect on anticipated revenue from product candidates that we may successfully develop and for which we may obtain marketing approval and may affect our overall financial condition and ability to develop product candidates.

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Manufacturing and Raw Materials

We currently rely on, and will continue to rely on, third party contract manufacturers to produce sufficient quantities of our product candidates for use in our preclinical and clinical trials.

Employees

As of December 31, 2016, we had 77 employees. None of our employees are represented by a collective bargaining arrangement, and we believe our relationship with our employees is good. Recruiting and retaining qualified scientific personnel to perform research and development work in the future will be critical to our success. We may not be able to attract and retain personnel on acceptable terms given the competition among pharmaceutical and biotechnology companies, academic and research institutions and government agencies for experienced scientists.

Scientific and Medical Advisors

We utilize scientists and physicians to advise us on scientific and medical matters as part of our ongoing research and product development efforts, including experts in clinical trial design, preclinical development work, chemistry, biology, immunology, muscle wasting and metabolism, general metabolism and oncology. Certain of our consultants receive non-employee options to purchase our common stock and certain of our scientific and medical advisors receive honorarium for time spent assisting us.

Available Information

Our website is located at www.rigel.com. The information found on our website is not part of or incorporated by reference into this Annual Report on Form 10-K. We electronically file with the Securities and Exchange Commission (SEC) our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to the reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. We make available free of charge on or through our website copies of these reports as soon as reasonably practicable after we electronically file these reports with, or furnish them to, the SEC. Further, copies of these reports are available at the SEC's Public Reference Room at 100 F Street, NE, 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 also maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Item 1A. Risk Factors

In evaluating our business, you should carefully consider the following risks, as well as the other information contained in this Annual Report on Form 10-K. These risk factors could cause our actual results to differ materially from those contained in forward-looking statements we have made in this Annual Report on Form 10-K and those we may make from time to time. If any of the following risks actually occurs, our business, financial condition and operating results could be harmed. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business.

If we are unable to submit the NDA or if we submit the NDA but it is not accepted or not approved for ITP by the FDA, this would have a material adverse effect on our business, financial performance and results of operations.

In August 2016, we announced the results of the first Phase 3 study of fostamatinib in ITP, reporting that fostamatinib met its primary efficacy endpoint. The study showed that 18% of patients receiving fostamatinib achieved a stable platelet response compared to none receiving a placebo control. In October 2016, we announced the results of the second study, reporting that the response rate was 18% consistent with the first study. However, one patient in the placebo group achieved a stable platelet response, therefore the difference between groups did not reach statistical significance. Additionally, we have announced updates on the results of the third Phase 3 study of fostamatinib in ITP, an open label long term extension study. We plan to submit an NDA for fostamatinib in ITP in the first quarter of 2017. Our NDA submission may include, among others, data on all three studies, a number of post-study analyses including an

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overall response rate for the first and second Phase 3 studies, which combines stable and intermediate responders, and a large legacy of safety data from previous trials. Given that one of the three studies did not meet its primary endpoint, there is a risk that the FDA will not accept the submission, or that the submission is accepted but not approved for any reason, including that meeting the primary end-points in the first and third studies is found by the FDA to be insufficient for approval, which would have a material adverse effect on our ability to generate revenue from the sales of fostamatinib in ITP. An inability to generate such revenue would have a material adverse effect on our business, financial performance and results of operations. In addition, the FDA may suggest that we need to conduct additional trials at significant costs before we seek regulatory approval of our product candidates. Any such requirement for additional trials would most likely result in our inability to commercialize fostamatinib in the United States for a significant period of time, which would have a material adverse effect on our ability to generate revenue from the sales of fostamatinib in ITP.

We will need additional capital in the future to sufficiently fund our operations and research.

We have consumed substantial amounts of capital to date as we continue our research and development activities, including preclinical studies and clinical trials. We may seek another collaborator or licensee in the future for further clinical development and commercialization of fostamatinib, as well as our other clinical programs, which we may not be able to obtain on commercially reasonable terms or at all. We also continue to evaluate ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipeline. We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including the preparation for potential commercial launch of fostamatinib in ITP in the U.S., through 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. Because of the numerous risks and uncertainties associated with the development of our product candidates and other research and development activities, including risks and uncertainties that could impact the rate of progress of our development activities, we are unable to estimate with certainty the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials and other research and development activities.

We will continue to need additional capital and the amount of future capital needed will depend largely on the success of our internally developed programs as they proceed in later and more expensive clinical trials, including any additional clinical trials that we may decide to conduct with respect to fostamatinib. Unless and until we are able to generate a sufficient amount of product, royalty or milestone revenue, which may never occur, we expect to finance future cash needs through public and/or private offerings of equity securities, debt financings or collaboration and licensing arrangements, as well as through interest income earned on the investment of our cash balances and short-term investments. With the exception of contingent and royalty payments that we may receive under our existing collaborations, we do not currently have any commitments for future funding. We do not know whether additional financing will be available when needed, or that, if available, we will obtain financing on reasonable terms. To the extent we raise additional capital by issuing equity securities in the future, our stockholders could at that time experience substantial dilution. In addition, we have a significant number of stock options outstanding. To the extent that outstanding stock options have been or may be exercised or other shares issued, our stockholders may experience further dilution. Further, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans including through our "at-the-market" equity offering programs. Any debt financing that we are able to obtain may involve operating

covenants that restrict our business. To the extent that we raise additional funds through any new collaboration and licensing arrangements, we may be required to relinquish some rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us.

Our future funding requirements will depend on many uncertain factors.

Our future funding requirements will depend upon many factors, many of which are beyond our control, including, but not limited to:

- the FDA's acceptance of our NDA, or the successful regulatory approval of such NDA;
- the outcome of any potential FDA advisory committee meetings held for any of our product candidates;

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- the progress and success of clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- the progress of research and development programs carried out by us and our collaborative partners;
- the costs and timing of regulatory filings and approvals by us and our collaborators;
- the costs to build and expand our sales, marketing and distribution capabilities;
- the costs to commercialize fostamatinib or any other future product candidates, if any such candidate receives regulatory approval for commercial sale;
- any changes in the breadth of our research and development programs;
- the ability to achieve the events identified in our collaborative agreements that may trigger payments to us from our collaboration partners;
- our ability to acquire or license other technologies or compounds that we may seek to pursue;
- our ability to manage our growth;
- competing technological and market developments;
- the costs and timing of obtaining, enforcing and defending our patent and other intellectual property rights; and
- expenses associated with any unforeseen litigation, including any securities class action lawsuits.

Insufficient funds may require us to delay, scale back or eliminate some or all of our research and development programs, to reduce personnel and operating expenses, to lose rights under existing licenses or to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose or may adversely affect our ability to operate as a going concern.

There is a high risk that drug discovery and development efforts might not generate successful product candidates.

At the present time, the majority of our operations are focused on various stages of drug identification and development. We currently have various product candidates in the clinical testing stage. In our industry, it is statistically unlikely that the limited number of compounds that we have identified as potential product candidates will actually lead to successful product development efforts. We have invested a significant portion of our efforts and financial resources into the development of fostamatinib. 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.

Our compounds in clinical trials and our future leads for potential drug compounds are subject to the risks and failures inherent in the development of pharmaceutical products. These risks include, but are not limited to, the inherent difficulty in selecting the right drug and drug target and avoiding unwanted side effects, as well as unanticipated problems relating to product development, testing, enrollment, obtaining regulatory approvals, maintaining regulatory compliance, manufacturing, competition and costs and expenses that may exceed current estimates. In future clinical trials, we or our partners may discover additional side effects and/or higher frequency of side effects than those observed in previously completed clinical trials. The results of preliminary and mid-stage clinical trials do not necessarily predict clinical or commercial success, and larger later-stage clinical trials may fail to confirm the results observed in the previous clinical trials. Similarly, a clinical trial may show that a product candidate is safe and effective for certain patient populations in a particular indication, but other clinical trials may fail to confirm those results in a subset of that

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population or in a different patient population, which may limit the potential market for that product candidate. With respect to our own compounds in development, we have established anticipated timelines with respect to the initiation of clinical trials based on existing knowledge of the compounds. However, we cannot provide assurance that we will meet any of these timelines for clinical development. Additionally, the initial results of a completed earlier clinical trial of a product candidate do not necessarily predict final results and the results may not be repeated in later clinical trials.

Because of the uncertainty of whether the accumulated preclinical evidence (pharmacokinetic, pharmacodynamic, safety and/or other factors) or early clinical results will be observed in later clinical trials, we can make no assurances regarding the likely results from our future clinical trials or the impact of those results on our business. If our clinical trials fail to meet the primary efficacy endpoints, the commercial prospects of our business may be harmed, our ability to generate product revenues may be delayed or eliminated or we may be forced to undertake other strategic alternatives that are in our shareholders' best interests, including cost reduction measures. If we are unable to obtain adequate financing or engage in a strategic transaction on commercially reasonable terms or at all, we may be required to implement further cost reduction strategies which could significantly impact activities related to our research and development of our future product candidates, and could significantly harm our business, financial condition and results of operations. In addition, these cost reduction strategies could cause us to further curtail our operations or take other actions that would adversely impact our shareholders.

We might not be able to commercialize our product candidates successfully if problems arise in the clinical testing and approval process.

Commercialization of our product candidates depends upon successful completion of extensive preclinical studies and clinical trials to demonstrate their safety and efficacy for humans. Preclinical testing and clinical development are long, expensive and uncertain processes.

In connection with clinical trials of our product candidates, we face the risks that:

- the product candidate may not prove to be effective;
- the product candidate may cause harmful side effects;
- the clinical results may not replicate the results of earlier, smaller trials;
- we, or the FDA or similar foreign regulatory authorities, may terminate or suspend the trials;

- our results may not be statistically significant;

- patient recruitment and enrollment may be slower than expected;

- patients may drop out of the trials;
and

- regulatory and clinical trial requirements, interpretations or guidance may change.

We do not know whether we will be permitted to undertake clinical trials of potential products beyond the trials already concluded and the trials currently in process. It will take us, or our collaborative partners several years to complete any such testing, and failure can occur at any stage of testing. Interim results of trials do not necessarily predict final results, and acceptable results in early trials may not be repeated in later trials. A number of companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in advanced clinical trials, even after achieving promising results in earlier trials. For example, in October 2016, we announced that our second Phase 3 study in our FIT Phase 3 clinical program did not meet its primary endpoint. Moreover, we or our collaborative partners or regulators may decide to discontinue development of any or all of these projects at any time for commercial, scientific or other reasons. For example, in August 2014, we discontinued our indirect AMPK activator program, R118, due to its side-effect profile in Phase 1 clinical trials, and in July 2016, we discontinued our topical ophthalmic JAK/SYK inhibitor program, R348, due to our Phase 2 study of patients with ocular GvHD not meeting its primary endpoint.

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We cannot assure you that we will be able to successfully complete the clinical development of our product candidates or receive regulatory approval to ultimately commercialize any of our other product candidates. For example, if we are unable to ultimately commercialize fostamatinib, our business will be harmed.

