INCYTE CORP
Form 10-K
February 12, 2016
Table of Contents

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, 2015

or

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

For the transition period from to

Commission File Number: 0 27488

INCYTE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	94 3136539
(State of other jurisdiction	(IRS Employer
of incorporation or organization)	Identification No.)
1801 Augustine Cut-Off	19803
Wilmington, DE	(zip code)
(Address of principal executives offices)	(302) 498 6700
	(Registrant's telephone number, including area code)

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

Title of each class	Name of exchange on which registered
Common Stock, $.001 par value per share	The NASDAQ Stock Market LLC

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 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. (check one)

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

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

The aggregate market value of Common Stock held by non affiliates (based on the closing sale price on The NASDAQ Global Select Market on June 30, 2015) was approximately $17.1 billion.

As of February 5, 2016 there were 187,199,761 shares of Common Stock, $.001 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Items 10 (as to directors and Section 16(a) Beneficial Ownership Reporting Compliance), 11, 12, 13 and 14 of Part III incorporate by reference information from the registrant's proxy statement to be filed with the Securities and Exchange Commission in connection with the solicitation of proxies for the registrant's 2016 Annual Meeting of Stockholders to be held on May 27, 2016.

Table of Contents

Table of Contents

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Table of Contents

Item 1. Business

This report contains forward looking statements that involve risks and uncertainties. These statements relate to future periods, future events or our future operating or financial plans or performance. Often, these statements include the words “believe,” “expect,” “target,” “anticipate,” “intend,” “plan,” “seek,” “estimate,” “potential,” or words of similar meaning or conditional verbs such as “will,” “would,” “should,” “could,” “might,” or “may,” or the negative of these terms, and other similar expressions. These forward looking statements include statements as to:

- the discovery, development, formulation, manufacturing and commercialization of our compounds, our drug candidates and JAKAFI®/JAKAVI® (ruxolitinib);
- our plans to conduct our European clinical development operations from our offices in Geneva, Switzerland;
- conducting clinical trials internally, with collaborators, or with clinical research organizations;
- our collaboration and strategic relationship strategy; anticipated benefits and disadvantages of entering into collaboration agreements;
- our licensing, investment and commercialization strategies, including our plans to commercialize JAKAFI;
- the regulatory approval process, including obtaining U.S. Food and Drug Administration and other international health authorities approval for our products in the United States and abroad;
- the safety, effectiveness and potential benefits and indications of our drug candidates and other compounds under development;
- the timing and size of our clinical trials; the compounds expected to enter clinical trials; timing of clinical trial results;
- our ability to manage expansion of our drug discovery and development operations;
- future required expertise relating to clinical trials, manufacturing, sales and marketing;
- obtaining and terminating licenses to products, drug candidates or technology, or other intellectual property rights;
- the receipt from or payments pursuant to collaboration or license agreements resulting from milestones or royalties;
- plans to develop and commercialize products on our own;
- plans to use third party manufacturers;
- the anticipated closing date of our acquisition of our headquarters building and the land on which it is located;
- expected expenses and expenditure levels; expected uses of cash; expected revenues and sources of revenues;
- expected losses; fluctuation of losses; currency translation impact associated with collaboration royalties;
- our profitability; the adequacy of our capital resources to continue operations;

Table of Contents

- the need to raise additional capital;
- the costs associated with resolving matters in litigation;
- our expectations regarding competition;
- our investments, including anticipated expenditures, losses and expenses;
- our patent prosecution and maintenance efforts; and
- our indebtedness, and debt service obligations.

These forward looking statements reflect our current views with respect to future events, are based on assumptions and are subject to risks and uncertainties. These risks and uncertainties could cause actual results to differ materially from those projected and include, but are not limited to:

- our ability to successfully commercialize JAKAFI;
- our ability to maintain at anticipated levels, reimbursement for JAKAFI from government health administration authorities, private health insurers and other organizations;
- our ability to establish and maintain effective sales, marketing and distribution capabilities;
- the risk of reliance on other parties to manufacture JAKAFI, which could result in a short supply of JAKAFI, increased costs, and withdrawal of regulatory approval;
- our ability to maintain regulatory approvals to market JAKAFI;
- our ability to achieve a significant market share in order to achieve or maintain profitability;
- the risk of civil or criminal penalties if we market JAKAFI in a manner that violates health care fraud and abuse and other applicable laws, rules and regulations;
- our ability to discover, develop, formulate, manufacture and commercialize our drug candidates;
- the risk of unanticipated delays in, or discontinuations of, research and development efforts;
- the risk that previous preclinical testing or clinical trial results are not necessarily indicative of future clinical trial results;
- risks relating to the conduct of our clinical trials;
- changing regulatory requirements;
- the risk of adverse safety findings;
- the risk that results of our clinical trials do not support submission of a marketing approval application for our drug candidates;
- the risk of significant delays or costs in obtaining regulatory approvals;

Table of Contents

- risks relating to our reliance on third party manufacturers, collaborators, and clinical research organizations;
- risks relating to the development of new products and their use by us and our current and potential collaborators;
- risks relating to our inability to control the development of out licensed compounds or drug candidates;
- risks relating to our collaborators' ability to develop and commercialize drug candidates;
- costs associated with prosecuting, maintaining, defending and enforcing patent claims and other intellectual property rights;
- our ability to maintain or obtain adequate product liability and other insurance coverage;
- the risk that our drug candidates may not obtain or maintain regulatory approval;
- the impact of technological advances and competition, including potential generic competition;
- our ability to compete against third parties with greater resources than ours;
- risks relating to changes in pricing and reimbursements in the markets in which we may compete;
- competition to develop and commercialize similar drug products;
- our ability to obtain and maintain patent protection and freedom to operate for our discoveries and to continue to be effective in expanding our patent coverage;
- the impact of changing laws on our patent portfolio;
- developments in and expenses relating to litigation;
- the satisfaction of conditions to closing for our headquarters building and land purchase agreement;
- our ability to in license drug candidates or other technology;
- our substantial leverage;
- our ability to obtain additional capital when needed;
- fluctuations in net cash provided and used by operating, financing and investing activities;
- our history of operating losses; and
- the risks set forth under "Risk Factors."

Given these risks and uncertainties, you should not place undue reliance on these forward looking statements. Except as required by federal securities laws, we undertake no obligation to update any forward looking statements for any reason, even if new information becomes available or other events occur in the future.

In this report all references to "Incyte," "we," "us," "our" or the "Company" mean Incyte Corporation and our subsidiaries, except where it is made clear that the term means only the parent company.

Table of Contents

Incyte and JAKAFI are our registered trademarks. We also refer to trademarks of other corporations and organizations in this Annual Report on Form 10 K.

Overview

Incyte is a biopharmaceutical company focused on the discovery, development and commercialization of proprietary therapeutics to treat serious unmet medical needs, primarily in oncology. Our global headquarters are located in Wilmington, Delaware and we conduct our European clinical development operations from our offices in Geneva, Switzerland. JAKAFI (ruxolitinib) is our first product to be approved for sale in the United States. It was approved by the U.S. Food and Drug Administration (FDA) in November 2011 for the treatment of patients with intermediate or high risk myelofibrosis and in December 2014 for the treatment of patients with polycythemia vera who have had an inadequate response to or are intolerant of hydroxyurea. Myelofibrosis and polycythemia vera are both rare blood cancers. Under our collaboration agreement with Novartis International Pharmaceutical Ltd., Novartis received exclusive development and commercialization rights to ruxolitinib outside of the United States for all hematologic and oncologic indications and sells ruxolitinib outside of the United States under the name JAKAVI.

Marketed Indications - JAKAFI (ruxolitinib)

In 2003, we initiated a research and development program to explore the inhibition of enzymes called janus associated kinases (JAK). The JAK family is composed of four tyrosine kinases—JAK1, JAK2, JAK3 and Tyk2—that are involved in the signaling of a number of cytokines and growth factors. JAKs are central to a number of biologic processes, including the formation and development of blood cells and the regulation of immune functions. Dysregulation of the JAK STAT signaling pathway has been associated with a number of diseases, including myeloproliferative neoplasms, other hematological malignancies, solid tumors, rheumatoid arthritis, psoriasis and other chronic inflammatory diseases. Myeloproliferative neoplasms are a closely related group of blood diseases in which blood cells, specifically platelets, white blood cells, and red blood cells, grow or act abnormally in the bone marrow. These diseases include myelofibrosis (MF), polycythemia vera (PV) and essential thrombocythemia.

We have discovered multiple potent, selective and orally bioavailable JAK inhibitors that are selective for JAK1 or JAK1 and JAK2. JAKAFI is the most advanced compound in our JAK program. It is an oral JAK1 and JAK2 inhibitor.

JAKAFI is marketed in the United States through our own specialty sales force and commercial team. JAKAFI was the first FDA approved JAK inhibitor for any indication and was the first and remains the only product approved by the FDA for use in MF and also now in PV. The FDA has granted JAKAFI orphan drug status for MF, PV and essential thrombocythemia.

To help ensure that all eligible MF and PV patients have access to JAKAFI, we have established a patient assistance program called IncyteCARES (CARES stands for Connecting to Access, Reimbursement, Education and Support). IncyteCARES helps ensure that any patient with intermediate or high risk MF or uncontrolled PV who meets certain eligibility criteria and is prescribed JAKAFI has access to the product regardless of ability to pay and has access to ongoing support and educational resources during treatment. In addition, IncyteCARES works closely with payers to help facilitate insurance coverage of JAKAFI.

JAKAFI is distributed primarily through a network of specialty pharmacy providers and wholesalers that allow for efficient delivery of the medication by mail directly to patients or direct delivery to the patient’s pharmacy. Our distribution process uses a model that is well established and familiar to physicians who practice within the oncology field.

To further support appropriate use and future development of JAKAFI, our Medical Affairs department is responsible for providing appropriate scientific and medical education and information to physicians, preparing scientific presentations and publications, and overseeing the process for supporting investigator sponsored trials.

Myelofibrosis. Myelofibrosis is a rare, life threatening condition. MF, considered the most serious of the myeloproliferative neoplasms, can occur either as primary MF, or as secondary MF that develops in some patients who previously had polycythemia vera or essential thrombocythemia. We estimate there are between 16,000 and 18,500

Table of Contents

patients with MF in the United States. Based on the modern prognostic scoring systems referred to as International Prognostic Scoring System and Dynamic International Prognostic Scoring System, we believe intermediate and high risk patients represent 80% to 90% of all patients with MF in the United States and encompass patients over the age of 65, or patients who have or have ever had any of the following: anemia, constitutional symptoms, elevated white blood cell or blast counts, or platelet counts less than 100,000 per microliter of blood.

Most MF patients have enlarged spleens and many suffer from debilitating symptoms, including abdominal discomfort, pruritus (itching), night sweats and cachexia (involuntary weight loss). There were no FDA approved therapies for MF until the approval of JAKAFI.

The FDA approval was based on results from two randomized Phase III trials (COMFORT I and COMFORT II), which demonstrated that patients treated with JAKAFI experienced significant reductions in splenomegaly (enlarged spleen). COMFORT I also demonstrated improvements in symptoms. The most common hematologic adverse reactions in both trials were thrombocytopenia and anemia. These events rarely led to discontinuation of JAKAFI treatment. The most common non hematologic adverse reactions were bruising, dizziness and headache.

In August 2014, the FDA approved supplemental labeling for JAKAFI to include Kaplan Meier overall survival curves as well as additional safety and dosing information. The overall survival information is based on three year data from COMFORT I and II, and shows that at three years the probability of survival for patients treated with JAKAFI in COMFORT I was 70% and for those patients originally randomized to placebo it was 61%. In COMFORT II, at three years the probability of survival for patients treated with Jakafi was 79% and for patients originally randomized to best available therapy it was 59%.

Polycythemia Vera. PV is a myeloproliferative neoplasm typically characterized by elevated hematocrit, the volume percentage of red blood cells in whole blood, which can lead to a thickening of the blood and an increased risk of blood clots, as well as an elevated white blood cell and platelet count. When phlebotomy can no longer control PV, chemotherapy such as hydroxyurea, or interferon, is utilized. Approximately 25,000 patients with PV in the United States are considered uncontrolled because they have an inadequate response to or are intolerant of hydroxyurea, the most commonly used chemotherapeutic agent for the treatment of PV.

In December 2014, the FDA approved JAKAFI for the treatment of patients with PV who have had an inadequate response to or are intolerant of hydroxyurea. The approval of JAKAFI for PV was based on data from the pivotal Phase III RESPONSE trial. In this trial, patients treated with JAKAFI demonstrated superior hematocrit control and reductions in spleen volume compared to best available therapy. In addition, a greater proportion of patients treated with JAKAFI achieved complete hematologic remission—which was defined as achieving hematocrit control, and lowering platelet and white blood cell counts. In the RESPONSE trial, the most common hematologic adverse reactions (incidence > 20%) were thrombocytopenia and anemia. The most common non hematologic adverse events (incidence >10%) were headache, abdominal pain, diarrhea, dizziness, fatigue, pruritus, dyspnea and muscle spasms.

We have retained all development and commercialization rights to JAKAFI in the United States and are eligible to receive development and commercial milestones as well as royalties from product sales outside the United States. We hold patents that cover the composition of matter and use of ruxolitinib through late 2026, which patents have been granted extensions through late 2027. We believe ruxolitinib may have potential as a treatment for other cancers.

Clinical Programs

JAK1/JAK2 Programs for Inflammation

Alopecia Areata. In October 2015, we initiated a Phase II trial of ruxolitinib cream for the topical treatment of alopecia areata. This new study builds on published data showing efficacy of oral JAK inhibitors, including ruxolitinib, in alopecia areata. Alopecia areata is an autoimmune skin disease resulting in the loss of hair on the scalp and elsewhere on the body. Alopecia areata occurs in males and females of all ages, but onset often occurs in childhood. We estimate that over 6.6 million people in the United States and 147 million people worldwide have, had or will develop alopecia areata at some point in their lives.

Table of Contents

Rheumatoid Arthritis. Rheumatoid arthritis is an autoimmune disease characterized by aberrant or abnormal immune mechanisms that lead to joint inflammation and swelling and, in some patients, the progressive destruction of joints. Rheumatoid arthritis can also affect connective tissue in the skin and organs of the body.

Current rheumatoid arthritis treatments include the use of non steroidal anti inflammatory drugs, disease modifying anti rheumatic drugs, such as methotrexate, and the newer biological response modifiers that target pro inflammatory cytokines, such as tumor necrosis factor, implicated in the pathogenesis of rheumatoid arthritis. None of these approaches to treatment is curative; therefore, there remains an unmet need for new safe and effective treatment options for these patients. Rheumatoid arthritis is estimated to affect about 1% of the world's population.

We have a second JAK1 and JAK2 inhibitor, baricitinib, which is subject to our collaboration agreement with Eli Lilly and Company, in which Lilly received exclusive worldwide development and commercialization rights to the compound for inflammatory and autoimmune diseases. The Phase III program of baricitinib in patients with rheumatoid arthritis incorporated all three rheumatoid arthritis populations (methotrexate naïve, biologic naïve, and biologic experienced); used event rates to fully power the baricitinib program for structural comparison and non-inferiority vs. adalimumab; incorporated an MRI sub study into the methotrexate naïve registration trial; and evaluated patient-reported outcomes. All four Phase III trials met their respective primary endpoints.

In January 2016, Lilly submitted a New Drug Application (NDA) to the FDA and a Marketing Authorization Application (MAA) to the European Medicines Agency for baricitinib as treatment for mild-to-moderately severe rheumatoid arthritis. We have exercised our co-development option in rheumatoid arthritis to fund 30% of development costs from Phase IIb through regulatory approval in exchange for increased tiered royalties ranging up to the high twenties on potential future sales.

Psoriasis. Baricitinib has completed a Phase II trial as a treatment for psoriasis. Psoriasis is a skin disease that causes visible scaling and inflammation. Most psoriasis patients have patches of thick, red skin with silvery scales that can occur on the elbows, knees, other parts of the legs, scalp, lower back, face, palms, and soles of the feet. Market research suggests that neither physicians nor patients are satisfied with existing psoriasis treatments primarily because these require constant monitoring to balance safety and efficacy outcomes. There is clear unmet need for a better tolerated and effective treatment. The U.S. psoriasis market consists of approximately six million patients, of which moderate to severe patients account for approximately 20% of the market.

Diabetic Nephropathy. In August 2012, Lilly initiated a Phase IIa trial to evaluate baricitinib in patients with diabetic nephropathy. Data suggest that ongoing renal inflammation plays a key role in diabetic nephropathy, and biopsies from the kidneys of early and late stage diabetic kidney disease patients suggest that over activation of the JAK/STAT pathway leads to increased levels of pro inflammatory cytokines. Therefore, inhibiting cytokine pathways dependent on JAK1 and JAK2 may lead to positive clinical outcomes in diabetic nephropathy.

This dose ranging placebo controlled Phase IIa trial met its primary endpoint of a change from baseline in the urinary albumin/creatinine ratio at 24 weeks. We retain co development and co promotion options for this indication.

