IRONWOOD PHARMACEUTICALS INC

FORM 10-K
(Annual Report)

Filed 02/18/15 for the Period Ending 12/31/14

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CIK	0001446847
Symbol	IRWD
SIC Code	2834 - Pharmaceutical Preparations
Industry	Biotechnology & Drugs
Sector	Healthcare

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2014

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 001-34620

IRONWOOD PHARMACEUTICALS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3404176**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
301 Binney Street Cambridge, Massachusetts	**02142**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code: **(617) 621-7722**

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

Title of each class	**Name of each exchange on which registered**
Class A common stock, $0.001 par value	The NASDAQ Stock Market LLC (NASDAQ Global Select Market)

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange 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 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 is not contained herein and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large accelerated filer ☒	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 ☒

Aggregate market value of voting stock held by non-affiliates of the Registrant as of June 30, 2014: $2,028,982,083

As of February 5, 2015, there were 125,259,060 shares of Class A common stock outstanding and 15,901,272 shares of Class B common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the definitive proxy statement for our 2015 Annual Meeting of Stockholders are incorporated by reference into Part III of this report.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections titled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains forward-looking statements. All statements contained in this Annual Report on Form 10-K other than statements of historical fact are forward-looking statements. Forward-looking statements include statements regarding our future financial position, business strategy, budgets, projected costs, plans and objectives of management for future operations. The words "may," "continue," "estimate," "intend," "plan," "will," "believe," "project," "expect," "seek," "anticipate" and similar expressions may identify forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward-looking. These forward-looking statements include, among other things, statements about:

- the demand and market potential for linaclotide in the United States, or the U.S. (LINZESS®), in the European Union, or the E.U. (CONSTELLA®), and in other countries where it is approved for marketing;
- the timing, investment and associated activities involved in commercializing LINZESS by us and Actavis plc in the U.S., including our direct-to-consumer education program;
- the timing and execution of the launches and commercialization of CONSTELLA in the E.U.;
- the timing, investment and associated activities involved in developing, launching, and commercializing linaclotide by us and our partners worldwide;
- our ability and the ability of our partners to secure and maintain adequate reimbursement for linaclotide;
- the ability of our partners and third-party manufacturers to manufacture and distribute sufficient amounts of linaclotide on a commercial scale;
- our expectations regarding U.S. and foreign regulatory requirements for linaclotide and our product candidates, including our post-approval, nonclinical and clinical post-marketing plan with the Food and Drug Administration, or the FDA, to understand linaclotide's efficacy and safety in pediatric patients;
- our partners' ability to obtain foreign regulatory approval of linaclotide and the ability of all of our product candidates to meet existing or future regulatory standards;
- the safety profile and related adverse events of linaclotide and our product candidates;
- the therapeutic benefits and effectiveness of linaclotide and our product candidates and the potential indications and market opportunities therefor;
- our ability to obtain and maintain intellectual property protection for linaclotide and our product candidates and the strength thereof;
- the ability of our partners to perform their obligations under our collaboration and license agreements with them;
- our plans with respect to the development, manufacture or sale of our product candidates and the associated timing thereof, including the design and results of pre-clinical and clinical studies;
- the in-licensing or acquisition of externally discovered businesses, products or technologies;
- our expectations as to future financial performance, expense levels, payments, tax obligations, capital raising and liquidity sources, and real estate needs, as well as the timing thereof;
- inventory levels and write downs and the drivers thereof;

- our ability to compete with other companies that are or may be developing or selling products that are competitive with our products and product candidates;
- the status of government regulation in the life sciences industry, particularly with respect to healthcare reform;
- trends and challenges in our potential markets;
- our ability to attract and motivate key personnel; and
- other factors discussed elsewhere in this Annual Report on Form 10-K.

Any or all of our forward-looking statements in this Annual Report on Form 10-K may turn out to be inaccurate. These forward-looking statements may be affected by inaccurate assumptions or by known or unknown risks and uncertainties, including the risks, uncertainties and assumptions identified under the heading "Risk Factors" in this Annual Report on Form 10-K. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur as contemplated, and actual results could differ materially from those anticipated or implied by the forward-looking statements.

You should not unduly rely on these forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K. Unless required by law, we undertake no obligation to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the United States Securities and Exchange Commission, or the SEC, after the date of this Annual Report on Form 10-K.

NOTE REGARDING TRADEMARKS

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PART I

Item 1. *Business*

Our Company

We are an entrepreneurial pharmaceutical company focused on creating medicines that make a difference for patients, building value to earn the continued support of our fellow shareholders, and empowering our team to passionately pursue excellence. If we do these things well, we hope to earn the right to continue doing them and, one step at a time, build an enduring pharmaceutical company that helps patients lead better lives.