If we are unable to obtain regulatory approval to market products in the United States and foreign jurisdictions, we will not be permitted to commercialize products we or our collaborative partners may develop.

We cannot predict whether regulatory clearance will be obtained for any product that we, or our collaborative partners, hope to develop. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product and requires the expenditure of substantial resources. Of particular significance to us are the requirements relating to research and development and testing.

Before commencing clinical trials in humans in the United States, we, or our collaborative partners, will need to submit and receive approval from the FDA of an IND. Clinical trials are subject to oversight by institutional review boards and the FDA and:

- must be conducted in conformance with the FDA's good clinical practices and other applicable regulations;
- must meet requirements for institutional review board oversight;
- must meet requirements for informed consent;
- are subject to continuing FDA and regulatory oversight;
- may require large numbers of test subjects; and
- may be suspended by us, our collaborators or the FDA at any time if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the IND or the conduct of these trials.

While we have stated that we intend to file additional INDs for future product candidates, this is only a statement of intent, and we may not be able to do so because we may not be able to identify potential product candidates. In addition, the FDA may not approve any IND we or our collaborative partners may submit in a timely manner, or at all.

Before receiving FDA approval to market a product, we must demonstrate with substantial clinical evidence that the product is safe and effective in the patient population and the indication that will be treated. Data obtained from preclinical and clinical activities are susceptible to varying interpretations that could delay, limit or prevent regulatory approvals. In addition, delays or rejections may be encountered based upon additional government regulation from future legislation or administrative action or changes in FDA policy during the period of product development, clinical trials and FDA regulatory review. Failure to comply with applicable FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, total or partial suspension of production or injunction, adverse publicity, as well as other regulatory action against our potential products or us. Additionally, we have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approval.

If regulatory approval of a product is granted, this approval will be limited to those indications or disease states and conditions for which the product is demonstrated through clinical trials to be safe and efficacious. We cannot assure you that any compound developed by us, alone or with others, will prove to be safe and efficacious in clinical trials and will meet all of the applicable regulatory requirements needed to receive marketing approval.

Outside the United States, our ability, or that of our collaborative partners, to market a product is contingent upon receiving a marketing authorization from the appropriate regulatory authorities. This foreign regulatory approval process typically includes all of the risks and costs associated with FDA approval described above and may also include additional risks and costs, such as the risk that such foreign regulatory authorities, which often have different regulatory and clinical trial requirements, interpretations and guidance from the FDA, may require additional clinical trials or

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results for approval of a product candidate, any of which could result in delays, significant additional costs or failure to obtain such regulatory approval. For example, there can be no assurance that we or our collaborative partners will not have to provide additional information or analysis, or conduct additional clinical trials, before receiving approval to market product candidates.

Enacted or future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may affect the prices we may set.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In both the United States and certain foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the health care system that could impact our ability to sell our products profitably. In particular, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively, the Affordable Care Act, was enacted.

The Affordable Care Act and its implementing regulations, among other things, substantially change the way healthcare is financed by both governmental and private insurers in the U.S. Among the provisions of the Affordable Care Act, those of the greatest impact on the pharmaceutical and biotechnology industry include a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs that are inhaled, infused, instilled, implanted or injected; increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program; extended the Medicaid Drug Rebate Program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations; subjected manufacturers to new annual fees and taxes for certain branded prescription drugs; provided incentives to programs that increase the federal government's comparative effectiveness research and established a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand 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.

Other legislative changes have been proposed and adopted in the U.S. since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction, was unable to reach its required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and will remain in effect through 2024 unless additional Congressional action is taken. In January 2013, former President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Legislative changes to the Affordable Care Act remain possible and appear likely in the 115th U.S. Congress and under the Trump Administration. We expect that the Affordable Care Act, as currently enacted or as it may be amended or repealed in the future, and other healthcare reform measures that may be adopted in the future, could have a material adverse effect on our industry generally and on our ability to successfully commercialize our product candidates, if approved. 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 abroad. If we or our collaborators are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or our collaborators are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability, which would adversely affect our business.

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

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factors, including the following:

- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- 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;
- demonstration of efficacy and safety in clinical trials;
- the prevalence and severity of any side effects;
- the ability to offer product candidates for sale at competitive prices;
- the price we charge for our product candidates;
- the strength of marketing and distribution support; and
- the availability of third-party coverage or reimbursement.

If any of our product candidates are approved, if at all, 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.

We are in the initial stages of developing our sales, marketing and distribution 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 one or more of our product candidates.

We are in the early stages of developing our sales and marketing infrastructure and have never sold, marketed or distributed therapeutic products. To achieve commercial success for any of our product candidates, if at all approved, we must either develop a sales and marketing organization or outsource these functions to third parties. There are risks involved with establishing our own sales and marketing capabilities, as well as entering into arrangements with third

parties to perform these services. Developing an internal sales force is expensive and time-consuming and could delay any product launch. If the commercial launch of one or more of our product candidates 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. On the other hand, if we enter into arrangements with third parties to perform sales, marketing and distribution services, our product revenues will be lower than if we market and sell any products that we develop ourselves.

We also may not be successful entering into arrangements with third parties to sell and market one or more of 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 one or more of our product candidates 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.

Delays in clinical testing could result in increased costs to us.

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

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completion of our clinical trials may be delayed or our clinical trials could become too expensive to complete. Significant delays in clinical testing could materially impact our product development costs and timing. Our estimates regarding timing are based on a number of assumptions, including assumptions based on past experience with our other clinical programs. If we are unable to enroll the patients in these trials at the projected rate, the completion of the clinical program could be delayed and the costs of conducting the program could increase, either of which could harm our business.

Clinical trials can be delayed for a variety of reasons, including delays in obtaining regulatory approval to commence a study, delays from scaling up of a study, delays in reaching agreement on acceptable clinical trial agreement terms with prospective clinical sites, delays in obtaining institutional review board approval to conduct a study at a prospective clinical site or delays in recruiting subjects to participate in a study. In addition, we typically rely on third-party clinical investigators to conduct our clinical trials and other third-party organizations to oversee the operations of such trials and to perform data collection and analysis. The clinical investigators are not our employees, and we cannot control the amount or timing of resources that they devote to our programs. Failure of the third-party organizations to meet their obligations could adversely affect clinical development of our products. As a result, we may face additional delaying factors outside our control if these parties do not perform their obligations in a timely fashion. For example, any number of those issues could arise with our clinical trials causing a delay. Delays of this sort could occur for the reasons identified above or other reasons. If we have delays in conducting the clinical trials or obtaining regulatory approvals, our product development costs will increase. For example, we may need to make additional payments to third-party investigators and organizations to retain their services or we may need to pay recruitment incentives. If the delays are significant, our financial results and the commercial prospects for our product candidates will be harmed, and our ability to become profitable will be delayed. Moreover, these third-party investigators and organizations may also have relationships with other commercial entities, some of which may compete with us. If these third-party investigators and organizations assist our competitors at our expense, it could harm our competitive position.

We lack the capability to manufacture compounds for clinical development and rely on third parties to manufacture our product candidates, and we may be unable to obtain required material in a timely manner, at an acceptable cost or at a quality level required to receive regulatory approval.

We currently do not have the manufacturing capabilities or experience necessary to produce our product candidates for clinical trials, including fostamatinib in ITP, AIHA and IgAN. We currently use one manufacturer of fostamatinib. For each clinical trial of our unpartnered product candidates, we rely on third-party manufacturers for the active pharmaceutical ingredients, as well as various manufacturers to manufacture starting components, excipients and formulated drug products. We rely on manufacturers to produce and deliver all of the materials required for our clinical trials, and many of our preclinical efforts, on a timely basis and to comply with applicable regulatory requirements, including the FDA's current Good Manufacturing Practices (cGMP). In addition, we rely on our third-party suppliers to deliver sufficient quantities of materials produced under cGMP conditions to enable us to conduct planned preclinical studies and clinical trials.

Our current and anticipated future dependence upon these third-party manufacturers may adversely affect our ability to develop and commercialize product candidates on a timely and competitive basis, which could have a material adverse effect on sales, results of operations and financial condition. If we were required to transfer manufacturing processes to other third-party manufacturers and we were able to identify an alternative manufacturer, we would still need to satisfy various regulatory requirements. Satisfaction of these requirements could cause us to experience significant delays in receiving an adequate supply of our products and products in development and could be costly. Moreover, we may not be able to transfer processes that are proprietary to the manufacturer, if any. These manufacturers may not be able to produce material on a timely basis or manufacture material at the quality level or in the quantity required to meet our development timelines and applicable regulatory requirements and may also experience a shortage in qualified personnel. We may not be able to maintain or renew our existing third-party manufacturing arrangements, or enter into new arrangements, on acceptable terms, or at all. Our third party manufacturers could terminate or decline to renew our manufacturing arrangements based on their own business priorities, at a time that is costly or inconvenient for us. If we are unable to contract for the production of materials in sufficient quantity and of sufficient quality on acceptable terms, our planned clinical trials may be significantly delayed. Manufacturing delays could postpone the filing of our IND applications and/or the initiation or completion of clinical trials that we have currently planned or may

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plan in the future.

Drug manufacturers are subject to ongoing periodic unannounced inspection by the FDA, the Drug Enforcement Administration, and other federal and state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. We do not have control over third-party manufacturers' compliance with these regulations and standards and they may not be able to comply. Switching manufacturers may be difficult because the number of potential manufacturers is limited. It may be difficult or impossible for us to find a replacement manufacturer quickly on acceptable terms, or at all. Additionally, if we are required to enter into new supply arrangements, we may not be able to obtain approval from the FDA of any alternate supplier in a timely manner, or at all, which could delay or prevent the clinical development and commercialization of any related product candidates. Failure of our third-party manufacturers or us to comply with applicable regulations could result in sanctions being imposed on us, including fines, civil penalties, delays in or failure to grant marketing approval of our product candidates, injunctions, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of products and compounds, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect our business.

We have obtained orphan drug designation from the FDA for fostamatinib for the treatment of ITP, but we may be unable to maintain the benefits associated with orphan drug designation, including the potential for market exclusivity.

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biologic intended to treat a rare disease or condition, which is defined as one occurring in a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. In addition, if a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including a full NDA, to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or where the manufacturer is unable to assure sufficient product quantity.

Even though we have received orphan drug designation for fostamatinib for the treatment of ITP, we may not be the first to obtain marketing approval for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Even after an orphan product is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is safer, more effective, or makes a major contribution to patient

care. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

Our research and development efforts will be seriously jeopardized if we are unable to attract and retain key employees and relationships.

As a small company, our success depends on the continued contributions of our principal management and scientific personnel and on our ability to develop and maintain important relationships with leading academic institutions, scientists and companies in the face of intense competition for such personnel. In particular, our research programs depend on our ability to attract and retain highly skilled chemists, other scientists, and development, regulatory and clinical personnel. If we lose the services of any of our key personnel, our research and development efforts could be seriously and adversely affected. Our employees can terminate their employment with us at any time.

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Our success as a company is uncertain due to our history of operating losses and the uncertainty of any future profitability.