Atopic Dermatitis. In October 2015, Lilly initiated a Phase IIa trial to evaluate the safety and efficacy of baricitinib in patients with moderate-to-severe atopic dermatitis. The JAK-STAT pathway has been shown to play an essential role in the dysregulation of immune responses in atopic dermatitis. A recent study of six patients with moderate to severe atopic dermatitis who had failed standard treatment showed that treatment with the JAK inhibitor tofacitinib showed promising results. Therefore, we believe that inhibiting cytokine pathways dependent on JAK1 and JAK2 may lead to positive clinical outcomes in atopic dermatitis.

	Indication	Status Update
Ruxolitinib (JAK1/JAK2)	Alopecia areata	Phase II (topical formulation1)

Table of Contents

Baricitinib (licensed to Lilly)	Rheumatoid arthritis	NDA and MAA submitted
	Psoriasis, diabetic nephropathy	Phase II studies completed
	Atopic dermatitis	Phase II

1. The Collaboration and License Agreement with Novartis for ruxolitinib ex-U.S. does not include topical administration.

JAK1 Programs for Oncology and Autoimmune Disease

Oncology. We have a portfolio of wholly-owned JAK1 inhibitors, including INCB39110 and INCB52793. The clinical program to evaluate INCB39110 in solid tumors includes clinical trials in combination with the EGFR inhibitor osimertinib and the anti-PD-1 antibody pembrolizumab, as well as with our IDO1 inhibitor epacadostat and our PI3K-delta inhibitor INCB50465.

We have another JAK1 inhibitor, INCB52793, which is in a Phase I/II trial in patients with advanced malignancies. INCB52793 has shown synergistic efficacy in combination with standard of care in preclinical models of multiple myeloma.

Autoimmune disease. Building upon positive, published third-party data of ruxolitinib from an investigator-sponsored trial in graft versus host disease (GVHD), a proof-of-concept trial of INCB39110 for the treatment of patients with GVHD has begun. GVHD causes high mortality in patients with multiple myeloma and leukemia where the curative potential of stem cell transplantation is hampered by acute and chronic GVHD as the newly transplanted donor cells attack the transplant recipient's body. We estimate that the long-term survival in patients with corticosteroid-refractory GVHD is approximately 5% to 30% and that the diagnosed incidence of acute and chronic GVHD is approximately 17,000 per year across the U.S. and Europe.

	Indication	Status Update
INCB39110	Lung cancer	Phase I/II in combination with osimertinib (EGFR) expected to initiate mid-year 2016
	Advanced malignancies	Phase I/II in combination with pembrolizumab (PD-1), epacadostat (IDO1), or INCB50465 (PI3K)
	Graft versus host disease	Phase II
INCB52793	Advanced malignancies	Phase I/II

IDO1 for Oncology

The enzyme, indoleamine 2, 3 dioxygenase 1, IDO1, is a key regulator of the mechanisms that are responsible for allowing tumors to escape from a patient’s immune surveillance. IDO1 expression by tumor cells, or by antigen presenting cells such as macrophages and dendritic cells in tumors, creates an environment in which tumor specific cytotoxic T lymphocytes are rendered functionally inactive or are no longer able to attack a patient’s cancer cells. By inhibiting IDO1, it is proposed that this “brake” on the anti tumor immune response is removed, allowing anti tumor specific cytotoxic T cells, generated in a patient spontaneously in response to the tumor, or through a therapy designed to stimulate the immune response, to have greater anti tumor efficacy.

Epacadostat is a novel, potent and selective inhibitor of the enzyme IDO1. We believe that the optimal development strategy for epacadostat is for the compound to be developed in combination with other immuno oncology

Table of Contents

agents. During 2014, we signed clinical trial collaboration agreements with Merck, Bristol-Myers Squibb, AstraZeneca / MedImmune and Roche / Genentech to evaluate epacadostat with their respective anti-PD-1 and anti-PD-L1 agents in Phase I/II trials, and all four of these trials are now in progress. We have global development and commercialization rights to epacadostat for all indications.

In 2015, we and Merck announced an expansion of the companies' ongoing clinical trial collaboration to include ECHO-301, a Phase III study evaluating the combination of epacadostat with pembrolizumab as a first-line treatment for patients with advanced or metastatic melanoma.

	Indication	Status Update
Epacadostat	First line, advanced melanoma	Phase III (ECHO-301) expected to begin in the first half of 2016 in combination with Merck's pembrolizumab (PD-1)
	Multiple tumor types	Phase II (ECHO-202) expansion cohorts now recruiting in combination with Merck's pembrolizumab (PD-1)
	Multiple tumor types	Phase II (ECHO-204) expansion cohorts now recruiting in combination with Bristol-Myers Squibb's nivolumab (PD-1)
	Multiple tumor types	Phase II (ECHO-203) expansion cohorts now recruiting in combination with AstraZeneca/MedImmune's durvalumab (PD-L1)
	Non-small cell lung cancer	Phase I/II (ECHO-110) dose-escalation ongoing in combination with Roche/Genentech's atezolizumab (PD-L1)

PI3K delta Inhibition for Hematology/Oncology

The PI3K delta pathway mediates oncogenic signaling in B cell malignancies. Our PI3K-delta inhibitor clinical development program now focuses on INCB50465, which we believe provides a better opportunity to differentiate from competitor agents on potency, pharmacokinetics and safety, thereby potentially providing more attractive combination opportunities. A Phase I/II trial of INCB50465, both as monotherapy and in combination with the JAK1 inhibitor INCB39110, is underway. In house preclinical studies have demonstrated that the JAK1 and PI3K delta signaling pathways play inter related functions in maintaining the growth and survival of B lymphoid cells, and the data suggest that concurrent inhibition of the two pathways may achieve synergistic cellular efficacy.

c MET for Solid Tumors

c MET is a clinically validated receptor kinase cancer target. Abnormal c MET activation in cancer correlates with poor prognosis. Dysregulation of the c MET pathway triggers tumor growth, formation of new blood vessels that supply the tumor with nutrients, and causes cancer to spread to other organs. Dysregulation of the c MET pathway is seen in many types of cancers, including kidney, liver, stomach, breast and brain.

Several small molecule c MET kinase inhibitors have demonstrated clinical efficacy in a number of cancers; however, these molecules have limited potency and are relatively non selective, which could lead to off target toxicities. We believe our lead c MET inhibitor, capmatinib, which is licensed to Novartis, has the requisite properties to overcome these limitations, including greater selectivity, improved potency and more effective inhibition of c MET. Under our agreement, Novartis received worldwide exclusive development and commercialization rights to capmatinib and certain back up compounds in all indications. Capmatinib is being evaluated in patients with hepatocellular carcinoma, non small cell lung cancer, glioblastoma multiforme and other solid tumors, and may have potential utility as a combination agent.

9

Table of Contents

Early Stage Clinical / Discovery

INCB54828 is an FGFR inhibitor that demonstrated potency and selectivity in preclinical studies. The FGFR family of receptor tyrosine kinases can act as oncogenic drivers in a number of liquid and solid tumor types. INCB54828 is currently being studied in an open-label, dose-escalation trial in patients with advanced malignancies.

INCB54329 is a BRD inhibitor. BRDs are a family of proteins which play important roles in mediating gene transcription, most notably by facilitating the expression of oncogenes such as MYC, one of the most frequently dysregulated oncogenes in all human cancer. INCB54329 is being studied in an open-label dose-escalation trial in patients with advanced malignancies.

INCB53914 is a pan-PIM kinase inhibitor that has demonstrated potency and selectivity in preclinical studies. PIM kinases integrate signals from multiple pathways important for the survival and proliferation of malignant cells. Over expression of PIM kinases has been reported in human hematological cancers with each isoform showing a distinct expression pattern among the various malignancy subtypes. A clinical trial of INCB53914 in hematological malignancies is now underway.

INCSHR1210 is an investigational anti-PD-1 monoclonal antibody that we have licensed under our agreement with Jiangsu Hengrui Medicine Co., Ltd. (Hengrui). Many tumor cells express PD-L1, an immunosuppressive PD-1 ligand. Inhibition of the interaction between PD-1 and PD-L1, known as immune checkpoint blockade, can enhance T-cell responses and mediate preclinical antitumor activity. A proof-of-concept clinical trial of INCSHR1210 in patients with advanced solid tumors is now underway.

	Indication	Status Update
INCB50465 (PI3K)	B-cell malignancies	Phase I/II as monotherapy and in combination with INCB39110 (JAK1); expansion cohorts initiating
	Solid tumors	Phase I/II in combination with pembrolizumab (PD-1), epacadostat (IDO1), or INCB39110 (JAK1)
Capmatinib (c-MET, licensed to Novartis)	Non-small cell lung cancer, glioblastoma, liver cancer	Phase II in patients with c-MET amplification
INCB54828 (FGFR)	Solid tumors	Phase I/II dose escalation; expansion cohorts in genetically-defined tumor types expected in 2016
INCB54329 (BRD)	Advanced malignancies	Phase I/II dose-escalation
INCB53914 (PIM)	Advanced malignancies	Phase I/II dose-escalation
INCSHR1210 (PD-1, licensed from Hengrui)	Solid tumors	Phase I/II dose-escalation

We have a number of other early programs at various stages of preclinical and clinical testing. We intend to describe these programs once we have obtained clinical proof of concept and established that a compound within a specific program warrants further development.

Recently Discontinued Solid Tumor Studies

Ruxolitinib in Pancreatic Cancer. Pancreatic cancer is a disease in which malignant cells are found in the tissues of the pancreas. Full results from the Phase II proof of concept RECAP trial, which compared ruxolitinib in combination

Table of Contents

with capecitabine versus capecitabine alone in patients with refractory metastatic pancreatic cancer, were presented in June 2014 and published in September 2015 in the Journal of Clinical Oncology and suggested a demonstrable survival benefit in a pre specified subgroup of patients with elevated C-reactive protein (CRP). In this subgroup, results showed a hazard ratio for overall survival of 0.47, which seemed to indicate that the risk of death was reduced by approximately 50% for those patients treated with ruxolitinib. The subgroup represented approximately half of the randomized population in this trial.

Decision to Discontinue Studies. As previously announced in January 2016 and February 2016, planned interim analyses of the sub-study of colorectal cancer patients with high levels of CRP and of the JANUS 1 study did not show sufficient levels of efficacy to warrant continuation, and, as a result, we decided to discontinue:

- the JANUS 1 study of ruxolitinib or placebo in combination with capecitabine for the second-line treatment of patients with advanced or metastatic pancreatic cancer;
- our other Incyte-sponsored studies of ruxolitinib in solid tumors, including the JANUS 2 study in pancreatic cancer, the Phase II study of patients with metastatic colorectal cancer in both the high CRP and low CRP sub-studies and the Phase II studies of ruxolitinib in breast and lung cancer; and
- the study of INCB39110 as first-line treatment for metastatic pancreatic cancer.

License Agreements and Business Relationships

As part of our business strategy, we establish business relationships, including collaborative arrangements with other companies and medical research institutions to assist in the clinical development and/or commercialization of certain of our drugs and drug candidates and to provide support for our research programs. We also evaluate opportunities for acquiring products or rights to products and technologies that are complementary to our business from other companies and medical research institutions.

Below is a brief description of our significant business relationships and collaborations and related license agreements that expand our pipeline and provide us with certain rights to existing and potential new products and technologies.

Novartis

In November 2009, we entered into a Collaboration and License Agreement with Novartis. Under the terms of the agreement, Novartis received exclusive development and commercialization rights outside of the United States to ruxolitinib and certain back up compounds for hematologic and oncology indications, including all hematological malignancies, solid tumors and myeloproliferative diseases. We retained exclusive development and commercialization rights to JAKAFI (ruxolitinib) in the United States and in certain other indications. Novartis also received worldwide exclusive development and commercialization rights to our c MET inhibitor compound capmatinib and certain back up compounds in all indications. We retained options to co develop and to co promote capmatinib in the United States.

Under this agreement, we received an upfront payment and immediate milestone payment totaling $210 million and were initially eligible to receive additional payments of up to approximately $1.2 billion if defined development and commercialization milestones are achieved. We are also eligible to receive tiered, double digit royalties ranging from the upper teens to the mid twenties on future ruxolitinib net sales outside of the United States. In addition, Novartis has received reimbursement and pricing approval for ruxolitinib in a specified number of countries, and we are now obligated to pay to Novartis tiered royalties in the low single digits on future ruxolitinib net sales within the United States. Each company is responsible for costs relating to the development and commercialization of ruxolitinib in its respective territories, with costs of collaborative studies shared equally. Novartis is now responsible for all costs relating to the development and commercialization of capmatinib.

The Novartis agreement will continue on a program by program basis until Novartis has no royalty payment obligations with respect to such program or, if earlier, the termination of the agreement or any program in accordance with

Table of Contents

the terms of the agreement. Royalties are payable by Novartis on a product by product and country by country basis until the latest to occur of (1) the expiration of the last valid claim of the licensed patent rights covering the licensed product in the relevant country, (2) the expiration of regulatory exclusivity for the licensed product in such country and (3) a specified period from first commercial sale in such country of the licensed product by Novartis or its affiliates or sublicensees. The agreement may be terminated in its entirety or on a program by program basis by Novartis for convenience. The agreement may also be terminated by either party under certain other circumstances, including material breach.

Lilly

In December 2009, we entered into a License, Development and Commercialization Agreement with Lilly. Under the terms of the agreement, Lilly received exclusive worldwide development and commercialization rights to baricitinib and certain back up compounds for inflammatory and autoimmune diseases. We received an initial payment of $90 million, and were initially eligible to receive additional payments of up to $665 million based on the achievement of defined development, regulatory and commercialization milestones.

We retained options to co develop our JAK1/JAK2 inhibitors with Lilly on a compound by compound and indication by indication basis. Lilly is responsible for all costs relating to the development and commercialization of the compounds unless we elect to co develop any compounds or indications. If we elect to co develop any compounds and/or indications, we would be responsible for funding 30% of the associated future global development costs from the initiation of a Phase IIb trial through regulatory approval. We would receive a tiered royalty rate ranging from 20% up to the high twenties on potential future global net sales for compounds and/or indications that we elect to co develop. We also retained an option to co promote products in the United States. For indications that we elect not to co develop baricitinib, we would receive tiered, double digit royalty payments on future global net sales with rates ranging up to 20% if the product is successfully commercialized.

In July 2010, we elected to co develop baricitinib with Lilly in rheumatoid arthritis and we are responsible for funding 30% of the associated future global development costs for this indication from the initiation of the Phase IIb trial through regulatory approval. Baricitinib is also being developed in psoriasis and diabetic nephropathy. We have decided not to exercise our co development option for psoriasis.

The Lilly agreement will continue until Lilly no longer has any royalty payment obligations or, if earlier, the termination of the agreement in accordance with its terms. Royalties are payable by Lilly on a product by product and country by country basis until the latest to occur of (1) the expiration of the last valid claim of the licensed patent rights covering the licensed product in the relevant country, (2) the expiration of regulatory exclusivity for the licensed product in such country and (3) a specified period from first commercial sale in such country of the licensed product by Lilly or its affiliates or sublicensees. The agreement may be terminated by Lilly for convenience, and may also be terminated under certain other circumstances, including material breach.

Agenus

In January 2015, we entered into a License, Development and Commercialization Agreement with Agenus Inc. and its wholly owned subsidiary, 4 Antibody AG, which we collectively refer to as Agenus. Under this agreement, the parties have agreed to collaborate on the discovery of novel immuno therapeutics using Agenus' proprietary Retrocyte Display antibody discovery platform.

Under the terms of this agreement, we received exclusive worldwide development and commercialization rights to four checkpoint modulators directed against GITR, OX40, LAG 3 and TIM 3. In addition to the initial four program targets, we and Agenus have the option to jointly nominate and pursue additional targets within the framework of the

collaboration, and in November 2015, three more targets were added. Targets may be designated profit share programs, where all costs and profits are shared equally by us and Agenus, or royalty bearing programs, where we will be responsible for all costs associated with discovery, preclinical activities, clinical development and commercialization activities. The programs relating to GITR and OX40 are profit share programs and the programs relating to LAG 3 and TIM 3 are royalty bearing programs. All costs related to the collaboration are subject to a joint research plan. We agreed to pay Agenus upfront non refundable payments totaling $25 million. For each royalty bearing product, Agenus will be eligible

Table of Contents

to receive up to $155 million in future contingent development, regulatory and commercialization milestones as well as tiered royalties on global net sales ranging from 6% to 12%. For each profit share product, Agenus will be eligible to receive up to $20 million in future contingent development milestones. Additionally, Agenus retains co promotion participation rights in the United States on any profit share product. For each royalty bearing product, Agenus has reserved the right to elect to co fund 30% of development costs for a commensurate increase in royalties. The agreement may be terminated by us for convenience and may also be terminated under certain other circumstances, including material breach. We agreed to certain standstill provisions that allow us to acquire up to 15% of Agenus Inc.'s outstanding voting stock, including shares acquired pursuant to the Stock Purchase Agreement described below, solely for investment purposes.

In January 2015, we also entered into a Stock Purchase Agreement with Agenus Inc., pursuant to which we purchased approximately 7.76 million shares of Agenus Inc. common stock for an aggregate purchase price of $35 million in cash, or approximately $4.51 per share. We agreed not to dispose of any of the shares of common stock for a period of 12 months and Agenus Inc. has agreed to certain registration rights with respect to the shares of common stock.