We incurred a loss from operations of approximately \$69.7 million for the year ended December 31, 2016. Other than for 2010, we have historically incurred losses from operations each year since we were incorporated in June 1996, due in large part to the significant research and development expenditures required to identify and validate new product candidates and pursue our development efforts. We expect to continue to incur losses from operations and there can be no assurance that we will generate operating income in the foreseeable future. Currently, our only potential sources of revenues are upfront payments, research and development contingent payments and royalty payments pursuant to our collaboration arrangements, which may never materialize if our collaborators do not achieve certain events or generate net sales to which these contingent payments are dependent on. If our drug candidates fail or do not gain regulatory approval, or if our drugs do not achieve market acceptance, we may not be profitable. As of December 31, 2016, we had an accumulated deficit of approximately \$1.1 billion. The extent of our future losses or profitability, if any, is highly uncertain.

If our corporate collaborations or license agreements are unsuccessful, or if we fail to form new corporate collaborations or license agreements, our research and development efforts could be delayed.

Our strategy depends upon the formation and sustainability of multiple collaborative arrangements and license agreements with third parties now and in the future. We rely on these arrangements for not only financial resources, but also for expertise we need now and in the future relating to clinical trials, manufacturing, sales and marketing, and for licenses to technology rights. To date, we have entered into several such arrangements with corporate collaborators; however, we do not know if these collaborations or additional collaborations with third parties, if any, will dedicate sufficient resources or if any development or commercialization efforts by third parties will be successful. In addition, our corporate collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a drug candidate or development program. Should a collaborative partner fail to develop or commercialize a compound or product to which it has rights from us for any reason, including corporate restructuring, such failure might delay our ongoing research and development efforts, because we might not receive any future payments, and we would not receive any royalties associated with such compound or product. We conducted a Phase 3 clinical program to study fostamatinib in ITP on our own. We may seek another collaborator or licensee in the future for clinical development and commercialization of fostamatinib, as well as our other clinical programs, which we may not be able to obtain on commercially reasonable terms or at all. If we are unable to form new collaborations or enter into new license agreements, our research and development efforts could be delayed. In addition, the continuation of some of our partnered drug discovery and development programs may be dependent on the periodic renewal of our corporate collaborations.

Each of our collaborations could be terminated by the other party at any time, and we may not be able to renew these collaborations on acceptable terms, if at all, or negotiate additional corporate collaborations on acceptable terms, if at all. If these collaborations terminate or are not renewed, any resultant loss of revenues from these collaborations or loss of the resources and expertise of our collaborative partners could adversely affect our business.

Conflicts also might arise with collaborative partners concerning proprietary rights to particular compounds. While our existing collaborative agreements typically provide that we retain milestone payments and royalty rights with respect to drugs developed from certain derivative compounds, any such payments or royalty rights may be at reduced rates, and disputes may arise over the application of derivative payment provisions to such drugs, and we may not be successful in such disputes. Additionally, the management teams of our collaborators may change for various reasons including due to being acquired. Different management teams or an acquiring company of our collaborators may have different priorities which may have adverse results on the collaboration with us.

We are also a party to various license agreements that give us rights to use specified technologies in our research and development processes. The agreements pursuant to which we have in-licensed technology permit our licensors to terminate the agreements under certain circumstances. If we are not able to continue to license these and future technologies on commercially reasonable terms, our product development and research may be delayed or otherwise adversely affected.

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If conflicts arise between our collaborators or advisors and us, any of them may act in their self-interest, which may be adverse to our stockholders' interests.

If conflicts arise between us and our corporate collaborators or scientific advisors, the other party may act in its self-interest and not in the interest of our stockholders. Some of our corporate collaborators are conducting multiple product development efforts within each disease area that is the subject of the collaboration with us or may be acquired or merged with a company having a competing program. In some of our collaborations, we have agreed not to conduct, independently or with any third party, any research that is competitive with the research conducted under our collaborations. Our collaborators, however, may develop, either alone or with others, products in related fields that are competitive with the products or potential products that are the subject of these collaborations. Competing products, either developed by our collaborators or to which our collaborators have rights, may result in their withdrawal of support for our product candidates.

If any of our corporate collaborators were to breach or terminate its agreement with us or otherwise fail to conduct the collaborative activities successfully and in a timely manner, the preclinical or clinical development or commercialization of the affected product candidates or research programs could be delayed or terminated. We generally do not control the amount and timing of resources that our corporate collaborators devote to our programs or potential products. We do not know whether current or future collaborative partners, if any, might pursue alternative technologies or develop alternative products either on their own or in collaboration with others, including our competitors, as a means for developing treatments for the diseases targeted by collaborative arrangements with us.

Our success is dependent on intellectual property rights held by us and third parties, and our interest in such rights is complex and uncertain.

Our success will depend to a large part on our own, our licensees' and our licensors' ability to obtain and defend patents for each party's respective technologies and the compounds and other products, if any, resulting from the application of such technologies. As of December 31, 2016, we had 67 pending patent applications and 341 issued and active patents in the United States, as well as corresponding pending foreign patent applications and issued foreign patents. In the future, our patent position might be highly uncertain and involve complex legal and factual questions. For example, we may be involved in post-grant proceedings before the United States Patent and Trademark Office. Post-grant proceedings are complex and expensive legal proceedings and there is no assurance we will be successful in any such proceedings. A post-grant proceeding could result in our losing our patent rights and/or our freedom to operate and/or require us to pay significant royalties. Additional uncertainty may result because no consistent policy regarding the breadth of legal claims allowed in biotechnology patents has emerged to date. Accordingly, we cannot predict the breadth of claims allowed in our or other companies' patents.

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Because the degree of future protection for our proprietary rights is uncertain, we cannot assure you that:

- we were the first to make the inventions covered by each of our pending patent applications;
- we were the first to file patent applications for these inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our pending patent applications will result in issued patents;
- any patents issued to us or our collaborators will provide a basis for commercially-viable products or will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies that are patentable; or
- the patents of others will not have a negative effect on our ability to do business.

We rely on trade secrets to protect technology where we believe patent protection is not appropriate or obtainable; however, trade secrets are difficult to protect. While we require employees, collaborators and consultants to enter into confidentiality agreements, we may not be able to adequately protect our trade secrets or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of such information.

We are a party to certain in-license agreements that are important to our business, and we generally do not control the prosecution of in-licensed technology. Accordingly, we are unable to exercise the same degree of control over this intellectual property as we exercise over our internally-developed technology. Moreover, some of our academic institution licensors, research collaborators and scientific advisors have rights to publish data and information in which we have rights. If we cannot maintain the confidentiality of our technology and other confidential information in connection with our collaborations, our ability to receive patent protection or protect our proprietary information may otherwise be impaired. In addition, some of the technology we have licensed relies on patented inventions developed using U.S. government resources.

The U.S. government retains certain rights, as defined by law, in such patents, and may choose to exercise such rights. Certain of our in-licenses may be terminated if we fail to meet specified obligations. If we fail to meet such obligations and any of our licensors exercise their termination rights, we could lose our rights under those agreements. If we lose any of our rights, it may adversely affect the way we conduct our business. In addition, because certain of our licenses are sublicenses, the actions of our licensors may affect our rights under those licenses.

If a dispute arises regarding the infringement or misappropriation of the proprietary rights of others, such dispute could be costly and result in delays in our research and development activities and partnering.

Our success will depend, in part, on our ability to operate without infringing or misappropriating the proprietary rights of others. There are many issued patents and patent applications filed by third parties relating to products or processes that are similar or identical to our licensors or ours, and others may be filed in the future. There may also be copyrights or trademarks that third parties hold. There can be no assurance that our activities, or those of our licensors, will not violate intellectual property rights of others. We believe that there may be significant litigation in the industry regarding patent and other intellectual property rights, and we do not know if our collaborators or we would be successful in any such litigation. Any legal action against our collaborators or us claiming damages or seeking to enjoin commercial activities relating to the affected products, our methods or processes could:

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- require our collaborators or us to obtain a license to continue to use, manufacture or market the affected products, methods or processes, which may not be available on commercially reasonable terms, if at all;
- prevent us from using the subject matter claimed in the patents held by others;
- subject us to potential liability for damages;
- consume a substantial portion of our managerial and financial resources; and
 - result in litigation or administrative proceedings that may be costly, whether we win or lose.

Our ability to use net operating losses and certain other tax attributes is uncertain and may be limited.

Our ability to use our federal and state net operating losses to offset potential future taxable income and related income taxes that would otherwise be due is dependent upon our generation of future taxable income before the expiration dates of the net operating losses, and we cannot predict with certainty when, or whether, we will generate sufficient taxable income to use all of our net operating losses. In addition, utilization of net operating losses to offset potential future taxable income and related income taxes that would otherwise be due is subject to annual limitations under the “ownership change” provisions of Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (Internal Revenue Code) and similar state provisions, which may result in the expiration of net operating losses before future utilization. In general, under the Code, if a corporation undergoes an “ownership change,” generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation’s ability to use its pre-change net operating losses and other pre-change tax attributes (such as research and development credit carryforwards) to offset its post-change taxable income or taxes may be limited. Our equity offerings and other changes in our stock ownership, some of which are outside of our control, may have resulted or could in the future result in an ownership change. Although we have completed studies to provide reasonable assurance that an ownership change limitation would not apply, we cannot be certain that a taxing authority would reach the same conclusion. If, after a review or audit, an ownership change limitation were to apply, utilization of our domestic net operating losses and tax credit carryforwards could be limited in future periods and a portion of the carryforwards could expire before being available to reduce future income tax liabilities.

Because we expect to be dependent upon collaborative and license agreements, we might not meet our strategic objectives.

Our ability to generate revenue in the near term depends on the timing of recognition of certain upfront payments, achievement of certain payment triggering events with our existing collaboration agreements and our ability to enter into additional collaborative agreements with third parties. Our ability to enter into new collaborations and the revenue, if any, that may be recognized under these collaborations is highly uncertain. If we are unable to enter into one or more new collaborations, our business prospects could be harmed, which could have an immediate adverse effect on our ability to continue to develop our compounds and on the trading price of our stock. Our ability to enter into a collaboration may be dependent on many factors, such as the results of our clinical trials, competitive factors and the fit of one of our programs with another company's risk tolerance, including toward regulatory issues, patent portfolio, clinical pipeline, the stage of the available data, particularly if it is early, overall corporate goals and financial position.

To date, a portion of our revenues have been related to the research or transition phase of each of our collaborative agreements. Such revenues are for specified periods, and the impact of such revenues on our results of operations is at least partially offset by corresponding research costs. Following the completion of the research or transition phase of each collaborative agreement, additional revenues may come only from payments triggered by milestones and/or the achievement of other contingent events, and royalties, which may not be paid, if at all, until certain conditions are met. This risk is heightened due to the fact that unsuccessful research efforts may preclude us from receiving any contingent payments under these agreements. Our receipt of revenues from collaborative arrangements is also significantly affected by the timing of efforts expended by us and our collaborators and the timing of lead compound identification. We have received payments from our collaborations with Aclaris, BMS, AZ, BerGenBio, Janssen Pharmaceutica N.V., a division of Johnson & Johnson, Novartis Pharma A.G., Daiichi, Merck & Co., Inc., Merck Serono

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and Pfizer. Under many agreements, future payments may not be earned until the collaborator has advanced product candidates into clinical testing, which may never occur or may not occur until some time well into the future. If we are not able to generate revenue under our collaborations when and in accordance with our expectations or the expectations of industry analysts, this failure could harm our business and have an immediate adverse effect on the trading price of our common stock.