Hengrui

In September 2015, we entered into a License and Collaboration Agreement with Hengrui. Under the terms of this agreement, we received exclusive development and commercialization rights worldwide, with the exception of Mainland China, Hong Kong, Macau and Taiwan, to INCSHR-1210, an investigational PD-1 monoclonal antibody, and certain back-up compounds. We paid to Hengrui an upfront payment of $25 million. Hengrui is also eligible to receive potential milestone payments of up to $770 million, consisting of $90 million for regulatory approval milestones, $530 million for commercial performance milestones, and $150 million for a clinical superiority milestone. Also, Hengrui may be eligible to receive tiered royalties in the high single digits to mid-double digits based on net sales in our territories. Each company will be responsible for costs relating to the development and commercialization of the PD-1 monoclonal antibody in its respective territories.

The Hengrui agreement will continue on a country-by-country basis until we have no royalty payment obligations with respect to such country or, if earlier, the termination of the agreement in accordance with its terms. The agreement may be terminated in its entirety by us for convenience, and may also be terminated under certain other circumstances, including material breach.

Pfizer

In January 2006, we entered into a Collaborative Research and License Agreement with Pfizer Inc. for the pursuit of our CCR2 antagonist program. Pfizer gained worldwide development and commercialization rights to our portfolio of CCR2 antagonist compounds. Pfizer's rights extend to the full scope of potential indications, with the exception of multiple sclerosis and autoimmune nephritides, where we retained worldwide rights, along with certain compounds. We do not have obligations to Pfizer on pre clinical development candidates we select for pursuit in these indications. The agreement will terminate upon the expiration of the last to expire of patent rights licensed under the agreement. Prior to such expiration, either party can terminate the agreement for the uncured material breach of the agreement by the other party or for the insolvency of the other party. In addition, Pfizer may terminate the agreement at any time upon 90 days' notice. We received an upfront nonrefundable, non creditable payment of $40 million in January 2006 and were initially eligible to receive up to $743 million of additional future development and commercialization milestone payments. We are also eligible to receive tiered royalties based upon net sales of any potential products ranging from the high single digits to the mid-teens.

Incyte's Approach to Drug Discovery and Development

Our productivity in drug discovery is primarily a result of our core competency in medicinal chemistry which is tightly integrated with, and supported by, an experienced team of biologists and pharmaceutical scientists with expertise in multiple therapeutic areas. This discovery team operates in concert with an equally experienced drug development organization with expertise in clinical sciences, statistics, and regulatory affairs. Our drug development organization manages our clinical programs and utilizes clinical research organizations (CROs), expert scientific advisory boards, and

Table of Contents

leading consultants and suppliers as appropriate to ensure our clinical trials are conducted efficiently, effectively, and in accordance with regulatory and compliance guidelines.

To succeed in our objective to discover and advance novel therapeutics that address serious unmet medical needs, we have established a broad range of discovery capabilities in house, including target validation, high throughput screening, medicinal chemistry, computational chemistry, and pharmacological and ADME (absorption, distribution, metabolism and excretion) assessment. We augment these capabilities through collaborations with academic and contract laboratory resources with relevant expertise.

Driven by a target- and pathway-centric discovery process, our pipeline has grown and is currently focused primarily in the area of oncology. We conduct a limited number of discovery programs in parallel at any one time. This focus allows us to allocate resources to our selected programs at a level that we believe is competitive with larger pharmaceutical companies. We continually modify the resourcing of our discovery efforts with the goals of maximizing information content when and where we need it and ensuring that each program, regardless of stage, is executed in the most efficient and data-rich manner possible. We believe this approach has played a critical role in the development of our product portfolio.

Once our compounds reach clinical development, our objective is to rapidly progress the lead candidate into a proof of concept clinical trial to quickly assess the therapeutic potential of the clinical candidate itself as well as its underlying mechanism of action. This information is then used to evaluate the compound's development opportunities, identify the most appropriate indication or indications to pursue, and develop a clinical and regulatory plan to advance the molecule forward.

Our development teams are responsible for ensuring that our clinical candidates are expeditiously progressed through clinical safety, proof-of-concept, and formal efficacy/pivotal trials. Our development teams include employees with expertise in drug development, including clinical trial design, statistics, regulatory affairs, medical affairs, pharmacovigilance and project management. We have also built internal process chemistry and formulation teams that work closely with external GMP contract manufacturers to support our drug development efforts.

Incyte's Commercial Strategy

Our strategy is to develop and commercialize our compounds on our own in selected markets where we believe a company of our size can successfully compete, such as in myelofibrosis, polycythemia vera, and other oncology indications. In November 2011, we received regulatory approval of JAKAFI (ruxolitinib) in the United States for the treatment of intermediate or high risk myelofibrosis. Since that time, we have focused on increasing utilization of JAKAFI in this patient population. In December 2014, JAKAFI was approved for the treatment of patients with polycythemia vera who have had an inadequate response to or are intolerant of hydroxyurea. JAKAFI is the only FDA approved product to treat these two diseases. We have expanded the marketing, medical, sales and operational infrastructure to support continued commercialization of JAKAFI in its two indications and to prepare for potential future indications of JAKAFI and other products in the United States.

For rights to ruxolitinib outside the United States as well as for pipeline compounds that are outside of our core expertise, would require expensive clinical studies, or could be used in combination with other compounds or biologics, we have established or may in the future establish collaborations or strategic relationships to support development and commercialization, such as our collaborations with Novartis and Lilly for our JAK inhibitors. We believe the key benefits to entering into strategic relationships include the potential to receive upfront payments and future milestones and royalties in exchange for certain rights to our compounds, as well as the potential to expedite the development and commercialization of certain of our compounds.

Patents and Other Intellectual Property

We regard the protection of patents and other enforceable intellectual property rights that we own or license as critical to our business and competitive position. Accordingly, we rely on patent, trade secret and copyright law, as well as nondisclosure and other contractual arrangements, to protect our intellectual property. We have established a patent

Table of Contents

portfolio of patents and patent applications owned or licensed by us that cover aspects of all our drug products and drug candidates. The patents and patent applications relating to our drug products and drug candidates generally include claims directed to the compounds, methods of using the compounds, formulations of the compounds, pharmaceutical salt forms of the compounds, and methods of manufacturing the compounds. Our policy is to pursue patent applications on inventions and discoveries that we believe are commercially important to the development and growth of our business. The following table sets forth the status of the patents and patent applications in the United States, the European Union, and Japan, covering our drug products and drug candidates in key programs that have progressed into at least Phase II clinical trials:

Drug/Drug Candidate (Target)	Status of United States Patent Estate (Earliest Anticipated Expirations, Subject to Potential Extensions and Payment of Maintenance Fees)	Status of European Union and Japan Patent Estate (Earliest Anticipated Expirations, Subject to Potential Extensions and Payment of Maintenance Fees)
ruxolitinib (JAK)	Granted and pending (2026)	Granted and pending (2026)
baricitinib (JAK)	Granted and pending (2029)	Granted and pending (2029)
epacadostat (IDO)	Granted and pending (2029)	Granted and pending (2029)
INCB39110 (JAK)	Granted and pending (2031)	Granted and pending (2031)
capmatinib (cMET)	Granted and pending (2027)	Granted and pending (2027)

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. The actual protection afforded by a patent, which can vary from country to country, depends on the type of patent, the scope of its coverage and the availability of legal remedies in the country.

We may seek to license rights relating to technologies in connection with our drug discovery and development programs. Under these licenses, we may be required to pay up front fees, license fees, milestone payments and royalties on sales of future products.

Although we believe our rights under patents and patent applications provide a competitive advantage, the patent positions of pharmaceutical and biotechnology companies are highly uncertain and involve complex legal and factual questions. We may not be able to develop patentable products or processes, and may not be able to obtain patents in the United States or elsewhere from pending applications. Even if patent claims are allowed, the claims may not issue, or in the event of issuance, may not be valid or enforceable or may not be sufficient to protect the technology owned by or licensed to us or provide us with a competitive advantage. Any patent or other intellectual property rights that we own or obtain may be circumvented, challenged or invalidated by our competitors. Others may have patents that relate to our business or technology and that may prevent us from marketing our drug candidates unless we are able to obtain a license to those patents. In addition, litigation or other proceedings may be necessary to defend against claims of infringement, to enforce patents, to protect our other intellectual property rights, to determine the scope and validity of the proprietary rights of third parties or to defend ourselves in patent or other intellectual property right suits brought by third parties. We could incur substantial costs in such litigation or other proceedings. An adverse outcome in any such litigation or proceeding could subject us to significant liability.

With respect to proprietary information that is not patentable, and for inventions for which patents are difficult to enforce, we rely on trade secret protection and confidentiality agreements to protect our interests. While we require all employees, consultants and potential business partners to enter into confidentiality agreements, we may not be able to adequately protect our trade secrets or other proprietary information. Others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets.

Competition

Our drug discovery, development and commercialization activities face, and will continue to face, intense competition from organizations such as pharmaceutical and biotechnology companies, as well as academic and research institutions and government agencies. We face significant competition from organizations, particularly fully integrated pharmaceutical companies, that are pursuing pharmaceuticals that are competitive with JAKAFI and our drug candidates.

Table of Contents

Many companies and institutions, either alone or together with their collaborative partners, have substantially greater financial resources, larger drug discovery, development and commercial staffs and significantly greater experience than we do in:

- drug discovery;
- developing products;
- undertaking preclinical testing and clinical trials;
- obtaining FDA and other regulatory approvals of products; and
- manufacturing, marketing, distributing and selling products.

Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA and other regulatory approval or commercializing products that compete with JAKAFI or our drug candidates.

In addition, any drug candidate that we successfully develop may compete with existing therapies that have long histories of safe and effective use. Competition may also arise from:

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

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 drug candidates or proprietary technology. These competitors, either alone or with their collaborative partners, may succeed in developing products that are more effective than ours.

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

- develop proprietary products;
    - develop and maintain products that reach the market first, are technologically superior to and/or are of lower cost than other products in the market;
- attract and retain scientific, product development and sales and marketing personnel;
- obtain patent or other proprietary protection for our products and technologies;
- obtain required regulatory approvals; and
- manufacture, market, distribute and sell any products that we develop.

In a number of countries, including in particular, developing countries, government officials and other groups have suggested that pharmaceutical companies should make drugs available at a low cost. In some cases, governmental authorities have indicated that where pharmaceutical companies do not do so, their patents might not be enforceable to prevent generic competition. Some major pharmaceutical companies have greatly reduced prices for their drugs in certain developing countries. If certain countries do not permit enforcement of any of our patents, sales of our products in those countries, and in other countries by importation from low price countries, could be reduced by generic competition or by parallel importation of our product. Alternatively, governments in those countries could require that we grant compulsory

Table of Contents

licenses to allow competitors to manufacture and sell their own versions of our products in those countries, thereby reducing our product sales, or we could respond to governmental concerns by reducing prices for our products. In all of these situations, our results of operations could be adversely affected.

Government Regulation

Our ongoing research and development activities and any manufacturing and marketing of JAKAFI and our drug candidates are subject to extensive regulation by numerous governmental authorities in the United States and other countries. Before marketing in the United States, any drug developed by us must undergo rigorous preclinical testing, clinical trials, and an extensive regulatory clearance process implemented by the FDA under the United States Food, Drug and Cosmetic Act and its implementing regulations and, in the case of biologics, the Public Health Service Act. The FDA regulates, among other things, the research, development, testing, manufacture, safety, efficacy, record keeping, labeling, storage, approval, advertising, promotion, sale and distribution and import and export, of these products.

FDA Review and Approval Process

The regulatory review and approval process is lengthy, expensive and uncertain. The steps generally required before a drug may be marketed in the United States include:

- preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's Good Laboratory Practice and Good Manufacturing Practice regulations;
- submission to the FDA of an Investigational New Drug application (IND) for human clinical testing, which must become effective before human clinical trials may commence;
- performance of adequate and well controlled clinical trials in three phases, as described below, to establish the safety and efficacy of the drug for each indication;
- submission of an NDA or Biologics License Application (BLA) to the FDA for review;
- random inspections of clinical sites to ensure validity of clinical safety and efficacy data;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current good manufacturing practices;
- FDA approval of the NDA or BLA; and
- payment of user and establishment fees, if applicable.

Similar requirements exist within foreign agencies as well. The time required to satisfy FDA requirements or similar requirements of foreign regulatory agencies may vary substantially based on the type, complexity and novelty of the product or the targeted disease.

Preclinical testing includes laboratory evaluation of product pharmacology, drug metabolism, and toxicity which includes animal studies, to assess potential safety and efficacy as well as product chemistry, stability, formulation, development, and testing. The results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time, the FDA raises safety concerns or questions about the conduct of the clinical trial(s) included in the IND. In the latter case, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed. We cannot be sure that submission of an IND will result in the FDA allowing clinical trials to commence.

Table of Contents

Clinical trials involve the administration of the investigational drug to human subjects under the supervision of qualified investigators and in accordance with good clinical practices regulations covering the protection of human subjects. These regulations require all research subjects to provide informed consent. Clinical trials are conducted under protocols detailing the objectives of the study, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND and each trial must be reviewed and approved by an institutional review board (IRB) before it can begin.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined. Phase I usually involves the initial introduction of the investigational drug into healthy volunteers to evaluate its safety, dosage tolerance, absorption, metabolism, distribution and excretion. Phase II usually involves clinical trials in a limited patient population to evaluate dosage tolerance and optimal dosage, identify possible adverse effects and safety risks, and evaluate and gain preliminary evidence of the efficacy of the drug for specific indications. Phase III clinical trials usually further evaluate clinical efficacy and safety by testing the drug in its final form in an expanded patient population, providing statistical evidence of efficacy and safety, and providing an adequate basis for labeling. We cannot guarantee that Phase I, Phase II or Phase III testing will be completed successfully within any specified period of time, if at all. Furthermore, we, the IRB, or the FDA may suspend clinical trials at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk.

As a separate amendment to an IND, a clinical trial sponsor may submit to the FDA a request for an SPA. Under the SPA procedure, a sponsor may seek the FDA's agreement on the design and size of a clinical trial intended to form the primary basis of an effectiveness claim. If the FDA agrees in writing, its agreement may not be changed after the trial begins, except when agreed by FDA or in limited circumstances, such as when a substantial scientific issue essential to determining the safety and effectiveness of a drug candidate is identified after a Phase III clinical trial is commenced and agreement is obtained with the FDA. If the outcome of the trial is successful, the sponsor will ordinarily be able to rely on it as the primary basis for approval with respect to effectiveness. However, additional trials could also be requested by the FDA to support approval, and the FDA may make an approval decision based on a number of factors, including the degree of clinical benefit as well as safety. The FDA is not obligated to approve an NDA or BLA as a result of an SPA agreement, even if the clinical outcome is positive.

Even after initial FDA approval has been obtained, post approval trials, or Phase IV studies, may be required to provide additional data, and will be required to obtain approval for the sale of a product as a treatment for a clinical indication other than that for which the product was initially tested and approved. Also, the FDA will require post approval safety reporting to monitor the side effects of the drug. Results of post approval programs may limit or expand the indication or indications for which the drug product may be marketed. Further, if there are any requests for modifications to the initial FDA approval for the drug, including changes in indication, manufacturing process, manufacturing facilities, or labeling, a supplemental NDA or BLA may be required to be submitted to the FDA.

The length of time and related costs necessary to complete clinical trials varies significantly and may be difficult to predict. Clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals. Additional factors that can cause delay or termination of our clinical trials, or cause the costs of these clinical trials to increase, include:

- slow patient enrollment due to the nature of the protocol, the proximity of patients to clinical sites, the eligibility criteria for the study, competition with clinical trials for other drug candidates or other factors;
- inadequately trained or insufficient personnel at the study site to assist in overseeing and monitoring clinical trials;
- delays in approvals from a study site's IRB;
- longer than anticipated treatment time required to demonstrate effectiveness or determine the appropriate product dose;
- lack of sufficient supplies of the drug candidate for use in clinical trials;

18

Table of Contents

- adverse medical events or side effects in treated patients; and
- lack of effectiveness of the drug candidate being tested.

Any drug is likely to produce some toxicities or undesirable side effects in animals and in humans when administered at sufficiently high doses and/or for sufficiently long periods of time. Unacceptable toxicities or side effects may occur at any dose level, and at any time in the course of animal studies designed to identify unacceptable effects of a drug candidate, known as toxicological studies, or in clinical trials of our drug candidates. The appearance of any unacceptable toxicity or side effect could cause us or regulatory authorities to interrupt, limit, delay or abort the development of any of our drug candidates, and could ultimately prevent their marketing approval by the FDA or foreign regulatory authorities for any or all targeted indications.

The FDA's fast track and breakthrough therapy designation programs are intended to facilitate the development and expedite the review of drug candidates intended for the treatment of serious or life threatening conditions and that demonstrate the potential to address unmet medical needs for these conditions. Under these programs, FDA can, for example, review portions of an NDA or BLA for a drug candidate before the entire application is complete, thus potentially beginning the review process at an earlier time.

We cannot guarantee that the FDA will grant any of our requests for fast track or breakthrough therapy designations, that any such designations would affect the time of review or that the FDA will approve the NDA or BLA submitted for any of our drug candidates, whether or not these designations are granted. Additionally, FDA approval of a fast track/breakthrough product can include restrictions on the product's use or distribution (such as permitting use only for specified medical conditions or limiting distribution to physicians or facilities with special training or experience). Approval of such designated products can be conditioned on additional clinical trials after approval.

Sponsors submit the results of preclinical studies and clinical trials to the FDA as part of an NDA or BLA. NDAs and BLAs must also contain extensive product manufacturing information and proposed labeling. Upon receipt, the FDA initially reviews the NDA or BLA to determine whether it is sufficiently complete to initiate a substantive review. If the FDA identifies deficiencies that would preclude substantive review, the FDA will refuse to accept the NDA or BLA and will inform the sponsor of the deficiencies that must be corrected prior to resubmission. If the FDA accepts the submission for review (then deemed a "filing"), the FDA typically completes the NDA or BLA review within a pre determined time frame. Under the Prescription Drug User Fee Act, the FDA agrees to review NDAs and BLAs under either a standard review or priority review. FDA procedures provide for priority review of NDAs and BLAs submitted for drugs that, compared to currently marketed products, if any, offer a significant improvement in the treatment, diagnosis or prevention of a disease. The FDA seeks to review NDAs and BLAs that are granted priority status more quickly than NDAs and BLAs given standard review status. The FDA's stated policy is to act on 90% of priority NDAs and BLAs within eight months of receipt (or six months after filing, which occurs 60 days after NDA or BLA submission). Although the FDA historically has not met these goals, the agency has made significant improvements in the timeliness of the review process. NDA and BLA review often extends beyond anticipated completion dates due to FDA requests for additional data or clarification, the FDA's decision to have an advisory committee review, and difficulties in scheduling an advisory committee meeting. The recommendations of an advisory committee are not binding on the FDA.

To obtain FDA approval to market a product, we must demonstrate that the product is safe and effective for the patient population that will be treated. If regulatory approval of a product is granted, the approval will be limited to those disease states and conditions for which the product is safe and effective, as demonstrated through clinical trials. Marketing or promoting a drug for an unapproved indication is prohibited. Furthermore, approval may entail requirements for post marketing studies or risk evaluation and mitigation strategies, including the need for patient and/or physician education, patient registries, medication or similar guides, or other restrictions on the distribution of the product. If an NDA or BLA does not satisfy applicable regulatory criteria, the FDA may deny approval of an NDA or BLA or may issue a complete response, and require, among other things, additional clinical data or analyses.

Outside the United States, our ability to market a product is contingent upon receiving a marketing authorization from the appropriate regulatory authorities. The requirements governing the conduct of clinical trials, marketing authorization, pricing and reimbursement vary widely from country to country. At present, foreign marketing

Table of Contents

authorizations are applied for at a national level, although within the European Union (EU) registration procedures are available to companies wishing to market a product in more than one EU member state. If the regulatory authority is satisfied that adequate evidence of safety, quality and efficacy has been presented, a marketing authorization may be granted. This foreign regulatory approval process involves all of the risks associated with FDA approval discussed above and may also include additional risks.

The Orphan Drug Act provides incentives to manufacturers to develop and market drugs for rare diseases and conditions affecting fewer than 200,000 persons in the United States at the time of application for orphan drug designation. The first developer to receive FDA marketing approval for an orphan drug is entitled to a seven year exclusive marketing period in the United States for the orphan drug indication. However, a drug that the FDA considers to be clinically superior to, or different from, another approved orphan drug, even though for the same indication, may also obtain approval in the United States during the seven year exclusive marketing period.

Legislation similar to the Orphan Drug Act has been enacted in other countries outside of the United States, including the EU. The orphan legislation in the EU is available for therapies addressing conditions that affect five or fewer out of 10,000 persons, are life threatening or chronically debilitating conditions and for which no satisfactory treatment is authorized. The market exclusivity period is for ten years, although that period can be reduced to six years if, at the end of the fifth year, available evidence establishes that the product does not justify maintenance of market exclusivity.

Regulation of Manufacturing Process

Even when NDA or BLA approval is obtained, a marketed product, such as JAKAFI, its manufacturer and its manufacturing facilities are subject to continual review and periodic inspections by the FDA. The manufacturing process for pharmaceutical products is highly regulated and regulators may shut down manufacturing facilities that they believe do not comply with regulations. Discovery of previously unknown problems with a product, manufacturer or facility may result in restrictions on the product, manufacturer or facility, including costly recalls or withdrawal of the product from the market. Manufacturing facilities are always subject to inspection by the applicable regulatory authorities.

We and our third party manufacturers are subject to current Good Manufacturing Practices, which are extensive regulations governing manufacturing processes, including but not limited to stability testing, record keeping and quality standards as defined by the FDA and the European Medicines Agency. Similar regulations are in effect in other countries. Manufacturing facilities are subject to inspection by the applicable regulatory authorities. These facilities, whether our own or our contract manufacturers, must be inspected before we can use them in commercial manufacturing of our related products. We or our contract manufacturers may not be able to comply with applicable Good Manufacturing Practices and FDA or other regulatory requirements. If we or our contract manufacturers fail to comply, we or our contract manufacturers may be subject to legal or regulatory action, such as suspension of manufacturing, seizure of product, or voluntary recall of product. Furthermore, continued compliance with applicable Good Manufacturing Practices will require continual expenditure of time, money and effort on the part of us or our contract manufacturers in the areas of production and quality control and record keeping and reporting, in order to ensure full compliance.

Post Approval Regulation

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including record keeping requirements, reporting of adverse experiences with the drug and other reporting, advertising and promotion restrictions. The FDA's rules for advertising and promotion require, among other things, that our promotion be fairly balanced and adequately substantiated by clinical studies, and that we not

promote our products for unapproved uses. We must also submit appropriate new and supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. On its own initiative, the FDA may require changes to the labeling of an approved drug if it becomes aware of new safety information that the agency believes should be included in the approved drug's labeling. The FDA also enforces the requirements of the Prescription Drug Marketing Act, or PDMA, which, among other things, imposes various requirements in connection with the distribution of product samples to physicians.

Table of Contents

In addition to inspections related to manufacturing, we are subject to periodic unannounced inspections by the FDA and other regulatory bodies related to the other regulatory requirements that apply to marketed drugs manufactured or distributed by us. The FDA also may conduct periodic inspections regarding our review and reporting of adverse events, or related to compliance with the requirements of the PDMA concerning the handling of drug samples. When the FDA conducts an inspection, the inspectors will identify any deficiencies they believe exist in the form of a notice of inspectional observations. The observations may be more or less significant. If we receive a notice of inspectional observations, we likely will be required to respond in writing, and may be required to undertake corrective and preventive actions in order to address the FDA's concerns.

There are a variety of state laws and regulations that apply in the states or localities where JAKAFI and our drug candidates are or may be marketed. For example, we must comply with state laws that require the registration of manufacturers and wholesale distributors of pharmaceutical products in that state, including, in certain states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Any applicable state or local regulations may hinder our ability to market, or increase the cost of marketing, our products in those states or localities.

The FDA's policies may change and additional government regulations may be enacted which could impose additional burdens or limitations on our ability to market products after approval. Moreover, increased attention to the containment of health care costs in the United States and in foreign markets could result in new government regulations which could have a material adverse effect on our business. We cannot predict the likelihood, nature or extent of adverse governmental regulation which might arise from future legislative or administrative action, either in the United States or abroad.

Marketing Exclusivity

The FDA may grant five years of exclusivity in the United States for the approval of NDAs for new chemical entities, and three years of exclusivity for supplemental NDAs, for among other things, new indications, dosages or dosage forms of an existing drug if new clinical investigations that were conducted or sponsored by the applicant are essential to the approval of the supplemental application. Additionally, six months of marketing exclusivity in the United States is available if, in response to a written request from the FDA, a sponsor submits and the agency accepts requested information relating to the use of the approved drug in the pediatric population. The six month pediatric exclusivity is added to any existing patent or non patent exclusivity period for which the drug is eligible. Orphan drug products are also eligible for pediatric exclusivity if the FDA requests and the company completes pediatric clinical trials. Under the Biologics Price Competition and Innovation Act, the FDA may grant 12 years of data exclusivity for innovative biological products.

Health Law Compliance

In addition to FDA laws and regulations, we must also comply with various federal and state laws and regulations pertaining to healthcare "fraud and abuse" laws which govern, among other things, our relationships with healthcare providers, and organizations such as specialty pharmacies, wholesalers and group purchasing organizations relating to the marketing and pricing of prescription drug products. Among these laws are anti kickback laws and false claims laws. Anti kickback laws make it illegal for a prescription drug manufacturer to solicit, offer, receive, or pay any remuneration in exchange for, or to induce, the referral of business, including the purchase or prescription of a particular drug. Due to the breadth of the statutory provisions and the absence of guidance in the form of regulations and very few court decisions addressing industry practices, it is possible that our practices could be challenged under

anti kickback or similar laws. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented, for payment to third party payors (including Medicare and Medicaid) claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. In addition, a number of states require that companies implement compliance programs or comply with industry ethics codes, adopt spending limits, and report to state governments any gifts, compensation, and other remuneration provided to physicians. The majority of states also have statutes or regulations similar to the federal anti kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of

Table of Contents

the payor. Many pharmaceutical and other health care companies have been investigated and prosecuted for alleged violations of these laws. Sanctions under these federal and state laws may include civil monetary penalties, exclusion of a manufacturer's products from reimbursement under government programs (including Medicare and Medicaid), criminal fines, and imprisonment. Companies that have chosen to settle these alleged violations have typically paid multi million dollar fines to the government and agreed to abide by corporate integrity agreements. Private individuals may bring similar actions.

There are also an increasing number of state laws that require manufacturers to make reports to those states on certain pricing and marketing information. Many of these laws contain ambiguities as to what is required to comply with the laws. Given the lack of clarity in laws and their implementation, our reporting actions could be subject to the penalty provisions of the state authorities.

Healthcare Reform and Reimbursement and Pricing Controls

There has been an increased focus on drug pricing in recent years in the United States. Although there are no direct government price controls over private sector purchases in the United States, there are rebates and other financial requirements for federal and state health care programs. The Medicare Modernization Act, enacted in December 2003, established the Medicare Part D outpatient prescription drug benefit, which is provided primarily through private entities that attempt to negotiate price concessions from pharmaceutical manufacturers. The health care reform legislation enacted in 2010, known as the Affordable Care Act, requires drug manufacturers to pay 50% of the Medicare Part D coverage gap, also known as the "donut hole," on prescriptions for branded products filled when the beneficiary reaches this coverage. The Deficit Reduction Act of 2005 resulted in changes to the way drug prices are reported to the government and the formula using such information to calculate the required Medicaid rebates. The Affordable Care Act increased the minimum basic Medicaid rebate for branded prescription drugs from 15.1% to 23.1% and requires pharmaceutical manufacturers to pay states rebates on prescription drugs dispensed to Medicaid managed care enrollees. In addition, the Affordable Care Act increased the additional Medicaid rebate on "line extensions" (such as extended release formulations) of solid oral dosage forms of branded products, revised the definition of average manufacturer price by changing the classes of purchasers included in the calculation, and expanded the entities eligible for discounted pricing under the federal 340B drug pricing program. Current orphan drugs are excluded from the expanded 340B hospitals eligible for discounts.

The Affordable Care Act imposes a significant annual fee on companies that manufacture or import branded prescription drug products. The fee (which is not deductible for federal income tax purposes) is based on the manufacturer's market share of sales of branded drugs and biologics (excluding orphan drugs) to, or pursuant to coverage under, specified U.S. government programs. The Affordable Care Act also contains a number of provisions, including provisions governing the way that health care is financed by both governmental and private insurers, enrollment in federal health care programs, reimbursement changes, the increased use of comparative effectiveness research in health care decision making, and enhancements to fraud and abuse requirements and enforcement, that are affecting existing government health care programs and will result in the development of new programs. The Affordable Care Act also contains requirements for manufacturers to publicly report certain payments or other transfers of value made to physicians and teaching hospitals. We are unable to predict the future course of federal or state health care legislation and regulations, including regulations that will be issued to implement provisions of the Affordable Care Act. The Affordable Care Act and further changes in the law or regulatory framework that reduce our revenues or increase our costs could also have a material adverse effect on our business, financial condition and results of operations and cash flows.

Public and private health care payers control costs and influence drug pricing through a variety of mechanisms, including through negotiating discounts with the manufacturers and through the use of tiered formularies and other mechanisms that provide preferential access to certain drugs over others within a therapeutic class. Payers also set

other criteria to govern the uses of a drug that will be deemed medically appropriate and therefore reimbursed or otherwise covered. Payers may require physicians to seek approval from them before a product will be reimbursed or covered, commonly referred to as prior authorization. In particular, many public and private health care payers limit reimbursement and coverage to the uses of a drug that are either approved by the FDA or appear in a recognized drug compendium. Drug compendia are publications that summarize the available medical evidence for particular drug products and identify which uses of a drug are supported or not supported by the available evidence, whether or not such uses have been approved by the FDA. For example, in the case of Medicare Part D coverage for oncology drugs, the Medicare Modernization Act,

Table of Contents

with certain exceptions, provides for Medicare coverage of unapproved uses of an FDA approved drug if the unapproved use is reasonable and necessary and is supported by one or more citations in CMS approved compendia, such as the National Comprehensive Cancer Network Drugs and Biologics Compendium. Different pricing and reimbursement schemes exist in other countries. For example, in the European Union, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national health care systems that fund a large part of the cost of such products to consumers. The approach taken varies from member state to member state. Some jurisdictions operate positive or negative list systems under which products may only be marketed once a reimbursement price has been agreed. Other member states allow companies to fix their own prices for medicines, but monitor and control company profits and may limit or restrict reimbursement. The downward pressure on health care costs in general, and prescription drugs in particular, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products, as exemplified by the actions of the National Institute for Clinical Excellence in the United Kingdom, which evaluates the data supporting new medicines and passes reimbursement recommendations to the government. In addition, in some countries cross border imports from low priced markets (parallel imports) exert a commercial pressure on pricing within a country.

Manufacturing

Our manufacturing strategy is to contract with third parties to manufacture the raw materials, our active pharmaceutical ingredients, or API, and finished solid dose products for clinical and commercial uses. We currently do not operate manufacturing facilities for clinical or commercial production of JAKAFI or our drug candidates. In addition, we expect for the foreseeable future to continue to rely on third parties for the manufacture of commercial supplies of the raw materials, API and finished drug product for any drugs that we successfully develop and are approved for commercial sale. In this manner, we continue to build and maintain our supply chain and quality assurance resources.

Manufacturing of our Products

Our supply chain for manufacturing raw materials, API and drug product ready for distribution and commercialization is a multi step international process. Establishing and managing the supply chain requires a significant financial commitment and the creation and maintenance of numerous third party contractual relationships.

We contract with third parties to manufacture our drug candidates and JAKAFI for clinical and commercial purposes. Third party manufacturers supply us with raw materials, and other third party manufacturers convert these raw materials into API or convert the API into final dosage form. For most of our drug candidates, once our raw materials are produced, we rely on one third party to manufacture the API, another to make finished drug product and a third to package and label the finished product. For ruxolitinib phosphate, the API for JAKAFI, we have two qualified third party contract manufacturers from which we can source drug substance.

We also rely on third party contract manufacturers to tablet or capsulate all of our active pharmaceutical ingredients for clinical and commercial uses. For JAKAFI, we have two qualified third party manufacturers from which we can source commercial product.

We may not be able to obtain sufficient quantities of any of our raw materials, drug candidates, ruxolitinib phosphate, or JAKAFI if our designated manufacturers do not have the capacity or capability to manufacture our products according to our schedule and specifications. If any of these single source suppliers were to become unable or unwilling to supply us with API or finished product that complies with applicable regulatory requirements, we could incur significant delays in our clinical trials or interruption of commercial supply which could have a material adverse effect on our business.

We have established a quality assurance program intended to ensure that our third party manufacturers and service providers produce materials and provide services, when applicable, in accordance with the FDA's current Good Manufacturing Practices and other applicable regulations.

For our future products, we intend to continue to establish third party suppliers to manufacture sufficient quantities of our drug candidates to undertake clinical trials and to manufacture sufficient quantities of any product that is approved for commercial sale. If we are unable to contract for large scale manufacturing with third parties on acceptable

Table of Contents

terms for our future products or develop manufacturing capabilities internally, our ability to conduct large scale clinical trials and meet customer demand for commercial products will be adversely affected.

Third party Manufacturers

Our third party manufacturers are independent entities, under contract with us, who are subject to their own unique operational and financial risks which are out of our control. If we or any of our third party manufacturers fail to perform as required, this could impair our ability to deliver our products on a timely basis or cause delays in our clinical trials and applications for regulatory approval. To the extent these risks materialize and affect their performance obligations to us, our financial results may be adversely affected.

We believe the technology used to manufacture our products is proprietary. For products manufactured by our third party manufacturers, we have licensed the necessary aspects of this manufacturing technology that we believe is proprietary to us to enable them to manufacture the products for us. We have agreements with these third party manufacturers that are intended to restrict these manufacturers from using or revealing our technology, but we cannot be certain that these third party manufacturers will comply with these restrictions.