Our business requires us to generate meaningful revenue from royalties and licensing agreements. To date, we have not received any revenue from royalties for the commercial sale of drugs, and we do not know when we will receive any such revenue, if at all.

Securities class action lawsuits or other litigation could result in substantial damages and may divert management's time and attention from our business.

We have been subject to class action lawsuits in the past, including a securities class action lawsuit commenced in the United States District Court for the Northern District of California in February 2009, that was ultimately dismissed in November 2012. However, we may be subject to similar or completely unrelated claims in the future, such as those that might occur if there was to be a change in our corporate strategy. These and other lawsuits are subject to inherent uncertainties, and the actual costs to be incurred relating to the lawsuit will depend upon many unknown factors. The outcome of litigation is necessarily uncertain, and we could be forced to expend significant resources in the defense of such suits, and we may not prevail. Monitoring and defending against legal actions is time-consuming for our management and detracts from our ability to fully focus our internal resources on our business activities. In addition, we may incur substantial legal fees and costs in connection with any such litigation. We have not established any reserves for any potential liability relating to any such potential lawsuits. It is possible that we could, in the future, incur judgments or enter into settlements of claims for monetary damages. A decision adverse to our interests on any such actions could result in the payment of substantial damages, or possibly fines, and could have a material adverse effect on our cash flow, results of operations and financial position.

If our competitors develop technologies that are more effective than ours, our commercial opportunity will be reduced or eliminated.

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. Many of the drugs that we are attempting to discover will be competing with existing therapies. In addition, a number of companies are pursuing the development of pharmaceuticals that target the same diseases and conditions that we are targeting. For example, there are existing therapies and drug candidates in development for the treatment of ITP that may be alternative therapies to fostamatinib, if it is ultimately approved for commercialization. We face, and will continue to face, intense competition from pharmaceutical and biotechnology companies, as well as from academic and research institutions and government agencies, both in the United States and abroad. Some of these competitors are pursuing the development of pharmaceuticals that target the same diseases and conditions as our research programs. Our major competitors include fully integrated pharmaceutical companies that have extensive drug

discovery efforts and are developing novel small-molecule pharmaceuticals. We also face significant competition from organizations that are pursuing the same or similar technologies, including the discovery of targets that are useful in compound screening, as the technologies used by us in our drug discovery efforts.

Competition may also arise from:

- new or better methods of target identification or validation;
- other drug development technologies and methods of preventing or reducing the incidence of disease;
- new small molecules; or
- other classes of therapeutic agents.

Our competitors or their collaborative partners may utilize discovery technologies and techniques or partner with collaborators in order to develop products more rapidly or successfully than we or our collaborators are able to do.

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Many of our competitors, particularly large pharmaceutical companies, have substantially greater financial, technical and human resources and larger research and development staffs than we do. In addition, academic institutions, government agencies and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies and may establish exclusive collaborative or licensing relationships with our competitors.

We believe that our ability to compete is dependent, in part, upon our ability to create, maintain and license scientifically-advanced technology and upon our and our collaborators' ability to develop and commercialize pharmaceutical products based on this technology, as well as our ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary technology or processes and secure sufficient capital resources for the expected substantial time period between technological conception and commercial sales of products based upon our technology. The failure by any of our collaborators or us in any of those areas may prevent the successful commercialization of our potential drug targets.

Many of our competitors, either alone or together with their collaborative partners, have significantly greater experience than we do in:

- identifying and validating targets;
- screening compounds against targets; and
- undertaking preclinical testing and clinical trials.

Accordingly, our competitors may succeed in obtaining patent protection, identifying or validating new targets or discovering new drug compounds before we do.

Our competitors might develop technologies and drugs that are more effective or less costly than any that are being developed by us or that would render our technology and product candidates obsolete and noncompetitive. In addition, our competitors may succeed in obtaining the approval of the FDA or other regulatory agencies for product candidates more rapidly. Companies that complete clinical trials, obtain required regulatory agency approvals and commence commercial sale of their drugs before us may achieve a significant competitive advantage, including certain patent and FDA marketing exclusivity rights that would delay or prevent our ability to market certain products. Any drugs resulting from our research and development efforts, or from our joint efforts with our existing or future collaborative partners, might not be able to compete successfully with competitors' existing or future products or obtain regulatory approval in the United States or elsewhere.

We face and will continue to face intense competition from other companies for collaborative arrangements with pharmaceutical and biotechnology companies, for establishing relationships with academic and research institutions and for licenses to additional technologies. These competitors, either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective than ours.

Our stock price may be volatile, and our stockholders' investment in our common stock could decline in value.

The market prices for our common stock and the securities of other biotechnology companies have been highly volatile and may continue to be highly volatile in the future. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- the progress and success of our clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- the receipt or failure to receive the additional funding necessary to conduct our business;
- selling by large stockholders;
- presentations of detailed clinical trial data at medical and scientific conferences and investor perception

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thereof;

- announcements of technological innovations or new commercial products by our competitors or us;
- developments concerning proprietary rights, including patents;
- developments concerning our collaborations;
- publicity regarding actual or potential medical results relating to products under development by our competitors or us;
- regulatory developments in the United States and foreign countries;
- litigation or arbitration;
- economic and other external factors or other disaster or crisis; and
- period-to-period fluctuations in financial results.

If we fail to continue to meet the listing standards of NASDAQ, our common stock may be delisted, which could have a material adverse effect on the liquidity of our common stock.

Our common stock is currently listed on the Nasdaq Global Market. The NASDAQ Stock Market LLC has requirements that a company must meet in order to remain listed on NASDAQ. In particular, NASDAQ rules require us to maintain a minimum bid price of \$1.00 per share of our common stock. If the closing bid price of our common stock were to fall below \$1.00 per share for 30 consecutive trading days or we do not meet other listing requirements, we would fail to be in compliance with NASDAQ's listing standards. There can be no assurance that we will continue to meet the minimum bid price requirement, or any other requirement in the future. If we fail to meet the minimum bid price requirement, The NASDAQ Stock Market LLC may initiate the delisting process with a notification letter. If we were to receive such a notification, we would be afforded a grace period of 180 calendar days to regain compliance with the minimum bid price requirement. In order to regain compliance, shares of our common stock would need to maintain a minimum closing bid price of at least \$1.00 per share for a minimum of 10 consecutive trading days. In addition, we may be unable to meet other applicable NASDAQ listing requirements, including maintaining minimum levels of stockholders' equity or market values of our common stock in which case, our common stock could be delisted. If our common stock were to be delisted, the liquidity of our common stock would be adversely affected and the market price of our common stock could decrease.

The vote by the United Kingdom (U.K.) electorate in favor of the U.K.'s exit from the European Union (E.U.) could adversely impact our business, results of operations and financial condition.

The passage of the referendum on the U.K.'s membership in the E.U., referred to as "Brexit," in June 2016 resulted in a determination that the U.K. should exit the E.U. Such an exit from the E.U. could cause uncertainty in the credit markets and financial services industry which could result to lower interest paid on certain of our investments and the value of certain securities we hold may decline in the future, which could negatively affect our financial condition, results of operations and cash flow, as well as limit our future access to the capital markets. The Brexit could also cause disruptions to and create uncertainty surrounding the business environment in which we operate. For example, we conduct clinical trials in the U.K. and other E.U. member states. Although the terms of U.K.'s exit from and its future relationship with E.U. are unknown, it is possible that there will be increased regulatory complexities which can disrupt the timing of our clinical trials and regulatory approvals, if any, of our current and future product candidates.

Our ability to generate revenues will be diminished if we or our collaborative partners fail to obtain acceptable prices or an adequate level of reimbursement for products from third-party payers or government agencies.

The drugs we hope to develop may be rejected by the marketplace due to many factors, including cost. Our ability to commercially exploit a drug may be limited due to the continuing efforts of government and third-party payers to contain or reduce the costs of health care through various means. For example, in some foreign markets, pricing and

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profitability of prescription pharmaceuticals are subject to government control. In the United States, we expect that there will continue to be a number of federal and state proposals to implement similar government control. In addition, increasing emphasis on managed care in the United States will likely continue to put pressure on the pricing of pharmaceutical products. Cost control initiatives could decrease the price that we or any of our collaborators would receive for any products in the future. Further, cost control initiatives could adversely affect our and our collaborators' ability to commercialize our products and our ability to realize royalties from this commercialization.

Our ability to commercialize pharmaceutical products with collaborators may depend, in part, on the extent to which reimbursement for the products will be available from:

- government and health administration authorities;

- private health insurers; and

- other third-party payers.

Significant uncertainty exists as to the reimbursement status of newly-approved healthcare products. Third-party payers, including Medicare, are challenging the prices charged for medical products and services. Government and other third-party payers increasingly are attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for new drugs and by refusing, in some cases, to provide coverage for uses of approved products for disease indications for which the FDA has not granted labeling approval. Third-party insurance coverage may not be available to patients for any products we discover and develop, alone or with collaborators. If government and other third-party payers do not provide adequate coverage and reimbursement levels for our products, the market acceptance of these products may be reduced.

If product liability lawsuits are successfully brought against us, we may incur substantial liabilities and may be required to limit commercialization of our products.

The testing and marketing of medical products entail an inherent risk of product liability. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our products. We carry product liability insurance that is limited in scope and amount and may not be adequate to fully protect us against product liability claims. Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of pharmaceutical products we develop, alone or with corporate collaborators. We, or our corporate collaborators, might not be able to obtain insurance at a reasonable cost, if at all. While under various circumstances we are entitled to be indemnified against losses by our corporate collaborators, indemnification may not be available or adequate should any claim arise.

We depend on various scientific consultants and advisors for the success and continuation of our research and development efforts.

We work extensively with various scientific consultants and advisors. The potential success of our drug discovery and development programs depends, in part, on continued collaborations with certain of these consultants and advisors. We, and various members of our management and research staff, rely on certain of these consultants and advisors for expertise in our research, regulatory and clinical efforts. Our scientific advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We do not know if we will be able to maintain such consulting agreements or that such scientific advisors will not enter into consulting arrangements, exclusive or otherwise, with competing pharmaceutical or biotechnology companies, any of which would have a detrimental impact on our research objectives and could have a material adverse effect on our business, financial condition and results of operations.

If we use biological and hazardous materials in a manner that causes injury or violates laws, we may be liable for damages, penalties or fines.

Our research and development activities involve the controlled use of potentially harmful biological materials as well as hazardous materials, chemicals and various radioactive compounds. We cannot completely eliminate the risk of

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accidental contamination or injury from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for damages that result or for penalties or fines that may be imposed, and such liability could exceed our resources. We are also subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. The cost of compliance with, or any potential violation of, these laws and regulations could be significant.