While we believe there are multiple third parties capable of providing most of the materials and services we need in order to manufacture ruxolitinib phosphate and distribute JAKAFI, and that supply of materials that cannot be second sourced can be managed with inventory planning, there is always a risk that we may underestimate demand, and that our manufacturing capacity through third party manufacturers may not be sufficient. In addition, because of the significant lead times involved in our supply chain for ruxolitinib phosphate, we may have less flexibility to adjust our supply in response to changes in demand than if we had shorter lead times.

Access to Supplies and Materials

Our third party manufacturers need access to certain supplies and products to manufacture JAKAFI and our drug candidates. If delivery of material from their suppliers were interrupted for any reason or if they are unable to purchase sufficient quantities of raw materials used to manufacture JAKAFI and our drug candidates, they may be unable to ship JAKAFI for commercial supply or to supply our drug candidates in development for clinical trials. For example, currently raw materials used to manufacture ruxolitinib phosphate, the API in JAKAFI, are supplied by Chinese based companies. As a result, an international trade dispute between China and the United States or any other actions by the Chinese government that would limit or prevent Chinese companies from supplying these materials would adversely affect our ability to manufacture and supply our products to meet market needs and have a material and adverse effect on our operating results.

Agenus

Under our collaboration with Agenus, Agenus has primary responsibility for manufacturing activities, including selecting and monitoring third party manufacturers. Manufacturing antibodies and products containing antibodies is a more complex process than manufacturing small molecule drugs and subject to additional risks. The process of manufacturing antibodies and products containing antibodies is highly susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics, and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

Research and Development

Since our inception, we have made substantial investments in research and technology development. During the years ended December 31, 2015, 2014 and 2013, we incurred research and development expenses of $479.5 million, $347.5 million and $260.4 million, respectively.

Table of Contents

Human Resources

As of December 31, 2015, we had 692 employees, including 415 in research and development, 32 in medical affairs, 127 in sales and marketing and 118 in operations support, finance and administrative positions. Of these employees, 203 employees have advanced technical degrees, including 26 MDs and 177 doctorate degrees. None of our employees are covered by collective bargaining agreements, and management considers relations with our employees to be good.

Available Information

We were incorporated in Delaware in 1991 and our website is located at www.incyte.com. We make available free of charge on our website our annual reports on Form 10 K, quarterly reports on Form 10 Q, current reports on Form 8 K and amendments to those reports, as soon as reasonably practicable after we electronically file or furnish such materials to the Securities and Exchange Commission. Our website and the information contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10 K.

Item 1A. Risk Factors

RISKS RELATING TO OUR LEAD PRODUCT JAKAFI

We depend heavily on our lead product, JAKAFI (ruxolitinib), which is marketed as JAKAVI outside the United States. If we are unable to successfully commercialize JAKAFI in its approved indications or to successfully obtain regulatory approval for and commercialize ruxolitinib for the treatment of additional indications, or if we are significantly delayed or limited in doing so, our business may be materially harmed.

JAKAFI is our first product to be approved for sale in the United States. It was approved by the U.S. Food and Drug Administration, or FDA, in November 2011 for the treatment of patients with intermediate or high risk myelofibrosis and in December 2014 for the treatment of patients with polycythemia vera who have had an inadequate response to or are intolerant of hydroxyurea, which we refer to as uncontrolled polycythemia vera. Although we have received regulatory approval for these indications, such approval does not guarantee future revenues. The commercial success of JAKAFI and our ability to generate and maintain revenues from the sale of JAKAFI will depend on a number of factors, including:

- the number of patients with intermediate or high risk myelofibrosis or uncontrolled polycythemia vera who are diagnosed with the disease and the number of such patients that may be treated with JAKAFI;
- the acceptance of JAKAFI by patients and the healthcare community;
- whether physicians, patients and healthcare payors view JAKAFI as therapeutically effective and safe relative to cost and any alternative therapies;
- the ability to obtain and maintain sufficient coverage or reimbursement by third party payors;
- the ability of our third party manufacturers to manufacture JAKAFI in sufficient quantities with acceptable quality;
- the ability of our company and our third party providers to provide marketing and distribution support for JAKAFI;
- the label and promotional claims allowed by the FDA;
- the maintenance of regulatory approval for the approved indications in the United States; and
- our ability to develop, obtain regulatory approval for and commercialize ruxolitinib in the United States for additional indications.

Table of Contents

If we are not successful in commercializing JAKAFI in the United States, or are significantly delayed or limited in doing so, our business may be materially harmed and we may need to delay other drug discovery and development initiatives or even significantly curtail operations.

In addition, our receipt of royalties under our collaboration agreement with Novartis for sales of JAKAVI outside the United States will depend on factors similar to those listed above for jurisdictions outside the United States.

If we are unable to obtain, or maintain at anticipated levels, reimbursement for JAKAFI from government health administration authorities, private health insurers and other organizations, our pricing may be affected or our product sales, results of operations or financial condition could be harmed.

We may not be able to sell JAKAFI on a profitable basis or our profitability may be reduced if we are required to sell JAKAFI at lower than anticipated prices or reimbursement is unavailable or limited in scope or amount. JAKAFI is expensive and almost all patients will require some form of third party coverage to afford its cost. Our future revenues and profitability will be adversely affected if we cannot depend on government and other third party payors to defray the cost of JAKAFI to the patient. In the United States, there have been, and we expect there will continue to be, efforts to control and reduce healthcare costs. Government and other third party payors are challenging the prices charged for healthcare products and increasingly limiting and attempting to limit both coverage and level of reimbursement for prescription drugs. If these entities refuse to provide coverage and reimbursement with respect to JAKAFI, determine to provide a lower level of coverage and reimbursement than anticipated, or reduce previously approved levels of coverage and reimbursement, then our pricing or reimbursement for JAKAFI may be affected and our product sales, results of operations or financial condition could be harmed.

We depend upon a limited number of specialty pharmacies and wholesalers for a significant portion of any revenues from JAKAFI, and the loss of, or significant reduction in sales to, any one of these specialty pharmacies or wholesalers could adversely affect our operations and financial condition.

We sell JAKAFI primarily to specialty pharmacies and wholesalers. Specialty pharmacies dispense JAKAFI to patients in fulfillment of prescriptions and wholesalers sell JAKAFI to hospitals and physician offices. We do not promote JAKAFI to specialty pharmacies or wholesalers, and they do not set or determine demand for JAKAFI. Our ability to successfully commercialize JAKAFI will depend, in part, on the extent to which we are able to provide adequate distribution of JAKAFI to patients. Although we have contracted with a number of specialty pharmacies and wholesalers, they are expected generally to carry a very limited inventory and may be reluctant to be part of our distribution network in the future if demand for the product does not increase. Further, it is possible that these specialty pharmacies and wholesalers could decide to change their policies or fees, or both, at some time in the future. This could result in their refusal to carry smaller volume products such as JAKAFI, or lower margins or the need to find alternative methods of distributing our product. Although we believe we can find alternative channels to distribute JAKAFI on relatively short notice, our revenue during that period of time may suffer and we may incur additional costs to replace any such specialty pharmacy or wholesaler. The loss of any large specialty pharmacy or wholesaler as part of our distribution network, a significant reduction in sales we make to specialty pharmacies or wholesalers, or any failure to pay for the products we have shipped to them could materially and adversely affect our results of operations and financial condition.

If we are unable to establish and maintain effective sales, marketing and distribution capabilities, or to enter into agreements with third parties to do so, we will not be able to successfully commercialize JAKAFI.

Prior to our commercialization of JAKAFI, we had no experience selling and marketing drug products and with pricing and obtaining adequate third party reimbursement for drug products. Under our collaboration and license agreement with Novartis, we have retained commercialization rights to JAKAFI in the United States. We have

established commercial capabilities in the United States, but cannot guarantee that we will be able to maintain our own capabilities or enter into and maintain any marketing, distribution or third party logistics agreements with third party providers on acceptable terms, if at all. We may not be able to correctly judge the size and experience of the sales and marketing force and the scale of distribution capabilities necessary to successfully market and sell JAKAFI. Establishing and maintaining sales, marketing and distribution capabilities are expensive and time consuming. Competition for personnel with

Table of Contents

experience in sales and marketing can be high. Our expenses associated with building and maintaining the sales force and distribution capabilities may be disproportional compared to the revenues we may be able to generate on sales of JAKAFI.

Our reliance on other parties to manufacture JAKAFI could result in a short supply of JAKAFI, increased costs, and withdrawal of regulatory approval.

We do not currently operate manufacturing facilities for commercial production of JAKAFI. Accordingly, we will be subject to the risks described below under "—Other Risks Relating to Our Business—Our reliance on other parties to manufacture our drug products and drug candidates could result in a short supply of the drugs, delays in clinical trials or drug development, increased costs, and withdrawal or denial of a regulatory authority's approval."

If we fail to comply with applicable laws and regulations, we could lose our approval to market JAKAFI or be subject to other governmental enforcement activity.

We cannot guarantee that we will be able to maintain regulatory approval to market JAKAFI in the United States. If we do not maintain our regulatory approval to market JAKAFI, our results of operations will be materially harmed. We and our collaborators, third party manufacturers and suppliers are subject to rigorous and extensive regulation by the FDA and other federal and state agencies. These regulations continue to apply after product marketing approval, and cover, among other things, testing, manufacturing, quality control, labeling, advertising, promotion, risk mitigation, and adverse event reporting requirements.

Our commercialization of JAKAFI is subject to post regulatory approval product surveillance, and JAKAFI may have to be withdrawn from the market or subject to restrictions if previously unknown problems occur. Regulatory agencies may also require additional clinical trials or testing for JAKAFI, and JAKAFI may be recalled or may be subject to reformulation, additional studies, changes in labeling, warnings to the public and negative publicity.

Failure to comply with the laws and regulations administered by the FDA or other agencies could result in:

- administrative and judicial sanctions, including warning letters;
- fines and other civil penalties;
- withdrawal of regulatory approval to market JAKAFI;
- interruption of production;
- operating restrictions;
- product recall or seizure;
- injunctions; and
- criminal prosecution.

The occurrence of any such event may have a material adverse effect on our business.

Table of Contents

If the use of JAKAFI harms patients, or is perceived to harm patients even when such harm is unrelated to JAKAFI, our regulatory approval could be revoked or otherwise negatively impacted or we could be subject to costly and damaging product liability claims.

The testing of JAKAFI and the manufacturing, marketing and sale of JAKAFI expose us to product liability and other risks. Side effects and other problems experienced by patients from the use of JAKAFI could:

- lessen the frequency with which physicians decide to prescribe JAKAFI;
- encourage physicians to stop prescribing JAKAFI to their patients who previously had been prescribed JAKAFI;
- cause serious harm to patients that may give rise to product liability claims against us; and
- result in our need to withdraw or recall JAKAFI from the marketplace.

If JAKAFI is used by a wide patient population, new risks and side effects may be discovered, the rate of known risks or side effects may increase, and risks previously viewed as less significant could be determined to be significant.

Previously unknown risks and adverse effects of JAKAFI may also be discovered in connection with unapproved, or off label, uses of JAKAFI. We are prohibited by law from promoting or in any way supporting or encouraging the promotion of JAKAFI for off label uses, but physicians are permitted to use products for off label purposes. In addition, we are studying and expect to continue to study JAKAFI in diseases for potential additional indications in controlled clinical settings, and independent investigators are doing so as well. In the event of any new risks or adverse effects discovered as new patients are treated for intermediate or high risk myelofibrosis or uncontrolled polycythemia vera and as JAKAFI is studied in or used by patients for off label indications, regulatory authorities may delay or revoke their approvals, we may be required to conduct additional clinical trials, make changes in labeling of JAKAFI, reformulate JAKAFI or make changes and obtain new approvals. We may also experience a significant drop in the sales of JAKAFI, experience harm to our reputation and the reputation of JAKAFI in the marketplace or become subject to lawsuits, including class actions. Any of these results could decrease or prevent sales of JAKAFI or substantially increase the costs and expenses of commercializing JAKAFI.

Patients who have been enrolled in our clinical trials or who may use JAKAFI in the future often have severe and advanced stages of disease and known as well as unknown significant pre existing and potentially life threatening health risks. During the course of treatment, patients may suffer adverse events, including death, for reasons that may or may not be related to JAKAFI. Such events could subject us to costly litigation, require us to pay substantial amounts of money to injured patients, delay, negatively impact or end our opportunity to receive or maintain regulatory approval to market JAKAFI, or require us to suspend or abandon our commercialization efforts. Even in a circumstance in which we do not believe that an adverse event is related to JAKAFI, the investigation into the circumstance may be time consuming or inconclusive. These investigations may interrupt our sales efforts, impact and limit the type of regulatory approvals JAKAFI receives or maintains, or delay the regulatory approval process for our collaborator Novartis in other countries.

Factors similar to those listed above also apply to our collaboration partner Novartis for jurisdictions outside the United States.

If we market JAKAFI in a manner that violates various federal and state health care related laws and regulations, we may be subject to civil or criminal penalties.

In addition to FDA and related regulatory requirements, we are subject to health care “fraud and abuse” laws, such as the federal False Claims Act, the anti kickback provisions of the federal Social Security Act, and other state and federal laws and regulations. Federal and state anti kickback laws prohibit, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for purchasing, leasing, ordering or

arranging for the purchase, lease or order of any health care item or service reimbursable under Medicare, Medicaid, or other federally or state financed health care programs. Federal false claims laws prohibit any person from knowingly presenting,

Table of Contents

or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to get a false claim paid. Pharmaceutical companies have been prosecuted under these laws for a variety of alleged promotional and marketing activities.

Although physicians are permitted, based on their medical judgment, to prescribe products for indications other than those approved by the FDA, manufacturers are prohibited from promoting their products for such off label uses. We market JAKAFI for intermediate or high risk myelofibrosis and uncontrolled polycythemia vera and provide promotional materials to physicians regarding the use of JAKAFI for these indications. Although we believe that our promotional materials for physicians do not constitute off label promotion of JAKAFI, the FDA or other agencies may disagree. If the FDA or another agency determines that our promotional materials or other activities constitute off label promotion of JAKAFI, it could request that we modify our promotional materials or other activities or subject us to regulatory enforcement actions, including the issuance of a warning letter, injunction, seizure, civil fine and criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they believe that the alleged improper promotion led to the submission and payment of claims for an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement. Even if it is later determined we are not in violation of these laws, we may be faced with negative publicity, incur significant expenses defending our position and have to divert significant management resources from other matters.

The majority of states also have statutes or regulations similar to the federal anti kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor. In recent years, several states and localities, including California, Connecticut, the District of Columbia, Massachusetts, Minnesota, Nevada, New Mexico, Texas, Vermont, and West Virginia, have enacted legislation requiring pharmaceutical companies to establish marketing compliance programs, file periodic reports with the state or make periodic public disclosures on sales, marketing, pricing, clinical trials, and other activities. Similar legislation is being considered in other states. Additionally, as part of the Patient Protection and Affordable Care Act, the federal government has enacted the Physician Payment Sunshine provisions. The Sunshine provisions require manufacturers to publicly report certain payments or other transfers of value made to physicians and teaching hospitals. Many of these requirements are new and uncertain, and the penalties for failure to comply with these requirements are unclear. Nonetheless, if we are found not to be in full compliance with these laws, we could face enforcement action and fines and other penalties, and could receive adverse publicity. See also "—Other Risks Relating to our Business—If we fail to comply with the extensive legal and regulatory requirements affecting the health care industry, we could face increased costs, penalties and a loss of business" below.

Our business operates in an extremely competitive environment.

The pharmaceutical and biotechnology industries in which we operate are highly competitive. Our present and potential competitors could include major pharmaceutical and biotechnology companies, as well as specialty pharmaceutical firms. For example, Gilead Sciences, Inc. has a drug candidate in Phase III clinical trials for the treatment of myelofibrosis. We are also aware of companies that have initiated or are planning to initiate clinical trials for the treatment of diseases that we are also targeting. Some of these present and potential competitors could have considerably greater resources than we have, enabling them, among other things, to make greater research and development and marketing investments or to engage in price competition. We also experience competition in drug discovery and development from universities and other research institutions, and we compete with others in acquiring technology from these sources. The pharmaceutical industry has undergone, and is expected to continue to undergo, rapid and significant technological change and we expect competition to intensify as technical advances are made and become more widely known. The development of products or processes by our competitors with significant advantages over those that we are developing could adversely affect our future revenues and profitability.

Competition for JAKAFI from generic products could potentially harm our business and result in a decrease in our revenue.

As a result of the Drug Price Competition and Patent Term Restoration Act of 1984, commonly known as the Hatch-Waxman Act, in the United States, generic manufacturers may seek approval of a generic version of an innovative pharmaceutical by filing with the FDA an Abbreviated New Drug Application, or ANDA. JAKAFI was approved pursuant

Table of Contents

to a New Drug Application, or NDA, by the FDA on November 16, 2011. The four-year period after which a generic manufacturer may file an ANDA and challenge the patents related to JAKAFI expired on November 16, 2015. Since the Hatch-Waxman Act provides significant incentives to generic manufacturers to challenge U.S. patents on successful innovative pharmaceutical products, generic manufacturers may target JAKAFI and challenge our related U.S. patent rights as early as the fourth quarter of 2015. There can be no assurance that our patents will be upheld or that any litigation in which we might engage with any such generic manufacturer would be successful in protecting JAKAFI's exclusivity. The entry of a generic version of JAKAFI could result in a decrease in JAKAFI sales and have a material adverse effect on our operating results and business.