Our internal computer systems, or those used by our contract research organizations or other contractors or consultants, may fail or suffer security breaches.

Despite the implementation of security measures, our internal computer systems and those of our contract research organizations 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 disruption of our drug development programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for a product candidate could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of any product candidates could be delayed.

Our facilities are located near known earthquake fault zones, and the occurrence of an earthquake or other catastrophic disaster could cause damage to our facilities and equipment, which could require us to cease or curtail operations.

Our facilities are located in the San Francisco Bay Area near known earthquake fault zones and are vulnerable to significant damage from earthquakes. We are also vulnerable to damage from other types of disasters, including fires, floods, power loss, communications failures and similar events. If any disaster were to occur, our ability to operate our business at our facilities would be seriously, or potentially completely, impaired, and our research could be lost or destroyed. In addition, the unique nature of our research activities and of much of our equipment could make it difficult for us to recover from a disaster. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions.

Future equity issuances or a sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

Because we will continue to need additional capital in the future to continue to expand our business and our research and development activities, among other things, we may conduct additional equity offerings. For example, under the universal shelf registration statement filed by us in May 2015 and declared effective by the SEC in July 2015, we may

offer and sell any combination of common stock, preferred stock, debt securities and warrants in one or more offerings, up to a cumulative value of \$150 million. To date, we have \$74 million remaining under such universal shelf registration statement. If we or our stockholders sell, or if it is perceived that we or they will sell, substantial amounts of our common stock (including shares issued upon the exercise of options and warrants) in the public market, the market price of our common stock could fall. A decline in the market price of our common stock could make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate. In addition, future sales by us of our common stock may be dilutive to existing stockholders. Furthermore, if we obtain funds through a credit facility or through the issuance of debt or preferred securities, these securities would likely have rights senior to the rights of our common stockholders, which could impair the value of our common stock.

Anti-takeover provisions in our charter documents and under Delaware law may make an acquisition of us, which may be beneficial to our stockholders, more difficult.

Provisions of our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us, even if doing so would benefit our stockholders. These provisions:

- establish that members of the board of directors may be removed only for cause upon the affirmative vote

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of stockholders owning a majority of our capital stock;

- authorize the issuance of “blank check” preferred stock that could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;
- limit who may call a special meeting of stockholders;
- prohibit stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings;
- provide for a board of directors with staggered terms; and
- provide that the authorized number of directors may be changed only by a resolution of our board of directors.

In addition, Section 203 of the Delaware General Corporation Law, which imposes certain restrictions relating to transactions with major stockholders, may discourage, delay or prevent a third party from acquiring us.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We currently lease facilities consisting of approximately 147,000 square feet of research and office space located at 1180 Veterans Boulevard, South San Francisco, California, of which, commencing in December 2014, we sublet approximately 57,000 square feet of our research and office space to an unrelated third party. Both the lease and the sublease expire in January 2018. We believe our facilities are in good operating condition and that the leased real property that we still occupy is adequate for all present and near term uses.

Item 3. Legal Proceedings

None.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock commenced trading publicly under the symbol “RIGL” on December 7, 2000. The following table sets forth, for the periods indicated, the high and low intraday sales prices of our common stock as reported on the Nasdaq Global Market:

	High	Low
Year Ended December 31, 2015		
First Quarter	\$ 3.91	\$ 2.02
Second Quarter	\$ 5.20	\$ 2.95
Third Quarter	\$ 3.39	\$ 2.32
Fourth Quarter	\$ 3.68	\$ 2.42
Year Ended December 31, 2016		
First Quarter	\$ 2.97	\$ 1.94
Second Quarter	\$ 2.93	\$ 2.16
Third Quarter	\$ 3.93	\$ 2.13
Fourth Quarter	\$ 4.01	\$ 2.38

On March 1, 2017, the last reported sale price for our common stock on the Nasdaq Global Market was \$2.85 per share.

Holders

As of March 1, 2017, there were approximately 95 stockholders of record of our common stock.

Dividends

We have not paid any cash dividends on our common stock and currently do not plan to pay any cash dividends in the foreseeable future.

Performance Measurement Comparison

The graph below shows the cumulative total stockholder return of an investment of \$100 (and the reinvestment of any dividends thereafter) on December 31, 2011 in (i) our common stock, (ii) the Nasdaq Composite Index and (iii) the Nasdaq Biotechnology Index. The Nasdaq Biotechnology Index is a modified capitalization weighted index that includes securities of Nasdaq listed companies classified according to the Industry Classification Benchmark as either Biotechnology or Pharmaceuticals and which also meet other eligibility criteria. Our stock price performance shown in the graph below is based upon historical data and is not indicative of future stock price performance.

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The following graph and related information shall not be deemed “soliciting material” or be deemed to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing, except to the extent that we specifically incorporate it by reference into such filing.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Rigel Pharmaceuticals, Inc., the NASDAQ Composite Index

and the NASDAQ Biotechnology Index

*\$100 invested on December 31, 2011 in stock or index including reinvestment of dividends at fiscal year ending December 31.

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Item 6. Selected Financial Data

The following selected financial data have been derived from our audited financial statements. The information set forth below is not necessarily indicative of our results of future operations and should be read in conjunction with “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Item 8. Financial Statements and Supplementary Data” included elsewhere in this Annual Report on Form 10 K.

	Fiscal Year Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands, except per share amounts)				
Statements of Operations Data:					
Contract revenues from collaborations	\$ 20,383	\$ 28,895	\$ 8,250	\$ 7,150	\$ 2,250
Costs and expenses:					
Research and development	63,446	62,825	67,696	75,328	78,778
General and administrative	20,908	17,813	22,501	19,612	22,849
Restructuring charges	5,770	—	—	1,679	—
Loss on sublease	—	—	9,302	—	—
Total costs and expenses	90,124	80,638	99,499	96,619	101,627
Loss from operations	(69,741)	(51,743)	(91,249)	(89,469)	(99,377)
Interest income	437	222	243	426	520
Gain on disposal of assets	88	57	98	16	17
Net loss	\$ (69,216)	\$ (51,464)	\$ (90,908)	\$ (89,027)	\$ (98,840)
Net loss per share, basic and diluted	\$ (0.73)	\$ (0.58)	\$ (1.04)	\$ (1.02)	\$ (1.32)
Weighted average shares used in computing net loss per share, basic and diluted	94,387	88,434	87,662	87,288	74,967

	As of December 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Balance Sheet Data:					
Cash, cash equivalents and short-term investments	\$ 74,766	\$ 126,276	\$ 143,159	\$ 211,975	\$ 298,241
Working capital	53,626	95,228	136,512	209,781	290,254
Total assets	78,134	131,747	154,135	226,058	310,043
Accumulated deficit	(1,060,862)	(991,646)	(940,182)	(849,274)	(760,247)
Total stockholders’ equity	55,027	91,381	128,246	208,251	289,096

See Note 1 to the Financial Statements for description of the number of shares used in the computation of basic and diluted loss per share.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

We are a clinical-stage biotechnology company dedicated to the discovery and development of novel, targeted drugs in the therapeutic areas of immunology, oncology and immuno-oncology. Our pioneering research focuses on signaling pathways that are critical to disease mechanisms. Our current clinical programs include clinical studies of fostamatinib, an oral spleen tyrosine kinase (SYK) inhibitor in a number of indications. We completed and reported results from the FIT Phase 3 clinical program of fostamatinib in chronic immune thrombocytopenia (ITP). We are also conducting a Phase 2 clinical study with fostamatinib in autoimmune hemolytic anemia (AIHA) and a Phase 2 clinical study for IgA nephropathy (IgAN). In addition, we have two oncology product candidates in development with partners BerGenBio AS (BerGenBio) (Phase 2) and Daiichi Sankyo (Daiichi) (Phase 1).

Since inception, we have financed our operations primarily through the sale of equity securities, and contract payments under our collaboration agreements. Our research and development activities, including preclinical studies and clinical trials, consume substantial amounts of capital. As of December 31, 2016, we had approximately \$74.8 million in cash, cash equivalents and short term investments. During the year ended December 31, 2016, we received an aggregate proceeds of \$24.3 million under the Controlled Equity OfferingSM Sales Agreement, an aggregate of \$6.7 million payments pursuant to our agreements with our collaborative partners, and approximately \$4.5 million of sublease income and reimbursements under a sublease agreement with an unrelated third party. In February 2017, we completed an underwritten public offering in which we sold 23,000,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$2.00 per share. We received net proceeds of approximately \$43.0 million after deducting underwriting discounts and commissions and estimated offering expenses. We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including the preparation for potential commercial launch of fostamatinib in ITP in the U.S., through at least the next 12 months. We also continue to evaluate ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipelines.

Our revenues have consisted primarily of revenues from sponsored research and license agreements with our corporate collaborators. We earned contract revenues from collaborations of \$20.4 million in 2016 comprised of the amortization of the \$30.0 million upfront payment from BMS of \$13.4 million, contingent payment of \$3.0 million, and the FTE fees we earned from BMS of \$290,000, as well as the contingent payment we received from BerGenBio of \$3.7 million.

Within our product development portfolio, our most advance program is fostamatinib in ITP. Data from the first two Phase 3 studies, as well as our ongoing open-label extension study demonstrate the consistent benefit of fostamatinib in ITP. We plan to submit an NDA for fostamatinib in ITP in the first quarter of 2017 and would expect to receive a decision on approval from the FDA in the first quarter of 2018, with a potential commercial launch in the U.S. in the first half of 2018.

Product Development Programs

Our product development portfolio features multiple novel, targeted drug candidates in the therapeutic areas of immunology, oncology and immuno-oncology. Please refer to "Part I. Item 1. Business—Product Development Programs" for a detailed discussion of our multiple product candidates in development.

Corporate Collaborations

We conduct research and development programs independently and in connection with our corporate collaborators. Please refer to “Part I. Item 1. Business—Corporate Collaborations” for a detailed discussion of our corporate collaborations.

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Recent Developments

Changes in Board of Directors

On February 22, 2017, Stephen A. Sherwin, M.D. notified the Company of his decision to resign as a member of the Board of Directors of the Company (the “Board”), effective as of May 11, 2017, the anticipated date of the Company’s 2017 Annual Meeting of Stockholders.

Effective upon Dr. Sherwin’s resignation, the Board also appointed Gary A. Lyons, a current member of the Board, to the Audit Committee of the Board (the “Audit Committee”). Mr. Lyons’s appointment to the Audit Committee fills the vacancy created by the resignation of Dr. Sherwin.

Effective February 24, 2017, and solely in order to provide for an equal apportionment of the members among the three classes of the Company’s classified Board, Raul R. Rodriguez, resigned from the Board as a director continuing in office until the Company’s 2018 Annual Meeting of Stockholders and was immediately reappointed by the Board as a director continuing in office until the Company’s 2017 Annual Meeting of Stockholders. The reallocation of Mr. Rodriguez as a director continuing in office until the Company’s 2017 Annual Meeting of Stockholders had no effect on any aspect of Mr. Rodriguez’s compensatory arrangements with the Company.

In connection with these actions and in accordance with the Company’s amended and restated certificate of incorporation and amended and restated bylaws, the Board eliminated the vacancy created from Dr. Sherwin’s resignation from the Board by reducing the total number of authorized directors to six (6) members, effective upon Dr. Sherwin’s resignation.

Research and Development Expenses

Our research and development expenditures include costs related to preclinical and clinical trials, scientific personnel, supplies, equipment, consultants, sponsored research, stock based compensation, and allocated facility costs.

We do not track fully burdened research and development costs separately for each of our drug candidates. We review our research and development expenses by focusing on three categories: research, development, and other. Our research team is focused on creating a portfolio of product candidates that can be developed into small molecule therapeutics in our own proprietary programs or with potential collaborative partners and utilizes our discovery engine to discover and validate new product candidates in our focused range of therapeutic indications. “Research” expenses relate primarily to personnel expenses, lab supplies, fees to third party research consultants and compounds. Our development group leads the implementation of our clinical and regulatory strategies and prioritizes disease indications in which our compounds may be studied in clinical trials. “Development” expenses relate primarily to

clinical trials, personnel expenses, lab supplies and fees to third party research consultants. “Other” expenses primarily consist of allocated facilities costs and allocated stock based compensation expense relating to personnel in research and development groups.

In addition to reviewing the three categories of research and development expenses described in the preceding paragraph, we principally consider qualitative factors in making decisions regarding our research and development programs, which include enrollment in clinical trials and the results thereof, the clinical and commercial potential for our drug candidates and competitive dynamics. We also make our research and development decisions in the context of our overall business strategy, which includes the evaluation of potential collaborations for the development of our drug candidates.

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The following table presents our total research and development expenses by category.

Categories:	Year Ended December 31,			From January 1, 2007* to December 31, 2016
	2016	2015	2014	
	(in thousands)			
Research	\$ 19,909	\$ 21,904	\$ 18,388	\$ 216,408
Development	30,951	25,988	27,727	314,233
Other	12,586	14,933	21,581	221,951
	\$ 63,446	\$ 62,825	\$ 67,696	\$ 752,592

*We started tracking research and development expenses by category on January 1, 2007.

“Other” expenses mainly represent allocated facilities costs of approximately \$9.5 million, \$10.8 million and \$16.9 million for the years ended December 31, 2016, 2015 and 2014, respectively, and allocated stock based compensation expenses of approximately \$3.1 million, \$4.1 million and \$4.7 million for the years ended December 31, 2016, 2015 and 2014, respectively.

For the year ended December 31, 2016, a major portion of our total research and development expense was associated with research and development expense for our ITP, IgAN and AIHA programs, salaries of our research and development personnel, allocated facilities costs, and research and development expense for our ITP, IgAN and AIHA programs. For the years ended December 31, 2015 and 2014, a major portion of our total research and development expense was associated with salaries of our research and development personnel, allocated facilities costs, and research and development expense for our ITP and IgAN programs.

We do not have reliable estimates regarding the timing of our clinical trials. Preclinical testing and clinical development are long, expensive and uncertain processes. In general, biopharmaceutical development involves a series of steps, beginning with identification of a potential target and including, among others, proof of concept in animals and Phase 1, 2 and 3 clinical trials in humans. Significant delays in clinical testing could materially impact our product development costs and timing of completion of the clinical trials. We do not know whether planned clinical trials will begin on time, will need to be halted or revamped or will be completed on schedule, or at all. Clinical trials can be delayed for a variety of reasons, including delays in obtaining regulatory approval to commence a trial, delays from scale up, delays in reaching agreement on acceptable clinical trial agreement terms with prospective clinical sites, delays in obtaining institutional review board approval to conduct a clinical trial at a prospective clinical site or delays in recruiting subjects to participate in a clinical trial.

We currently do not have reliable estimates of total costs for a particular drug candidate to reach the market. Our potential products are subject to a lengthy and uncertain regulatory process that may involve unanticipated additional clinical trials and may not result in receipt of the necessary regulatory approvals. Failure to receive the necessary regulatory approvals would prevent us from commercializing the product candidates affected. In addition, clinical trials of our potential products may fail to demonstrate safety and efficacy, which could prevent or significantly delay regulatory approval.

For further discussion on research and development activities, see “Research and Development Expense” under “Results of Operations” below.

Critical Accounting Policies and the Use of Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The preparation of these financial statements requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. We evaluate our estimates, including those related to our stock based compensation and the probability of achievement of corporate performance-based milestone for our

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performance-based stock option awards, impairment issues, the estimated useful life of assets, and estimated accruals, particularly research and development accruals, on an ongoing basis. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that there were no significant changes in our critical accounting policies during the year ended December 31, 2016 as compared to those previously disclosed in our Annual Report on Form 10 K for the year ended December 31, 2015. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our financial statements:

Revenue Recognition

We present revenue from our collaboration arrangements under the FASB ASC 808, Collaboration Arrangements. The terms of these agreements generally contain multiple elements, or deliverables, which may include (i) granting of license rights to our program, (ii) participation in a joint research committee, (iii) performance of research activities, and (iv) clinical supply and materials. The payments we receive under these arrangements typically include one or more of the following: non-refundable, up-front fees; funding of research and/or development efforts; contingent fees due upon the achievement of specified triggering events; and/or royalties on future product sales. We recognize revenue for the performance of services or the delivery of products when each of the following four criteria is met: (i) persuasive evidence of an arrangement exists; (ii) products are delivered or as services are rendered; (iii) the sales price is fixed or determinable; and (iv) collectability is reasonably assured.

Our revenue arrangements with multiple elements are evaluated under FASB ASC 605 25, Multiple Element Arrangements, and are divided into separate units of accounting if certain criteria are met, including whether the deliverables have stand-alone value, based on the relevant facts and circumstances for each arrangement. The consideration we receive under collaboration arrangements is allocated among the separate units of accounting based on the selling price hierarchy, and the applicable revenue recognition criteria is applied to each of the separate units. We make significant judgments and estimates in the allocation of the consideration among the deliverables under the agreement, as well as the determination of the periods the units will be delivered to our collaborators. If there are deliverables in an arrangement that are not separable from other aspects of the contractual relationship, they are treated as a combined unit of accounting, with the allocated revenue for the combined unit recognized in a manner consistent with the revenue recognition applicable to the final deliverable in the combined unit. Payments received prior to satisfying the relevant revenue recognition criteria are recorded as deferred revenue in the accompanying balance sheets and recognized as revenue when the revenue recognition criteria are met.

We typically receive non-refundable, up-front payments when licensing our intellectual property, which often occurs in conjunction with a research and development agreement. If we believe that the license to our intellectual property has stand-alone value, we generally recognize revenue attributed to the license upon delivery provided that there are no future performance requirements for use of the license. When we believe that the license to our intellectual property does not have stand-alone value, we would recognize revenue attributed to the license ratably from the effective date of the agreement or the delivery of the license up to the estimated completion date of the undelivered performance obligation. Revenues related to the research services with our corporate collaborators are recognized as research services are performed over the related research period. Under these agreements, we are required to perform research activities as specified in the agreement. The payments received are not refundable and are based on a contractual cost per full-time equivalent employee working on the project. Our research and development expenses under the collaborative research agreements approximate the revenue recognized under such agreements over the research period.

Revenues associated with substantive, at-risk milestones pursuant to collaborative agreements are recognized upon achievement of the milestones. We consider a milestone to be substantive at the inception of the arrangement if it is commensurate with either our performance to achieve the milestone or the enhancement of the value of the delivered item as a result of a specific outcome resulting from our performance to achieve the milestone, it relates solely to past performance and it is reasonable relative to all of the deliverables and payment terms within the arrangement. Non-refundable contingent future amounts receivable in connection with future events specified in collaboration agreements

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that are not considered milestones such as payments contingent solely upon the passage of time or the result of our collaborator's performance will be recognized as revenue when the recognition criteria discussed above are met.

Stock Based Compensation

We grant options to purchase our common stock to our officers, directors and all other employees and consultants under our stock option plans. Eligible employees can also purchase shares of our common stock at a price per share equal to the lesser of 85% of the fair market value on the first day of the offering period or 85% of the fair market value on the purchase date under our employee stock purchase plan (Purchase Plan). The benefits provided under these plans are stock based payments subject to the provisions of FASB ASC 718. We adopted the use of the straight line attribution method over the requisite service period for each entire stock award. In addition, we estimate the amount of expected forfeitures when calculating compensation costs, then record actual forfeitures as they occur. We review our forfeiture rates each quarter and make any necessary changes to our estimates.

The determination of the fair value of stock based payment awards on the date of grant using the Black Scholes option pricing model is affected by our stock price, as well as assumptions regarding a number of complex and subjective variables. These variables include, but are not limited to, volatility, expected term, risk free interest rate and dividends. We estimate volatility over the expected term of the option using historical share price performance. For expected term, among other things, we take into consideration our historical data of options exercised, cancelled and expired. The risk free rate is based on the U.S. Treasury constant maturity rate. We have not paid and do not expect to pay dividends in the foreseeable future. In order to calculate stock based compensation expense, we also estimate the forfeiture rate using our historical experience with options that cancel before they vest.

We granted performance-based stock options to purchase shares of our common stock which will vest upon the achievement of certain corporate performance-based milestones. We determined the fair values of these performance-based stock options using the Black-Scholes option pricing model at the date of grant. For the portion of the performance-based stock options of which the performance condition is considered probable of achievement, we recognize stock-based compensation expense on the related estimated fair value of such options on a straight-line basis from the date of grant up to the date when we expect the performance condition will be achieved. For the performance conditions that are not considered probable of achievement at the grant date or upon quarterly re-evaluation, prior to the event actually occurring, we recognize the related stock-based compensation expense when the event occurs or when we can determine that the performance condition is probable of achievement. In those cases, we recognize the change in estimate at the time we determine the condition is probable of achievement (by recognizing stock-based compensation expense as cumulative catch-up adjustment as if we had estimated at the grant date that the performance condition would have been achieved) and recognize the remaining compensation cost up to the date when we expect the performance condition will be achieved, if any. During the year ended December 31, 2016, we recognized \$1.8 million of stock-based compensation expense relating to certain performance-based stock options granted in 2014, 2015 and 2016 in which the corresponding corporate performance-based milestones have been achieved or were considered probable of achievement as of December 31, 2016. At December 31, 2016, total unrecognized compensation cost related to certain performance-based stock options, with various performance conditions, was \$458,000.

Research and Development Accruals

We have various contracts with third parties related to our research and development activities. Costs that are incurred for services rendered, but not billed to us, as of the end of the period are estimated and accrued. We make estimates of the amounts incurred in each period based on the information available to us and our knowledge of the nature of the contractual activities generating such costs. Expenses related to other research and development contracts, such as research contracts, toxicology study contracts and manufacturing contracts are estimated to be incurred generally on a

straight line basis over the duration of the contracts. Raw materials and study materials purchased for us by third parties are expensed at the time of purchase. Many of our estimates are based significantly or in part on information provided for us by third parties. If such information were not reported properly, our research and development expense amounts could be misstated.