OTHER RISKS RELATING TO OUR BUSINESS

We may be unsuccessful in our efforts to discover and develop drug candidates and commercialize drug products.

None of our drug candidates, other than JAKAFI/JAKAVI, has received regulatory approval. Our ability to discover and develop drug candidates and to commercialize additional drug products will depend on our ability to:

- hire and retain key employees;
- identify high quality therapeutic targets;
- identify potential drug candidates;
- develop products internally or license drug candidates from others;
    - identify and enroll suitable human subjects, either in the United States or abroad, for our clinical trials;
- complete laboratory testing;
- commence, conduct and complete safe and effective clinical trials on humans;
- obtain and maintain necessary intellectual property rights to our products;
- obtain and maintain necessary regulatory approvals for our products, both in the United States and abroad;
- enter into arrangements with third parties to provide services or to manufacture our products on our behalf;
- deploy sales and marketing resources effectively or enter into arrangements with third parties to provide these functions in compliance with all applicable laws;
- obtain appropriate coverage and reimbursement levels for the cost of our products from governmental authorities, private health insurers and other third party payors;
- lease facilities at reasonable rates to support our growth; and
- enter into arrangements with third parties to license and commercialize our products.

We have limited experience with the activities listed above and may not be successful in discovering, developing, or commercializing drug products. Discovery and development of drug candidates are expensive, uncertain and time consuming, and we do not know if our efforts will lead to discovery of any drug candidates that can be successfully developed and marketed. Of the compounds or biologics that we identify as potential drug products or that we may in license from other companies, including potential products for which we are conducting clinical trials, only a few, if any, are likely to lead to successful drug development programs and commercialized drug products.

Table of Contents

We depend heavily on the success of our most advanced drug candidates. We might not be able to commercialize any of our drug candidates successfully, and we may spend significant time and money attempting to do so.

We have invested significant resources in the development of our most advanced drug candidates. Ruxolitinib had been in Phase III clinical trials for the treatment of advanced or metastatic pancreatic cancer, as well as in other clinical trials. Epacadostat is expected to commence Phase III clinical trials later in 2016. Further, we have a number of drug candidates in Phase I and Phase II clinical trials. Our ability to generate product revenues will depend on the successful development and eventual commercialization of our most advanced drug candidates. We, or our collaborators or licensees, may decide to discontinue development of any or all of our drug candidates at any time for commercial, scientific or other reasons. For example, we have recently decided to discontinue the studies of ruxolitinib in pancreatic cancer and solid tumors and INCB 39110 in pancreatic cancer. If a product is developed but not approved or marketed, we may have spent significant amounts of time and money on it, which could adversely affect our operating results and financial condition as well as our business plans.

If we are unable to obtain regulatory approval for our drug candidates in the United States and foreign jurisdictions, we will not be permitted to commercialize products resulting from our research.

In order to commercialize drug products in the United States, our drug candidates will have to obtain regulatory approval from the FDA. Satisfaction of regulatory requirements typically takes many years. To obtain regulatory approval, we must first show that our drug candidates are safe and effective for target indications through preclinical testing (animal testing) and clinical trials (human testing). Preclinical testing and clinical development are long, expensive and uncertain processes, and we do not know whether the FDA will allow us to undertake clinical trials of any drug candidates in addition to our compounds currently in clinical trials. If regulatory approval of a product is granted, this approval will be limited to those disease states and conditions for which the product is demonstrated through clinical trials to be safe and effective.

Completion of clinical trials may take several years and failure may occur at any stage of testing. The length of time required varies substantially according to the type, complexity, novelty and intended use of the drug candidate. Interim results of a preclinical test or clinical trial do not necessarily predict final results, and acceptable results in early clinical trials may not be repeated in later clinical trials. For example, a drug candidate that is successful at the preclinical level may cause harmful or dangerous side effects when tested at the clinical level. Our rate of commencement and completion of clinical trials may be delayed, and our existing clinical trials may be stopped, due to many potential factors, including:

- the high degree of risk and uncertainty associated with drug development;
- our inability to formulate or manufacture sufficient quantities of materials for use in clinical trials;
- variability in the number and types of patients available for each study;
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data;
- unforeseen safety issues or side effects;
- poor or unanticipated effectiveness of drug candidates during the clinical trials; or
- government or regulatory delays.

Data obtained from clinical trials are susceptible to varying interpretation, which may delay, limit or prevent regulatory approval. Many companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in advanced clinical trials, even after achieving promising results in earlier clinical trials. In addition, regulatory authorities may refuse or delay approval as a result of other factors, such as changes in regulatory policy during the period of product development and regulatory agency review. For example, the FDA has in the past required and could in the future require that we conduct additional trials of any of our drug candidates, which would result in delays.

31

Table of Contents

Compounds or biologics developed by us or with or by our collaborators and licensees may not prove to be safe and effective in clinical trials and may not meet all of the applicable regulatory requirements needed to receive marketing approval. For example, in January 2016, a Phase II trial that was evaluating ruxolitinib in combination with regorafenib in patients with relapsed or refractory metastatic colorectal cancer and high C-reactive protein was stopped early after a planned analysis of interim efficacy data determined that the likelihood of the trial meeting its efficacy endpoint was insufficient. In addition, in February 2016, we made a decision to discontinue our JANUS 1 study, our JANUS 2 study, our other studies of ruxolitinib in colorectal, breast and lung cancer, and our study of INCB39110 in pancreatic cancer after a planned analysis of interim efficacy data of JANUS 1 demonstrated that ruxolitinib plus capecitabine did not show a sufficient level of efficacy to warrant continuation. If clinical trials of any of our compounds or biologics are stopped for safety, efficacy or other reasons or fail to meet their respective endpoints, our overall development plans, business, prospects, expected operating results and financial condition could be materially harmed and the value of our company could be negatively affected. Outside the United States, our ability 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 associated with the FDA approval process described above and may also include additional risks. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country and may require us to perform additional testing and expend additional resources. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other countries or by the FDA.

We depend on our collaborators and licensees for the future development and commercialization of some of our drug candidates. Conflicts may arise between our collaborators and licensees and us, or our collaborators and licensees may choose to terminate their agreements with us, which may adversely affect our business.

We have licensed to Novartis rights to ruxolitinib outside of the United States and worldwide rights to our c MET inhibitor compounds and licensed to Lilly worldwide rights to baricitinib. We have also licensed to Pfizer our portfolio of CCR2 antagonist compounds. Under the terms of our agreements with these collaborators, we have no or limited control over the further clinical development of these drug candidates and any revenues we may receive if these drug candidates receive regulatory approval and are commercialized will depend primarily on the development and commercialization efforts of others.

Conflicts may arise with our collaborators and licensees if they pursue alternative technologies or develop alternative products either on their own or in collaboration with others as a means for developing treatments for the diseases that we have targeted. Competing products and product opportunities may lead our collaborators and licensees to withdraw their support for our drug candidates. Any failure of our collaborators and licensees to perform their obligations under our agreements with them or otherwise to support our drug candidates could negatively impact the development of our drug candidates, lead to our loss of potential revenues from product sales and milestones and delay our achievement, if any, of profitability. Additionally, conflicts may arise if, among other things, there is a dispute about the achievement and payment of a milestone amount or the ownership of intellectual property that is developed during the course of a collaborative relationship.

Our existing collaborative and license agreements can be terminated by our collaborators and licensees for convenience, among other circumstances. If any of our collaborators or licensees terminates its agreement with us, or terminates its rights with respect to certain indications or drug candidates, we may not be able to find a new collaborator for them, and our business could be adversely affected. Should an agreement be terminated before we have realized the benefits of the collaboration or license, our reputation could be harmed, we may not obtain revenues that we anticipated receiving, and our business could be adversely affected.

Table of Contents

The success of our drug discovery and development efforts may depend on our ability to find suitable collaborators to fully exploit our capabilities. If we are unable to establish collaborations or if these future collaborations are unsuccessful in the development and commercialization of our drug candidates, our research, development and commercialization efforts may be unsuccessful, which could adversely affect our results of operations and financial condition.

An important element of our business strategy is to enter into collaborative or license arrangements with other parties, under which we license our drug candidates to those parties for development and commercialization or under which we study our drug candidates in combination with such parties' compounds or biologics. We are evaluating strategic relationships with respect to several of our other programs and may enter into an agreement with respect to one or more of these programs in the future. However, because collaboration and license arrangements are complex to negotiate, we may not be successful in our attempts to establish these arrangements. Also, we may not have drug candidates that are desirable to other parties, or we may be unwilling to license a drug candidate to a particular party because such party interested in it is a competitor or for other reasons. The terms of any such arrangements that we establish may not be favorable to us. Alternatively, potential collaborators may decide against entering into an agreement with us because of our financial, regulatory or intellectual property position or for scientific, commercial or other reasons. If we are not able to establish collaboration or license arrangements, we may not be able to develop and commercialize a drug product, which could adversely affect our business and our revenues.

In order for any of these collaboration or license arrangements to be successful, we must first identify potential collaborators or licensees whose capabilities complement and integrate well with ours. We may rely on these arrangements for not only financial resources, but also for expertise or economies of scale that we expect to need in the future relating to clinical trials, manufacturing, sales and marketing, and for licenses to technology rights. However, it is likely that we will not be able to control the amount and timing of resources that our collaborators or licensees devote to our programs or drug candidates. If our collaborators or licensees prove difficult to work with, are less skilled than we originally expected, do not devote adequate resources to the program, pursue alternative technologies or develop alternative products, or do not agree with our approach to development or manufacturing of the drug candidate, the relationship could be unsuccessful. If a business combination involving a collaborator or licensee and a third party were to occur, the effect could be to terminate or cause delays in development of a drug candidate.

If we fail to enter into additional licensing agreements or if these arrangements are unsuccessful, our business and operations might be adversely affected.

In addition to establishing collaborative or license arrangements under which other parties license our drug candidates for development and commercialization or under which we study our drug candidates in combination with such parties' compounds or biologics, we may explore opportunities to develop our clinical pipeline by in-licensing drug candidates that fit within our focus on oncology, such as our collaborations with Agenus and Jiangsu Hengrui Medicine Co., Ltd. We may be unable to enter into any additional in-licensing agreements because suitable drug candidates that are within our expertise may not be available to us on terms that are acceptable to us or because competitors with greater resources seek to in-license the same drug candidates. Drug candidates that we would like to develop may not be available to us because they are controlled by competitors who are unwilling to license the rights to the drug candidate to us. In addition, we may enter into license agreements that are unsuccessful and our business and operations might be adversely affected by the termination of a drug candidate and termination and winding down of the related license agreement. We may also need to license drug delivery or other technology in order to continue to develop our drug candidates. If we are unable to enter into additional agreements to license drug candidates, drug delivery technology or other technology or if these arrangements are unsuccessful, our research and development efforts could be adversely affected.

Even if a drug candidate that we develop receives regulatory approval, we may decide not to commercialize it if we determine that commercialization of that product would require more money and time than we are willing to invest.

Even if any of our drug candidates receives regulatory approval, it could be subject to post regulatory surveillance, and may have to be withdrawn from the market or subject to restrictions if previously unknown problems occur. Regulatory agencies may also require additional clinical trials or testing, and the drug product may be recalled or may be subject to reformulation, additional studies, changes in labeling, warnings to the public and negative publicity. As

Table of Contents

a result, we may not continue to commercialize a product even though it has obtained regulatory approval. Further, we may decide not to continue to commercialize a product if the market does not accept the product because it is too expensive or because third parties such as insurance companies or Medicare have not approved it for substantial reimbursement. In addition, we may decide not to continue to commercialize a product if competitors develop and commercialize similar or superior products or have proprietary rights that preclude us from ultimately marketing our products.

Any approved drug product that we bring to the market may not gain market acceptance by physicians, patients, healthcare payors and others in the medical community.

Even if we are successful in gaining regulatory approval of any of our drug candidates in addition to JAKAFI, we may not generate significant product revenues and we may not become profitable if these drug products do not achieve an adequate level of acceptance. Physicians may not recommend our drug products until longer term clinical data or other factors demonstrate the safety and efficacy of our drug products as compared to other alternative treatments. Even if the clinical safety and efficacy of our drug products is established, physicians may elect not to prescribe these drug products for a variety of reasons, including the reimbursement policies of government and other third party payors and the effectiveness of our competitors in marketing their products.

Market acceptance of our drug products, if approved for commercial sale, will depend on a number of factors, including:

- the willingness and ability of patients and the healthcare community to use our drug products;
- the ability to manufacture our drug products in sufficient quantities with acceptable quality and to offer our drug products for sale at competitive prices;
- the perception of patients and the healthcare community, including third party payors, regarding the safety, efficacy and benefits of our drug products compared to those of competing products or therapies;
- the label and promotional claims allowed by the FDA;
- the pricing and reimbursement of our drug products relative to existing treatments; and
- marketing and distribution support for our drug products.

We have limited capacity to conduct preclinical testing and clinical trials, and our resulting dependence on other parties could result in delays in and additional costs for our drug development efforts.

We have limited internal resources and capacity to perform preclinical testing and clinical trials. As part of our development strategy, we often hire clinical research organizations, or CROs, to perform preclinical testing and clinical trials for drug candidates. If the CROs that we hire to perform our preclinical testing and clinical trials do not meet deadlines, do not follow proper procedures, or a conflict arises between us and our CROs, our preclinical testing and clinical trials may take longer than expected, may cost more, may be delayed or may be terminated. If we were forced to find a replacement entity to perform any of our preclinical testing or clinical trials, we may not be able to find a suitable entity on favorable terms, or at all. Even if we were able to find another company to perform a preclinical test or clinical trial, the delay in the test or trial may result in significant additional expenditures. Events such as these may result in delays in our obtaining regulatory approval for our drug candidates or our ability to commercialize our products and could result in increased expenditures that would adversely affect our operating results.

We face significant competition for our drug discovery and development efforts, and if we do not compete effectively, our commercial opportunities will be reduced or eliminated.

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. Our drug discovery and development efforts may target diseases and conditions that are already

Table of Contents

subject to existing therapies or that are being developed by our competitors, many of which have substantially greater resources, larger research and development staffs and facilities, more experience in completing preclinical testing and clinical trials, and formulation, marketing and manufacturing capabilities. As a result of these resources, our competitors may develop drug products that render our products obsolete or noncompetitive by developing more effective drugs or by developing their products more efficiently. Our ability to develop competitive products would be limited if our competitors succeeded in obtaining regulatory approvals for drug candidates more rapidly than we were able to or in obtaining patent protection or other intellectual property rights that limited our drug development efforts. Any drug products resulting from our research and development efforts, or from our joint efforts with collaborators or licensees, might not be able to compete successfully with our competitors' existing and future products, or obtain regulatory approval in the United States or elsewhere.

Our reliance on other parties to manufacture our drug products and drug candidates could result in a short supply of the drugs, delays in clinical trials or drug development, increased costs, and withdrawal or denial of a regulatory authority's approval.

We do not currently operate manufacturing facilities for clinical or commercial production of JAKAFI and our other drug candidates. We currently hire third parties to manufacture the raw materials, active pharmaceutical ingredient, or API, and finished drug product of JAKAFI and our other drug candidates for clinical trials. In addition, we expect to continue to rely on third parties for the manufacture of commercial supplies of raw materials, API and finished drug product for any drugs that we successfully develop. For JAKAFI and most of our drug candidates, we hire third parties to manufacture the raw materials, API and finished drug product. We also hire third parties to package and label the finished product. The FDA requires that the raw materials, API and finished product for JAKAFI and our other drug candidates be manufactured according to its current Good Manufacturing Practices regulations and regulatory authorities in other countries have similar requirements. There are only a limited number of manufacturers that comply with these requirements. Failure to comply with current Good Manufacturing Practices and the applicable regulatory requirements of other countries in the manufacture of our drug candidates and products could result in the FDA or foreign regulatory authority halting our clinical trials, withdrawing or denying regulatory approval of our drug product, enforcing product recalls or other enforcement actions, which could have a material adverse effect on our business.

We may not be able to obtain sufficient quantities of our drug candidates or any drug products we may develop if our designated manufacturers do not have the capacity or capability to manufacture them according to our schedule and specifications. In addition, we may not be able to arrange for our drug candidates or any drug products that we may develop to be manufactured by one of these parties on reasonable terms, if at all. Also, required raw materials may only be available from a limited number of suppliers and, in the case of JAKAFI, are currently supplied by a single source. As noted above, generally, we have a single source or a limited number of suppliers that are qualified to supply each of the API and finished product of JAKAFI and our other drug candidates. If any of these suppliers were to become unable or unwilling to supply us with raw materials, API or finished product that complies with applicable regulatory requirements, we could incur significant delays in our clinical trials or interruption of commercial supply that could have a material adverse effect on our business. If we have promised delivery of a drug candidate or drug product and are unable to meet the delivery requirement due to manufacturing difficulties, our development programs could be delayed, we may have to expend additional sums in order to ensure that manufacturing capacity is available when we need it even if we do not use all of the manufacturing capacity, and our business and operating results could be harmed.