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Leases

We currently lease our research and office space under a noncancelable lease agreement with our landlord through January 2018. In December 2014, we entered into a sublease agreement with an unrelated third party to occupy a portion of our research and office space. In connection with this sublease, we recognized a loss on the sublease of \$9.3 million during the fourth quarter of 2014. We record rent expense on a straight line basis for our lease, net of sublease income, wherein such arrangements contain scheduled rent increases over the term of the lease and sublease, respectively. For our sublease arrangement which we classified as an operating lease, our loss on the sublease is comprised of the present value of our future payments to our landlord less the present value of our future rent payments expected from our subtenant over the term of the sublease. The present value factor, which also affects the level of accreted interest expense that we will recognize as additional charges over the term of the lease, is based on our estimate of our credit risk adjusted borrowing rate at the time the initial sublease liability is calculated. Our estimate of our credit risk adjusted borrowing rate was based on our comparison of the rates used by other companies of our size, our financial condition at the time we entered into such sublease agreement, as well as other factors that would affect our credit worthiness.

Results of Operations

Year Ended December 31, 2016, 2015 and 2014

Revenues

	Year Ended December 31,			Aggregate	Aggregate
	2016	2015	2014	Change	Change
	(in thousands)			2016 from	2015 from
				2015	2014
Contract revenues from collaborations	\$ 20,383	\$ 28,895	\$ 8,250	\$ (8,512)	\$ 20,645

Contract revenues from collaborations of \$20.4 million in 2016 were comprised of the amortization of the \$30.0 million upfront payment of \$13.4 million, contingent payment of \$3.0 million, and the FTE fees we earned from BMS of \$290,000, as well as the contingent payment of \$3.7 million we received from BerGenBio. Contract revenues from collaborations of \$28.9 million in 2015 were comprised of the amortization of the \$30.0 million upfront payment from BMS of \$16.6 million and the FTE fees we earned from BMS of \$822,000 as well as the upfront payments received from our other collaborative partners in the aggregate of \$11.5 million. Contract revenues from collaborations of \$8.3 million in 2014 consisted of \$5.8 million associated with the non refundable time based payment and \$2.5 million payment from AZ for their continued development of R256 in asthma.

We do not have any deferred revenue as of December 31, 2016. Our potential future revenues may include payments from our current partners and from new partners with whom we enter into agreements in the future, if any, the timing and amount of which is unknown at this time.

Research and Development Expenses

	Year Ended December 31,			Aggregate	Aggregate
	2016	2015	2014	Change 2016 from 2015	Change 2015 from 2014
	(in thousands)				
Research and development expense	\$ 63,446	\$ 62,825	\$ 67,696	\$ 621	\$ (4,871)
Stock-based compensation expense included in research and development expense	\$ 3,103	\$ 4,100	\$ 4,674	\$ (997)	\$ (574)

The increase in research and development expense for the year ended December 31, 2016, compared to the same period in 2015, was primarily due to the increase in research and development costs related to our fostamatinib in ITP and AIHA programs, partially offset by the decreases in personnel costs and stock based compensation due to the reduction in workforce in September 2016. The decrease in research and development expense for the year ended

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December 31, 2015, compared to the same period in 2014, was primarily due to the decrease in facilities costs resulting from the sublease agreement executed in December 2014, the completion in 2014 of a Phase 2 study of R348 in dry eye and the discontinuation of our indirect AMPK activator program, R118, in 2014, partially offset by the increases in bonus compensation expense and research and development costs related to our Phase 3 clinical program in ITP.

We expect our research and development expense in 2017 to decrease as a result of the reduction in workforce in September 2016, as well as the completion of the pivotal Phase 3 clinical trials in ITP in 2016.

General and Administrative Expense

	Year Ended December 31,			Aggregate	Aggregate
	2016	2015	2014	Change	Change
	(in thousands)			2016 from	2015 from
				2015	2014
General and administrative expense	\$ 20,908	\$ 17,813	\$ 22,501	\$ 3,095	\$ (4,688)
Stock-based compensation expense included in general and administrative expense	\$ 4,230	\$ 3,303	\$ 5,113	\$ 927	\$ (1,810)

The increase in general and administrative expense for the year ended December 31, 2016, compared to the same period in 2015, was primarily due to the commercial launch costs incurred in preparation for a potential commercial launch of fostamatinib in ITP, as well as the recognition of stock-based compensation expense relating to certain performance-based stock options granted in 2016, 2015 and 2014 in which the corresponding corporate performance-based milestones have been achieved or were considered probable of achievement as of December 31, 2016. The decrease in general and administrative expense for the year ended December 31, 2015, compared to the same period in 2014, was primarily due to the decreases in personnel costs due to the retirement of our former Chief Executive Officer (CEO) in December 2014, as discussed below, and facilities costs as a result of the sublease agreement executed in December 2014.

In December 2014, we entered into a severance agreement with our former CEO. The severance agreement provides for cash severance payments payable in installments over a duration of 18 months beginning on January 1, 2015. As part of the severance arrangement we offered, we extended the date to which our former CEO had the right to exercise his vested options within 90 days from his termination date as was stipulated under his option agreement to the end of the contractual term of the options, of which the remaining contractual term for the most recently granted options is nine years. In addition, we also accelerated the vesting period of certain of his unvested stock options. As a result of these modifications, we recorded incremental stock-based compensation expense in the fourth quarter of 2014.

We expect our general and administrative expense in 2017 to increase as we as continue our efforts in preparation for potential commercial launch of fostamatinib in ITP in the U.S in 2018.

Loss on Sublease

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	Year Ended December 31,			Aggregate Change 2016 from 2015	Aggregate Change 2015 from 2014
	2016	2015	2014		
	(in thousands)				
Loss on sublease	\$ —	\$ —	\$ 9,302	\$ —	\$ (9,302)

In December 2014, we entered into a sublease arrangement whereby we sublet 56,750 square feet or approximately 39% of our research and office space and recorded a loss on sublease of \$9.3 million. The loss on the sublease is derived from the present value of the excess of our future remaining payments to our landlord associated with the applicable subleased space over our contractual sublease income from our subtenant over the term of the sublease.

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Restructuring Charges

	Year Ended December 31,			Aggregate Change	Aggregate Change
	2016	2015	2014	2016 from 2015	2015 from 2014
	(in thousands)				
Restructuring charges	\$ 5,770	\$ —	\$ —	\$ 5,770	\$ —
Stock-based compensation expense included in restructuring charges	\$ 499	\$ —	\$ —	\$ 499	\$ —

In September 2016, we announced that we had reduced our workforce by 46 positions, mostly in the research area. We also announced that effective September 15, 2016, Donald G. Payan, M.D, has retired from the board of directors and from his position as Executive Vice President and President of Discovery and Research. We recorded restructuring charges during the year ended December 31, 2016 of approximately \$5.8 million within Restructuring Charges in the accompanying Statement of Operations, which included \$5.0 million of severance costs paid in cash, \$319,000 impairment of certain property and equipment, and \$499,000 of non-cash stock-based compensation expense as a result of the modification of our former executive's stock options. At December 31, 2016, the remaining accrued restructuring cost was \$712,000 related to COBRA benefits and outplacement costs and is classified under Accrued Compensation in the Balance Sheet.

Interest income

	Year Ended December 31,			Aggregate Change	Aggregate Change
	2016	2015	2014	2016 from 2015	2015 from 2014
	(in thousands)				
Interest income	\$ 437	\$ 222	\$ 243	\$ 215	\$ (21)

Interest income results from our interest bearing cash and investment balances. The increase in interest income for the year ended December 31, 2016, as compared to the same period in 2015, was primarily due to the higher yield on our investments. The decrease in interest income for the year ended December 31, 2015, as compared to the same period in 2014, was primarily due to lower average cash balance of our short term investments.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09—Revenue from Contracts with Customers, which supersedes the revenue recognition requirements under ASC Topic 605, Revenue Recognition, and most industry-specific guidance under the ASC. The core principle of ASU No. 2014-09 is that an entity should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU No. 2014-09 defines a five step process to achieve this core

principle and, in doing so, it is possible more judgment and estimates may be required within the revenue recognition process than required under existing U.S. GAAP including identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. ASU No. 2014-09 also requires additional disclosures to enable users of financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts. ASU No. 2014-09 allows for either full retrospective or modified retrospective adoption. In July 2015, the FASB deferred by one year the effective date of ASU No. 2014-09 with the new effective date beginning after December 15, 2017, and the interim periods within that year and will allow early adoption for all entities as of the original effective date for public business entities, which was annual reporting periods beginning after December 15, 2016. We plan to adopt this new standard on January 1, 2018 using the modified retrospective approach. The adoption of ASU No. 2014-09 may have a material effect on our financial statements. To date, our revenues have been derived from license and collaboration agreements. The consideration we are eligible to receive under these agreements includes upfront payments, progress dependent contingent payments on events achieved by our collaboration partners, and royalties on net sales of products sold by such partners under the agreements. Each license and collaboration agreement is unique and will need to be assessed separately under the five-step process of the new standard. We have performed a preliminary

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assessment for our active license and collaboration agreements. Based on our preliminary assessment, we expect that the timing of recognition for certain contingent payments relating to our active license and collaboration agreements may be impacted by adoption of the new standard. ASU No. 2014-09 differs from the current accounting standard in many respects, such as in the accounting for variable consideration, including milestone payments or contingent payments. Under our current accounting policy, we recognize contingent payments as revenue in the period that the payment-triggering event occurred or is achieved. However, under the new accounting standard, it is possible to start to recognize contingent payments before the payment-triggering event is completely achieved, subject to management's assessment of whether it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

In February 2016, the FASB issued ASU No. 2016-02—Leases, which is aimed at making leasing activities more transparent, and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. The guidance is effective for all interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted. We plan to adopt this new standard on January 1, 2019. We are currently evaluating the potential impact of the adoption of ASU No. 2016-02 on our financial statements and cannot estimate the impact of adoption at this time.

In March 2016, the FASB issued ASU No. 2016-09—Improvements to Employee Share-Based Payment Accounting, which is intended to simplify several aspects of the accounting for share-based payment award transactions, including the income tax consequences, an option to recognize gross stock compensation expense with actual forfeitures recognized as they occur, as well as certain classifications on the statement of cash flows. The guidance will be effective for the fiscal year beginning after December 15, 2016, including interim periods within that year. We plan to adopt this new standard on January 1, 2017 and do not expect a material impact on our financial statements.

Liquidity and Capital Resources

Cash Requirements

From inception, we have financed our operations primarily through sales of equity securities, and contract payments under our collaboration agreements. We have consumed substantial amounts of capital to date as we continue our research and development activities, including preclinical studies and clinical trials.