Manufacturers of pharmaceutical products often encounter difficulties in production, especially in scaling up initial production. These problems include difficulties with production costs and yields, quality control and assurance and shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations.

In order to obtain approval of our products by the FDA and foreign regulatory agencies, we need to complete testing on both the API and on the finished product in the packaging we propose for commercial sales. This includes testing of stability, identification of impurities and testing of other product specifications by validated test methods. In addition, we will be required to consistently produce the API in commercial quantities and of specified quality on a repeated basis and document our ability to do so. This requirement is referred to as process validation.

Table of Contents

We may not be able to adequately manage and oversee the manufacturers we choose, they may not perform as agreed or they may terminate their agreements with us. Foreign manufacturing approval processes typically include all of the risks associated with the FDA approval process for manufacturing and may also include additional risks.

Under our collaboration with Agenus, Agenus has primary responsibility for manufacturing activities, including selecting and monitoring third party manufacturers. Manufacturing antibodies and products containing antibodies is a more complex process than manufacturing small molecule drugs and subject to additional risks. The process of manufacturing antibodies and products containing antibodies is highly susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics, and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

If we fail to comply with the extensive legal and regulatory requirements affecting the health care industry, we could face increased costs, penalties and a loss of business.

Our activities, and the activities of our collaborators, partners and third party providers, are subject to extensive government regulation and oversight both in the United States and in foreign jurisdictions. The FDA and comparable agencies in other jurisdictions directly regulate many of our most critical business activities, including the conduct of preclinical and clinical studies, product manufacturing, advertising and promotion, product distribution, adverse event reporting and product risk management. States increasingly have been placing greater restrictions on the marketing practices of healthcare companies. In addition, pharmaceutical and biotechnology companies have been the target of lawsuits and investigations alleging violations of government regulations, including claims asserting submission of incorrect pricing information, impermissible off label promotion of pharmaceutical products, payments intended to influence the referral of federal or state healthcare business, submission of false claims for government reimbursement, antitrust violations, violations of the Foreign Corrupt Practices Act and similar anti bribery or anti corruption laws, or violations related to environmental matters. Violations of governmental regulation may be punishable by criminal and civil sanctions, including fines and civil monetary penalties and exclusion from participation in government programs, including Medicare and Medicaid. In addition to penalties for violation of laws and regulations, we could be required to repay amounts we received from government payors, or pay additional rebates and interest if we are found to have miscalculated the pricing information we have submitted to the government. We cannot ensure that our compliance controls, policies, and procedures will in every instance protect us from acts committed by our employees, collaborators, partners or third party providers that would violate the laws or regulations of the jurisdictions in which we operate. Whether or not we have complied with the law, an investigation into alleged unlawful conduct could increase our expenses, damage our reputation, divert management time and attention and adversely affect our business.

Health care reform measures could impact the pricing and profitability of pharmaceuticals, and adversely affect the commercial viability of our drug candidates. Our ability to generate revenues will be diminished if we are unable to obtain an adequate level of reimbursement from private insurers, government insurance programs or other third party payors of health care costs, which could be affected by recent healthcare reform legislation.

Our ability to commercialize our drug candidates successfully will depend in part on the extent to which adequate reimbursement levels for the cost of our products and related treatment are obtained from third party payors, such as private insurers, government insurance programs, including Medicare and Medicaid, health maintenance organizations (HMOs) and other health care related organizations.

In recent years, through legislative and regulatory actions, the federal government has made substantial changes to various payment systems under the Medicare and other federal health care programs. Comprehensive reforms to the U.S. healthcare system were recently enacted, including changes to the methods for, and amounts of, Medicare reimbursement. These reforms could significantly reduce payments from Medicare and Medicaid. Reforms or other changes to these payment systems, may change the availability, methods and rates of reimbursements from Medicare, private insurers and other third party payors for our drug candidates. Some of these changes and proposed changes could

Table of Contents

result in reduced reimbursement rates, which could reduce the price that we or any of our collaborators or licensees receive for any products, if commercialized, in the future, and which would adversely affect our business strategy, operations and financial results. Further federal and state proposals to regulate prices of pharmaceutical products and other health care reforms are possible, which could limit the prices that can be charged for any of our drug candidates and may further limit the commercial viability of our drug candidates. In certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. If reimbursement for our products, if commercialized, is unavailable, limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed. There may be future changes that result in reductions in current coverage and reimbursement levels for our drug candidates, and we cannot predict the scope of any future changes or the impact that those changes would have on our operations.

Third party payors are increasingly challenging the prices charged for medical products and services. Also, the trend toward managed health care in the United States, the organizations for which could control or significantly influence the purchase of health care services and products, as well as legislative proposals to reform health care or reduce government insurance programs, may all result in lower prices for or rejection of our products. Adoption of our drug candidates by the medical community may be limited without adequate reimbursement for our products. Cost control initiatives may decrease coverage and payment levels for our drug candidates and, in turn, the price that we will be able to charge for any product, if commercialized. Our drug candidates may not be considered cost effective, and coverage and reimbursement may not be available or sufficient to allow us to sell our products on a profitable basis. We are unable to predict all changes to the coverage or reimbursement methodologies that will be applied by private or government payors to our drug candidates.

The continuing efforts of third party payors to contain or reduce the costs of health care, any denial of private or government payor coverage or inadequate reimbursement for our drug candidates could materially and adversely affect our business strategy, operations, future revenues and profitability, and the future revenues and profitability of our potential customers, suppliers, collaborators and licensees and the availability of capital.

As our drug discovery and development operations are conducted at our headquarters in Wilmington, Delaware, the loss of access to this facility would negatively impact our business.

Our facility in Wilmington, Delaware is our headquarters and is also where we conduct all of our drug discovery, research, development and marketing activities. In addition, natural disasters or actions of activists opposed to aspects of pharmaceutical research may disrupt our experiments or our ability to access or use our facility. The loss of access to or use of our Wilmington, Delaware, facility, either on a temporary or permanent basis would result in an interruption of our business and, consequently, would adversely affect our overall business.

We depend on key employees in a competitive market for skilled personnel, and the loss of the services of any of our key employees or our inability to attract and retain additional personnel would affect our ability to expand our drug discovery and development programs and achieve our objectives.

We are highly dependent on the members of our executive management team and principal members of our commercial, development, medical, operations and scientific staff. We experience intense competition for qualified personnel. Our future success also depends in part on the continued service of our executive management team and key personnel and our ability to recruit, train and retain essential personnel for our drug discovery and development programs, and for our medical affairs and commercialization activities. If we lose the services of any of these people or if we are unable to recruit sufficient qualified personnel, our research and product development goals, and our commercialization efforts could be delayed or curtailed. We do not maintain “key person” insurance on any of our employees.

If we fail to manage our growth effectively, our ability to develop and commercialize products could suffer.

We expect that if our drug discovery efforts continue to generate drug candidates, our clinical drug candidates continue to progress in development, and we continue to build our development, medical and commercial organizations, we will require significant additional investment in personnel, management and resources. Our ability to achieve our research, development and commercialization objectives depends on our ability to respond effectively to these demands and expand our internal organization, systems, controls and facilities to accommodate additional anticipated growth. If we

Table of Contents

are unable to manage our growth effectively, our business could be harmed and our ability to execute our business strategy could suffer.

Risks associated with expanding our operations to Europe could adversely affect our business.

We plan to continue to expand our operations and conduct certain development activities in Europe. We have limited experience with conducting activities outside of the United States. International operations and business expansion plans are subject to numerous additional risks, including:

- multiple, conflicting and changing laws and regulations such as tax laws, privacy regulations, export and import restrictions, employment, immigration and labor laws, regulatory requirements, and other governmental approvals, permits and licenses;
- difficulties in staffing and managing foreign operations;
- risks associated with obtaining and maintaining, or the failure to obtain or maintain, regulatory approvals for the sale or use of our products in various countries;
- complexities associated with managing government payor systems, multiple payor reimbursement regimes or patient self pay systems;
- financial risks, such as longer payment cycles, difficulty enforcing contracts and collecting accounts receivable and exposure to foreign currency exchange rate fluctuations;
- general political and economic conditions in the countries in operate, including terrorism and political unrest, curtailment of trade and other business restrictions;
- regulatory and compliance risks that relate to maintaining accurate information and control over activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions or its anti bribery provisions, or similar anti bribery or anti corruption laws and regulations;

Any of these risks, if encountered, could significantly increase our costs of operating internationally, prevent us from operating in certain jurisdictions, or otherwise significantly harm our future international expansion and operations, which could have a material adverse effect on our business, financial condition and results of operations.

If product liability lawsuits are brought against us, we could face substantial liabilities and may be required to limit commercialization of our products and our results of operations could be harmed.

In addition to the risks described above under "—Risks Relating to Our Lead Product JAKAFI—If the use of JAKAFI harms patients, or is perceived to harm patients even when such harm is unrelated to JAKAFI, our regulatory approval could be revoked or otherwise negatively impacted or we could be subject to costly and damaging product liability claims," the conduct of clinical trials of medical products that are intended for human use entails an inherent risk of product liability. If any product that we or any of our collaborators or licensees develops causes or is alleged to cause injury during clinical trials or commercialization, we may be held liable. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities, including substantial damages to be paid to the plaintiffs and legal costs, or we may be required to limit further development and commercialization of our products. Additionally, any product liability lawsuit could cause injury to our reputation, participants and investigators to withdraw from clinical trials, and potential collaborators or licensees to seek other partners, any of which could impact our results of operations.

Our product liability insurance policy may not fully cover our potential liabilities. In addition, we may determine that we should increase our coverage, and this insurance may be prohibitively expensive to us or our collaborators or licensees and may not fully cover our potential liabilities. Our inability to obtain sufficient product liability insurance at

Table of Contents

an acceptable cost to protect against potential product liability claims could prevent or inhibit the development or commercialization of our drug candidates and products.

Because our activities involve the use of hazardous materials, we may be subject to claims relating to improper handling, storage or disposal of these materials that could be time consuming and costly.

We are subject to various environmental, health and safety laws and regulations governing, among other things, the use, handling, storage and disposal of regulated substances and the health and safety of our employees. Our research and development processes involve the controlled use of hazardous and radioactive materials and biological waste resulting in the production of hazardous waste products. We cannot completely eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. If any injury or contamination results from our use or the use by our collaborators or licensees of these materials, we may be sued and our liability may exceed our insurance coverage and our total assets. Further, we may be required to indemnify our collaborators or licensees against all damages and other liabilities arising out of our development activities or products produced in connection with these collaborations or licenses. Compliance with the applicable environmental and workplace laws and regulations is expensive. Future changes to environmental, health, workplace and safety laws could cause us to incur additional expense or may restrict our operations or impair our research, development and production efforts.

RISKS RELATING TO OUR FINANCIAL RESULTS

We expect to incur losses in the future and we may not achieve or maintain profitability in the future.

We had net losses from inception in 1991 through 1996 and in 1999 through December 31, 2014. Because of those losses, we had an accumulated deficit of $1.8 billion as of December 31, 2015. We intend to continue to spend significant amounts on our efforts to discover and develop drugs. As a result, we could continue to incur losses in 2016 and in future periods as well.

We anticipate that our drug discovery and development efforts and related expenditures will increase as we focus on the studies, including preclinical tests and clinical trials prior to seeking regulatory approval, that are required before we can sell a drug product.

The development of drug products will require us to spend significant funds on research, development, testing, obtaining regulatory approvals, manufacturing and marketing. To date, we do not have any drug products that have generated significant revenues other than from sales of JAKAFI and we cannot assure you that we will generate significant revenues from the drug candidates that we license or develop, including JAKAFI, for several years, if ever.

We cannot be certain whether or when we will achieve profitability because of the significant uncertainties relating to our ability to generate commercially successful drug products. Even if we are successful in obtaining regulatory approvals for manufacturing and commercializing drug products in addition to JAKAFI, we expect that we will continue to incur losses if our drug products do not generate significant revenues. If we achieve profitability, we may not be able to sustain or increase profitability.

We may need additional capital in the future. If we are unable to generate sufficient funds from operations, the capital markets may not permit us to raise additional capital at the time that we require it, which could result in limitations on our research and development or commercialization efforts or the loss of certain of our rights in our technologies or drug candidates.

Our future funding requirements will depend on many factors and we anticipate that we may need to raise additional capital to fund our business plan and research and development efforts going forward and to repay our indebtedness.

Additional factors that may affect our future funding requirements include:

· the amount of revenues generated from our business activities;

Table of Contents

- any changes in the breadth of our research and development programs;
- the results of research and development, preclinical testing and clinical trials conducted by us or our current or future collaborators or licensees, if any;
- our exercise of any co development options with collaborators that may require us to fund future development;
- the acquisition of businesses, technologies, or drug candidates, or the licensing of technologies or drug candidates, if any;
- costs for future facility requirements;
- our ability to maintain and establish new corporate relationships and research collaborations;
- competing technological and market developments;
- the time and costs involved in filing, prosecuting, defending and enforcing patent and intellectual property claims;
- the receipt of contingent licensing or milestone fees or royalties on product sales from our current or future collaborative and license arrangements, if established; and
- the timing of regulatory approvals, if any.

If we require additional capital at a time when investment in companies such as ours, or in the marketplace generally, is limited due to the then prevailing market or other conditions, we may have to scale back our operations, eliminate one or more of our research or development programs, or attempt to obtain funds by entering into an agreement with a collaborator or licensee that would result in terms that are not favorable to us or relinquishing our rights in certain of our proprietary technologies or drug candidates. If we are unable to raise funds at the time that we desire or at any time thereafter on acceptable terms, we may not be able to continue to develop our drug candidates. The sale of equity or additional convertible debt securities in the future may be dilutive to our stockholders, and debt financing arrangements may require us to pledge certain assets or enter into covenants that could restrict our operations or our ability to incur further indebtedness.

We have a large amount of debt and our debt service obligations may prevent us from taking actions that we would otherwise consider to be in our best interests.

As of December 31, 2015, the aggregate principal amount of our total consolidated debt was $749.8 million and our stockholders' equity was $171.2 million. Our substantial leverage could have significant negative consequences for our future operations, including:

- increasing our vulnerability to general adverse economic and industry conditions;
- limiting our ability to obtain additional financing for working capital, capital and research and development expenditures, and general corporate purposes;
- requiring the dedication of a substantial portion of our expected cash flow or our existing cash to service our indebtedness, thereby reducing the amount of our cash available for other purposes, including working capital, capital expenditures and research and development expenditures;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we compete; or

Table of Contents

- placing us at a possible competitive disadvantage compared to less leveraged competitors and competitors that have better access to capital resources.

We may not generate sufficient cash flow from our operations in the future to enable us to meet our anticipated fixed charges, including our obligations with respect to our outstanding convertible senior notes. As of December 31, 2015, $375.0 million aggregate principal amount of our 0.375% convertible senior notes due 2018 was outstanding and due in November 2018. Annual interest payments for our 0.375% convertible senior notes through 2018, assuming that none of these notes are converted, repurchased or exchanged, are $1.4 million. As of December 31, 2015, $374.8 million aggregate principal amount of our 1.25% convertible senior notes due 2020 was outstanding and due in November 2020. Annual interest payments for our 1.25% convertible senior notes through 2020, assuming that none of these notes are converted, repurchased or exchanged, are $4.7 million. If we are unable to generate cash from our operations or raise additional cash through financings sufficient to meet the remaining obligations under our convertible senior notes, we will need to use existing cash or liquidate marketable securities in order to fund these obligations, which may delay or curtail our research, development and commercialization programs.

Our marketable securities and long term investments are subject to certain risks that could adversely affect our overall financial position.

We invest our cash in accordance with an established internal policy and customarily in instruments, corporate bonds and money market funds which historically have been highly liquid and carried relatively low risk. Recently similar types of investments and money market funds have experienced losses in value or liquidity issues which differ from their historical pattern.

Should a portion of our cash or marketable securities lose value or have their liquidity impaired, it could adversely affect our overall financial position by imperiling our ability to fund our operations and forcing us to seek additional financing sooner than we would otherwise. Such financing, if available, may not be available on commercially attractive terms.

Any loss in value of our long term investments could adversely affect our financial position on the consolidated balance sheets and consolidated statements of operations.

Our current revenues are derived from JAKAFI product sales, JAKAVI product royalties, collaborations and from licensing our intellectual property. If we are unable to achieve milestones, develop products or renew or enter into new collaborations, our revenues may decrease, and future milestone and royalty payments may not contribute significantly to revenues for several years, and may never result in revenues.

We derived substantially all of our revenues for the year ended December 31, 2015 from JAKAFI product revenues, JAKAVI product royalties and our collaborations and licensing our intellectual property to others. Future revenues from research and development collaborations depend upon continuation of the collaborations, the achievement of milestones and royalties we earn from any future products developed from our research. If we are unable to successfully achieve milestones or our collaborators fail to develop successful products, we will not earn the future revenues contemplated under our collaborative agreements.

RISKS RELATING TO INTELLECTUAL PROPERTY AND LEGAL MATTERS

If we are subject to arbitration, litigation and infringement claims, they could be costly and disrupt our drug discovery and development efforts.

The technology that we use to make and develop our drug products, the technology that we incorporate in our products, and the products we are developing may be subject to claims that they infringe the patents or proprietary

rights of others. The success of our drug discovery and development efforts will also depend on our ability to develop new compounds, drugs and technologies without infringing or misappropriating the proprietary rights of others. We are aware of patents and patent applications filed in certain countries claiming intellectual property relating to some of our drug discovery targets and drug candidates. While the validity of issued patents, patentability of pending patent applications

Table of Contents

and applicability of any of them to our programs are uncertain, if any of these patents are asserted against us or if we choose to license any of these patents, our ability to commercialize our products could be harmed or the potential return to us from any product that may be successfully commercialized could be diminished.

From time to time we have received, and we may in the future receive, notices from third parties offering licenses to technology or alleging patent, trademark, or copyright infringement, claims regarding trade secrets or other contract claims. Receipt of these notices could result in significant costs as a result of the diversion of the attention of management from our drug discovery and development efforts. Parties sending these notices may have brought and in the future may bring litigation against us or seek arbitration relating to contract claims.

We may be involved in future lawsuits or other legal proceedings alleging patent infringement or other intellectual property rights or contract violations. In addition, litigation or other legal proceedings may be necessary to:

· assert claims of infringement;
· enforce our patents or trademarks;
· protect our trade secrets or know how; or
· determine the enforceability, scope and validity of the proprietary rights of others.

We may be unsuccessful in defending or pursuing these lawsuits, claims or other legal proceedings. Regardless of the outcome, litigation or other legal proceedings can be very costly and can divert management's efforts. An adverse determination may subject us to significant liabilities or require us or our collaborators or licensees to seek licenses to other parties' patents or proprietary rights. We or our collaborators or licensees may also be restricted or prevented from manufacturing or selling a drug or other product that we or they develop. Further, we or our future collaborators or licensees may not be able to obtain any necessary licenses on acceptable terms, if at all. If we are unable to develop non infringing technology or license technology on a timely basis or on reasonable terms, our business could be harmed.

We may be unable to adequately protect or enforce our proprietary information, which may result in its unauthorized use, a loss of revenue under a collaboration agreement or loss of sales to generic versions of our products or otherwise reduce our ability to compete in developing and commercializing products.

Our business and competitive position depends in significant part upon our ability to protect our proprietary technology, including any drug products that we create. Despite our efforts to protect this information, unauthorized parties may attempt to obtain and use information that we regard as proprietary. For example, one of our collaborators may disclose proprietary information pertaining to our drug discovery efforts. In addition, while we have filed numerous patent applications with respect to ruxolitinib and our drug candidates in the United States and in foreign countries, our patent applications may fail to result in issued patents. In addition, because patent applications can take several years to issue as patents, there may be pending patent applications of others that may later issue as patents that cover some aspect of ruxolitinib and our drug candidates. Our existing patents and any future patents we may obtain may not be broad enough to protect our products or all of the potential uses of our products, or otherwise prevent others from developing competing products or technologies. In addition, our patents may be challenged and invalidated or may fail to provide us with any competitive advantages if, for example, others were first to invent or first to file a patent application for the technologies and products covered by our patents.

Additionally, when we do not control the prosecution, maintenance and enforcement of certain important intellectual property, such as a drug candidate in licensed to us or subject to a collaboration with a third party, the protection of the intellectual property rights may not be in our hands. If we do not control the intellectual property rights in licensed to us with respect to a drug candidate and the entity that controls the intellectual property rights does not adequately protect those rights, our rights may be impaired, which may impact our ability to develop, market and commercialize the in licensed drug candidate.

42

Table of Contents

Our means of protecting our proprietary rights may not be adequate, and our competitors may:

- independently develop substantially equivalent proprietary information, products and techniques;
- otherwise gain access to our proprietary information; or
- design around patents issued to us or our other intellectual property.

We pursue a policy of having our employees, consultants and advisors execute proprietary information and invention agreements when they begin working for us. However, these agreements may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure. If we fail to maintain trade secret and patent protection, our potential, future revenues may be decreased.

If the effective term of our patents is decreased due to changes in the United States patent laws or if we need to refile some of our patent applications, the value of our patent portfolio and the revenues we derive from it may be decreased.

The value of our patents depends in part on their duration. A shorter period of patent protection could lessen the value of our rights under any patents that we obtain and may decrease the revenues we derive from our patents. The United States patent laws were amended in 1995 to change the term of patent protection from 17 years from patent issuance to 20 years from the earliest effective filing date of the application. Because the time from filing to issuance of biotechnology applications may be more than three years depending on the subject matter, a 20 year patent term from the filing date may result in substantially shorter patent protection.

Additionally, United States patent laws were amended in 2011 with the enactment of the America Invents Act and third parties are now able to challenge the validity of issued U.S. patents through various review proceedings; thus rendering the validity of U.S. patents more uncertain. We may be obligated to participate in review proceedings to determine the validity of our U.S. patents. We cannot predict the ultimate outcome of these proceedings, the conduct of which could result in substantial costs and diversion of our efforts and resources. If we are unsuccessful in these proceedings some or all of our claims in the patents may be narrowed or invalidated and the patent protection for our products and drug candidates in the United States could be substantially shortened. Further, if all of the patents covering one of our products are invalidated, the FDA could approve requests to manufacture a generic version of that product prior to the expiration date of those patents.

Other changes in the United States patent laws or changes in the interpretation of patent laws could diminish the value of our patents or narrow the scope of our patent protection. For example, the Supreme Court of the United States recently ruled that isolated DNA sequences cannot be patented. Although we no longer receive significant revenues generated from our former information products business, the majority of our gene patent portfolio from that business consists of patents on isolated DNA sequences, and this ruling limits our ability to derive additional revenues from our gene patent portfolio. Additionally, the Supreme Court recently resolved a split among the circuit courts of appeals regarding antitrust challenges to settlements of patent infringement lawsuits under the Hatch Waxman Act between brand name drug companies and generic drug companies. The Court rejected the “scope of the patent” test and ruled that settlements involving “reverse payments” from brand name drug companies to generic drug companies should be analyzed under the rule of reason. This ruling may create uncertainty and make it more difficult to settle patent litigation if a company seeking to manufacture a generic version of one of our products challenges the patents covering that product prior to the expiration date of those patents.

International patent protection is particularly uncertain and costly, and our involvement in opposition proceedings in foreign countries may result in the expenditure of substantial sums and management resources.

Biotechnology and pharmaceutical patent law outside the United States is even more uncertain and costly than in the United States and is currently undergoing review and revision in many countries. Further, the laws of some foreign countries may not protect our intellectual property rights to the same extent as United States laws. For example,

certain countries do not grant patent claims that are directed to the treatment of humans. We have participated, and may in the future participate, in opposition proceedings to determine the validity of our foreign patents or our competitors' foreign

Table of Contents

patents, which could result in substantial costs and diversion of our efforts. For example, there is a patent opposition proceeding in India against our Indian patent that covers the composition of matter and use of certain Janus Kinase inhibitors, including ruxolitinib phosphate, for the treatment of myeloid proliferative disorders, cancer, immune related diseases, skin disorders, and other diseases. Successful challenges to our patent or other intellectual property rights through these proceedings could result in a loss of rights in the relevant jurisdiction and allow third parties to use our proprietary technologies without a license from us or our collaborators, which may also result in loss of future royalty payments. In addition, successful challenges may jeopardize or delay our ability to enter into new collaborations or commercialize potential products, which could harm our business and results of operations.

RISKS RELATING TO INFORMATION TECHNOLOGY

Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex, and interdependent information technology (IT) systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our IT systems make us potentially vulnerable to IT system breakdowns, malicious intrusion, and computer viruses, which may result in the impairment of our ability to operate our business effectively.

In addition, our systems are potentially vulnerable to data security breaches–whether by employees or others–which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers, business partners and others.

Any such disruption or security breach could result in legal proceedings, liability under laws that protect the privacy of personal information, regulatory penalties, disruptions to our operations and collaborations, and damage to our reputation, which could harm our business and results of operations.

Increasing use of social media could give rise to liability, breaches of data security, or reputational damage.

We and our employees are increasingly utilizing social media tools as a means of communication both internally and externally. Despite our efforts to monitor evolving social media communication guidelines and comply with applicable rules, there is risk that the use of social media by us or our employees to communicate about our products or business may cause us to be found in violation of applicable requirements. In addition, our employees may knowingly or inadvertently make use of social media in ways that may not comply with our social media policy or other legal or contractual requirements, which may give rise to liability, lead to the loss of trade secrets or other intellectual property, or result in public exposure of personal information of our employees, clinical trial patients, customers, and others. Furthermore, negative posts or comments about us or our products in social media could seriously damage our reputation, brand image, and goodwill.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties

Our corporate headquarters is in Wilmington, Delaware, which is where our drug discovery and development operations are also located. As of December 31, 2015, we had a 15 year lease agreement for approximately 190,000 square feet of laboratory and office space in Wilmington, Delaware. In August 2015, we entered into an agreement

to purchase the leased land and office building for approximately $79.9 million. The agreement contains customary representations and warranties regarding the property and closing of the acquisition is subject to certain standard closing conditions. Closing of the acquisition is anticipated in the first quarter of 2016.

Table of Contents

Effective January 1, 2016, we have a 3 year lease agreement for approximately 112,000 square feet of office space in Chadds Ford, Pennsylvania.

Item 3. Legal Proceedings

None

Item 4. Mine Safety Disclosures

Not applicable.

Executive Officers of the Registrant

Our executive officers are as follows:

Hervé Hoppenot, age 56, joined Incyte as President and Chief Executive Officer and a Director, in January 2014 and was appointed Chairman of the Board in May 2015. Mr. Hoppenot served as the President of Novartis Oncology, Novartis Pharmaceuticals Corporation, the U.S. subsidiary of Novartis AG, a pharmaceutical company, from January 2010 to January 2014. Prior to that, Mr. Hoppenot served in other executive positions at Novartis Pharmaceuticals Corporation, serving from September 2006 to January 2010 as Executive Vice President, Chief Commercial Officer of Novartis Oncology and Head of Global Product Strategy & Scientific Development of Novartis Pharmaceuticals Corporation and from 2003 to September 2006 as Senior Vice President, Head of Global Marketing of Novartis Oncology. Prior to joining Novartis, Mr. Hoppenot served in various increasingly senior roles at Aventis S.A. (formerly Rhône Poulenc S.A.), a pharmaceutical company, including as Vice President Oncology US of Aventis Pharmaceuticals, Inc. from 2000 to 2003 and Vice President US Oncology Operations of Rhone Poulenc Rorer Pharmaceuticals, Inc. from 1998 to 2000. Mr. Hoppenot holds a Diploma from ESSEC International Business School.

Barry P. Flannelly, age 58, has served as Executive Vice President and General Manager US since June 2015 and joined Incyte as Executive Vice President, Business Development and Strategic Planning in August 2014. Prior to joining Incyte, he served as Chief Executive Officer of OSS Healthcare Inc., a biotechnology start up company, from August 2013 to July 2014. He served as Vice President, Global Product Strategy and Commercial Planning of Nektar Therapeutics, a biopharmaceutical company, from April 2011 until April 2013 and as Senior Vice President, Commercial, of Onyx Pharmaceuticals, Inc., a biopharmaceutical company, from August 2008 until January 2011. Prior thereto, Dr. Flannelly held key positions at biopharmaceutical and pharmaceutical companies such as Abraxis BioScience, Inc. and Novartis. Dr. Flannelly earned his doctorate in pharmacy from the University of Maryland, School of Pharmacy, his master's degree in business administration from the University of Baltimore, and his B.S. degree in Pharmacy from Massachusetts College of Pharmacy.

David W. Gryska, age 59, joined Incyte as Executive Vice President and Chief Financial Officer in October 2014. Prior to joining Incyte, Mr. Gryska served as an independent consultant and as a member of several public company boards of directors. Mr. Gryska served as the Chief Operating Officer and a Director of Myrexis, Inc., a biotechnology company, from May 2012 to December 2012. From December 2006 to October 2010, Mr. Gryska served as Senior Vice President and Chief Financial Officer of Celgene Corporation, a biopharmaceutical company. From October 2004 to December 2006, Mr. Gryska was a principal at Strategic Consulting Group. Previously, Mr. Gryska served at Scios, Inc., a biopharmaceutical company, as Senior Vice President and Chief Financial Officer from 2000 to 2004, and as Vice President of Finance and Chief Financial Officer from 1998 to 2000. From 1993 to 1998, Mr. Gryska served as Vice President, Finance and Chief Financial Officer at Cardiac Pathways. Prior to Cardiac Pathways, Mr. Gryska served as a partner at Ernst & Young LLP. Mr. Grsyka is a CPA, and Mr. Gryska holds a B.A. in Accounting and Finance from Loyola University and an M.B.A. from Golden Gate University.

Reid M. Huber, age 44, has served as Executive Vice President, Chief Scientific Officer since April 2014. Dr. Huber joined Incyte as Associate Director, Applied Technology in January 2002 and held roles of increasing responsibility in both drug discovery and clinical development at Incyte. Prior to joining Incyte, Dr. Huber held scientific research positions with DuPont Pharmaceuticals Company from 1998 to 2002. Dr. Huber held intramural pre doctoral and

Table of Contents

post doctoral fellowships at the National Institutes of Health from 1997 1998. Dr. Huber received his B.S. in biochemistry/molecular genetics from Murray State University and his Ph.D. in molecular genetics from Washington University.

Richard S. Levy, M.D., age 58, has served as Executive Vice President and Chief Drug Development Officer since January 2009 and joined Incyte as Senior Vice President of Drug Development in August 2003. Prior to joining Incyte, Dr. Levy held positions of increasing responsibility in drug development, clinical research and regulatory affairs at Celgene Corporation, from 2002 to 2003, DuPont Pharmaceuticals Company, from 1997 to 2002, and Sandoz (now part of Novartis), from 1991 to 1997. Prior to joining the pharmaceutical industry, Dr. Levy was Assistant Professor of Medicine at the UCLA School of Medicine. Dr. Levy is Board Certified in Internal Medicine and Gastroenterology and received his A.B. in Biology from Brown University and his M.D. from the University of Pennsylvania.

Eric H. Siegel, age 51, has served as Executive Vice President and General Counsel since August 2011 and joined Incyte as the Chief Compliance Officer in October 2010. Prior to joining Incyte, from April 2009 to October 2011, he was Chief Compliance Officer at EMD Serono, Inc., a privately held biotechnology company. From 2007 to 2009 he served as General Counsel for Solstice Neurosciences, Inc., also a privately held biotechnology company. He was Vice President, Deputy General Counsel and Chief Compliance Officer at Cephalon, Inc. from 2004 to 2007. Mr. Siegel holds a B.A. from Franklin and Marshall College, his M.B.A from Temple University and his J.D. from the University of Pennsylvania.

Paula J. Swain, age 58, has served as Executive Vice President, Human Resources since August 2002 and joined Incyte as Senior Vice President of Human Resources in January 2002. Ms. Swain served as Senior Vice President of Human Resources at Bristol Myers Squibb Company from October 2001 to January 2002, after it acquired DuPont Pharmaceuticals Company. From July 1998 to October 2001, Ms. Swain was Senior Vice President of Human Resources at DuPont Pharmaceuticals. From October 1992 to July 1998, Ms. Swain held a variety of human resources positions of increasing responsibility at DuPont Pharmaceuticals. Ms. Swain received her B.A. in Psychology and Industrial Relations from Rockhurst University.

Wenqing Yao, age 53, has served as Executive Vice President, Medicinal and Process Chemistry since October 2014. Dr. Yao joined Incyte as Director, Chemistry in February 2002 and held roles of increasing responsibility at Incyte. Prior to joining Incyte, Dr. Yao held scientific research positions with DuPont Pharmaceuticals and Bristol Myers Squibb Company from 1996 to 2002. Dr. Yao received his B.S. in chemistry from Xuzhou Normal University, his M.S. in organic chemistry from NanKai University and his Ph.D. in organic/medicinal chemistry from the University of Pennsylvania.

Table of Contents

PART II

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

Our common stock, $.001 par value per share, is traded on The NASDAQ Global Select Market (Nasdaq) under the symbol "INCY." The following table sets forth, for the periods indicated, the range of high and low sales prices for our common stock on Nasdaq as reported in its consolidated transaction reporting system.

	High	Low
2014		
First Quarter	$ 70.86	$ 49.66
Second Quarter	58.34	40.30
Third Quarter	57.34	45.06
Fourth Quarter	80.78	43.86
2015		
First Quarter	$ 99.00	$ 69.05
Second Quarter	113.55	87.18
Third Quarter	133.62	89.21
Fourth Quarter	131.33	90.33

As of December 31, 2015, our common stock was held by 175 stockholders of record. We have never declared or paid dividends on our capital stock and do not anticipate paying any dividends in the foreseeable future.

Table of Contents

Item 6. Selected Financial Data

Selected Consolidated Financial Data

(in thousands, except per share data)

The data set forth below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in Item 7 and the Consolidated Financial Statements and related Notes included in Item 8 of this Report.

	Year Ended December 31, 2015