As of December 31, 2016, we had approximately \$74.8 million in cash, cash equivalents and short term investments, as compared to approximately \$126.3 million as of December 31, 2015, a decrease of approximately \$51.5 million. The decrease was primarily attributable to the payments associated with funding our operating expenses for the year ended December 31, 2016. In December 2016, we received \$3.0 million payment from BMS pursuant to our collaboration agreement entered into in February 2015. In June 2016, we received payments from BerGenBio amounting to \$3.7 million pursuant to our exclusive license agreement which we signed in June 2011. In August 2015, we entered into a Controlled Equity Offering SM Sales Agreement with Cantor, as sales agent, pursuant to which we may sell, through Cantor, up to an aggregate of \$30.0 million in shares of our common stock. During the year ended December 31, 2016, 7,895,563 shares of common stock were sold under the Sales Agreement, with an aggregate proceeds of \$24.3 million. In December 2014, we entered into a sublease agreement with an unrelated third party to occupy a portion of our research and office space. We expect to receive approximately \$3.1 million in future sublease

income (excluding our subtenant's share of facility's operating expenses) over the remaining term of the sublease through January 2018. During the year ended December 31, 2016, we received approximately \$4.5 million of sublease income and reimbursements. In February 2017, we completed an underwritten public offering in which we sold 23,000,000 shares of our common stock pursuant to an effective registration statement at a price to the public of \$2.00 per share. We received net proceeds of approximately \$43.0 million after deducting underwriting discounts and commissions and estimated offering expenses. We believe that our existing capital resources will be sufficient to support our current and projected funding requirements, including the preparation for potential commercial launch of fostamatinib in ITP in the U.S., through at least the next 12 months. We also continue to evaluate ex-U.S. partnerships for fostamatinib and other partnering opportunities across our pipelines. 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. Because of the numerous risks and uncertainties associated with the development of our product candidates and other research and development activities,

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including risks and uncertainties that could impact the rate of progress of our development activities, we are unable to estimate with certainty the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials and other research and development activities.

Our operations will require significant additional funding for the foreseeable future. Unless and until we are able to generate a sufficient amount of product, royalty or milestone revenue, we expect to finance future cash needs through public and/or private offerings of equity securities, debt financings and/or collaboration and licensing arrangements, and to a much lesser extent through interest income earned on the investment of our excess cash balances and short term investments. With the exception of contingent and royalty payments that we may receive under our existing collaborations, we do not currently have any committed future funding. To the extent we raise additional capital by issuing equity securities, our stockholders could at that time experience substantial dilution. Any debt financing that we are able to obtain may involve operating covenants that restrict our business. To the extent that we raise additional funds through collaboration and licensing arrangements, we may be required to relinquish some of our rights to our technologies or product candidates, or grant licenses on terms that are not favorable to us.

Our future funding requirements will depend upon many factors, including, but not limited to:

- the FDA's acceptance of our NDA, or the successful regulatory approval of such NDA;
- the outcome of any potential FDA advisory committee meetings held for any of our product candidates;
- the progress and success of our clinical trials and preclinical activities (including studies and manufacture of materials) of our product candidates conducted by us;
- the progress of research and development programs carried out by us and our collaborative partners;
- the costs and timing of regulatory filings and approvals by us and our collaborators;
- the costs to build and expand our sales, marketing and distribution capabilities;
- the costs to commercialize fostamatinib or any other future product candidates, if any such candidate receives regulatory approval for commercial sale;
- any changes in the breadth of our research and development programs;
- the ability to achieve the events identified in our collaborative agreements that may trigger payments to us from our collaboration partners;
- our ability to acquire or license other technologies or compounds that we may seek to pursue;

- our ability to manage our growth;
- competing technological and market developments;
- the costs and timing of obtaining, enforcing and defending our patent and other intellectual property rights; and
- expenses associated with any unforeseen litigation, including any securities class action lawsuits.

Insufficient funds may require us to delay, scale back or eliminate some or all of our research or development programs, to lose rights under existing licenses or to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose or may adversely affect our ability to operate as a going concern.

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For the years ended December 31, 2016 and 2015, we maintained an investment portfolio primarily in money market funds, U. S. treasury bills, government sponsored enterprise securities, and corporate bonds and commercial paper. Cash in excess of immediate requirements is invested with regard to liquidity and capital preservation. Wherever possible, we seek to minimize the potential effects of concentration and degrees of risk. We will continue to monitor the impact of the changes in the conditions of the credit and financial markets to our investment portfolio and assess if future changes in our investment strategy are necessary.

Cash Flows from Operating, Investing and Financing Activities

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Net cash provided by (used in):			
Operating activities	\$ (75,889)	\$ (23,413)	\$ (69,753)
Investing activities	24,881	44,613	62,932
Financing activities	25,184	7,053	1,170
Net increase (decrease) in cash and cash equivalents	\$ (25,824)	\$ 28,253	\$ (5,651)

Net cash used in operating activities was approximately \$75.9 million in 2016 compared to approximately \$23.4 million and \$69.8 million in 2015 and 2014, respectively. Net cash used in operating activities in 2016 was primarily due to the cash payments related to our research and development programs and severance payments as a result of the reduction in workforce in September 2016, partially offset by the \$3.7 million and \$3.0 million payments we received from BerGenBio and BMS, respectively. Net cash used in operating activities in 2015 and 2014 were primarily due to the cash payments related to our research and development programs, partially offset by the \$41.5 million and \$8.3 million payments we received in 2015 and 2014, respectively, from our collaborative partners. The timing of cash requirements may vary from period to period depending on our research and development activities, including our planned preclinical and clinical trials, and future requirements to establish commercial capabilities for any products that we may develop.

Net cash provided by investing activities was approximately \$24.9 million in 2016 compared to approximately \$44.6 million and \$62.9 million in 2015 and 2014, respectively. Net cash provided by investing activities in 2016, 2015 and 2014 related to net maturities of short term investments, partially offset by capital expenditures. Capital expenditures were approximately \$804,000, \$546,000 and \$413,000 in 2016, 2015 and 2014, respectively.

Net cash provided by financing activities was approximately \$25.2 million in 2016 compared to approximately \$7.1 million and \$1.2 million in 2015 and 2014, respectively. Net cash provided by financing activities in 2016 and 2015 consisted of net proceeds from issuance of shares under the Controlled Equity Offering Sales Agreement of \$23.6 million and \$5.3 million, respectively, as well as proceeds from exercise of outstanding options and issuance of shares under the Purchase Plan of \$1.6 million and \$1.8 million, respectively. Net cash provided by financing activities in 2014 related to the proceeds from the exercise of outstanding options and issuance of shares under the Purchase Plan.

Off Balance Sheet Arrangements

As of December 31, 2016, we had no off balance sheet arrangements (as defined in Item 303(a)(4)(ii) of Regulation S-K under the Exchange Act).

Contractual Obligations

We conduct our research and development programs internally and through third parties that include, among others, arrangements with universities, consultants and contract research organizations (CRO). We have contractual arrangements with these parties, however our contracts with them are cancelable generally on reasonable notice within one year and our obligations under these contracts are primarily based on services performed. We do not have any purchase commitments under any collaboration arrangements.

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We have agreements with certain CROs to conduct our clinical trials. The timing of payments for any amounts owed under the respective agreements will depend on various factors including, but not limited to, patient enrollment and other progress of the clinical trial. We can terminate these agreements at any time, and if terminated, we would not be liable for the full amount of the respective agreements. Instead, we will be liable for services through the termination date plus certain cancellation charges, if any, as defined in each of the respective agreements. In addition, these agreements may, from time to time, be subjected to amendments as a result of any change orders executed by the parties.

As of December 31, 2016, we had the following contractual commitments:

	Total (in thousands)	Less than	Payment Due By Period		More than
		1 Year	1 - 3 Years	3 - 5 Years	5 Years
Facilities lease (1)	\$ 17,504	\$ 16,153	\$ 1,351	\$ —	\$ —

(1) In December 2014, we entered into a sublease agreement with an unrelated third party to lease up a portion of the research and office space. The facilities lease obligations above do not include the sublease income of approximately \$3.1 million over the remaining term of the sublease.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive from our investments without significantly increasing risk. Some of the securities in which we invest may have market risk. This means that a change in prevailing interest rates may cause the fair value amount of the investment to fluctuate. For example, if we hold a security that was issued with a fixed interest rate at the then prevailing rate and the prevailing interest rate later rises, the market value amount of our investment will decline. To minimize this risk, we maintain our portfolio of cash equivalents and short term investments in a variety of securities, including money market funds and government and non government debt securities and the maturities of each of these instruments is less than one year. In 2016, we maintained an investment portfolio primarily in money market funds, U. S. treasury bills, government sponsored enterprise securities, and corporate bonds and commercial paper. Due to the primarily short term nature and low interest rate yields of these investments, we believe we do not have a material exposure to interest rate risk and market risk arising from our investments. Therefore, no quantitative tabular disclosure is provided.

We have operated primarily in the United States, and all funding activities with our contract research organizations to date have been made in U.S. dollars. Accordingly, we have not had any significant exposure to foreign currency rate fluctuations.

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Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

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

We have audited the accompanying balance sheets of Rigel Pharmaceuticals, Inc. as of December 31, 2016 and 2015, and the related statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2016. 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 financial statements referred to above present fairly, in all material respects, the financial position of Rigel Pharmaceuticals, Inc. at December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2016, 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), Rigel Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2016, 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 March 7, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Redwood City, California

March 7, 2017

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RIGEL PHARMACEUTICALS, INC.

BALANCE SHEETS

(In thousands, except share and per share amounts)

	December 31, 2016	2015
Assets		
Current assets:		
Cash and cash equivalents	\$ 17,632	\$ 43,456
Short-term investments	57,134	82,820
Accounts receivable	—	203
Prepaid and other current assets	1,448	2,545
Total current assets	76,214	129,024
Property and equipment, net	1,156	1,613
Other assets	764	1,110
	\$ 78,134	\$ 131,747
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 5,563	\$ 2,763
Accrued compensation	4,085	6,251
Accrued research and development	5,881	4,953
Other accrued liabilities	1,033	1,133
Deferred revenue	—	13,427
Deferred liability – sublease, current portion	3,222	3,005
Deferred rent, current portion	2,804	2,264
Total current liabilities	22,588	33,796
Long-term portion of deferred liability – sublease	238	3,460
Long-term portion of deferred rent	279	3,083
Other long-term liabilities	2	27
Commitments		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 10,000,000 shares authorized; none issued and outstanding as of December 31, 2016 and 2015	—	—
Common stock, \$0.001 par value; 200,000,000 shares authorized; 99,269,418 and 90,554,589 shares issued and outstanding as of December 31, 2016 and 2015, respectively	100	91
Additional paid-in capital	1,115,807	1,082,980
Accumulated other comprehensive loss	(18)	(44)
Accumulated deficit	(1,060,862)	(991,646)
Total stockholders' equity	55,027	91,381

\$ 78,134

\$ 131,747

See accompanying notes.

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RIGEL PHARMACEUTICALS, INC.

STATEMENTS OF OPERATIONS

(In thousands, except per share amounts)

	Year Ended December 31,		
	2016	2015	2014
Contract revenues from collaborations	\$ 20,383	\$ 28,895	\$ 8,250
Costs and expenses:			
Research and development	63,446	62,825	67,696
General and administrative	20,908	17,813	22,501
Restructuring charges	5,770	—	—
Loss on sublease	—	—	9,302
Total costs and expenses	90,124	80,638	99,499
Loss from operations	(69,741)	(51,743)	(91,249)
Interest income	437	222	243
Gain on disposal of assets	88		