Our core strategy is to establish a leading gastrointestinal, or GI, therapeutics company, leveraging our development and commercial capabilities in addressing GI disorders as well as our pharmacologic expertise in guanylate cyclase, or GC, pathways. This expertise is based on our work advancing our lead product, linaclotide, which is the first, and to date, only product approved by the U.S. Food and Drug Administration, or FDA, in a new class of GI medicines called guanylate cyclase type-C, or GC-C, agonists. Linaclotide is available to adult men and women suffering from irritable bowel syndrome with constipation, or IBS-C, or chronic idiopathic constipation, or CIC, in the United States, or the U.S., under the trademarked name LINZESS, and to adult men and women suffering from IBS-C in the European Union, or the E.U., under the trademarked name CONSTELLA. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners. We and our U.S. partner Actavis plc, or Actavis, are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. In addition to linaclotide-based opportunities, we are advancing multiple GI development programs as well as further leveraging our pharmacological expertise in GC pathways to advance a second GC program targeting soluble guanylate cyclase, or sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in cardiovascular disease and other indications.

For the foreseeable future, we intend to play an active role in the commercialization of our products in the U.S., and to establish a strong global brand by out-licensing commercialization rights in other territories to high-performing partners. We believe in the long-term value of our drug candidates, so we seek collaborations that provide meaningful economics and incentives for us and any potential partner. Furthermore, we seek partners who share our values, culture, processes and vision for our products, which we believe will enable us to work with those partners successfully for the entire potential patent life of our drugs.

We were incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, we changed our name to Ironwood Pharmaceuticals, Inc. To date, we have dedicated substantially all of our activities to the research, development and commercialization of linaclotide, as well as to the research and development of our other product candidates.

Linaclotide

We have one marketed product, linaclotide, which is available in the U.S. and Mexico under the trademarked name LINZESS and is available in certain European countries and Canada under the trademarked name CONSTELLA. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners.

Linaclotide provides patients and healthcare practitioners with a treatment option for adults in the U.S. and certain other countries with IBS-C and CIC, GI disorders that affect millions of sufferers worldwide, according to our analysis of studies performed by N.J. Talley (published in 1995 in the *American Journal of Epidemiology*), P.D.R. Higgins (published in 2004 in the *American Journal of*

Gastroenterology) and A.P.S. Hungin (published in 2003 in *Alimentary Pharmacology and Therapeutics*) as well as 2007 U.S. census data.

In August 2012, the FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. We and Forest Laboratories, Inc., or Forest, began commercializing LINZESS in the U.S. in December 2012. In July 2014, Actavis completed its acquisition of Forest. Our collaboration for the development and commercialization of linaclotide in North America remains in effect.

In November 2012, the European Commission granted marketing authorization to CONSTELLA for the symptomatic treatment of moderate to severe IBS-C in adults. CONSTELLA is the first, and to date, only drug approved in the E.U. for IBS-C. Our European partner, Almirall, S.A., or Almirall, began commercializing CONSTELLA in Europe in the second quarter of 2013. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain.

In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Actavis has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Actavis, Almirall has exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Actavis began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico.

Astellas Pharma Inc., or Astellas, our partner in Japan, is developing linaclotide for the treatment of patients with IBS-C in its territory. In October 2014, Astellas initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. We and AstraZeneca AB, or AstraZeneca, are co-developing linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In the third quarter of 2013, we and AstraZeneca initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. We continue to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of our partnered territories.

We and Actavis are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions.

Upon FDA-approval of LINZESS in the U.S., we received five years of exclusivity under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act. In addition, LINZESS is covered by a U.S. composition of matter patent that expires in 2024, subject to possible patent term extension to 2026, as well as two additional patents covering the commercial formulation of LINZESS and methods of using this formulation to treat patients with IBS-C or CIC, both of which expire in 2031. Linaclotide is also covered by E.U. and Japanese composition of matter patents, both of which expire in 2024, subject to possible patent term extension.

Linaclotide Partners

We have pursued a partnering strategy for commercializing linaclotide that has enabled us to retain significant oversight over linaclotide's development and commercialization worldwide, share the costs with collaborators whose capabilities complement ours, and retain a significant portion of linaclotide's future long-term value. As of December 31, 2014, licensing fees, milestones, royalties and related equity investments from our linaclotide partners totaled approximately $376.6 million. In addition, we and Actavis jointly fund the development and commercialization of LINZESS in the U.S., sharing equally in any net profits or losses, and we and AstraZeneca jointly fund the development and

commercialization of linaclotide in China, Hong Kong and Macau, with AstraZeneca receiving 55% of the net profits or net losses until a specified commercial milestone is achieved, at which point the net profits or losses are shared equally. Such reimbursements for our development and commercialization costs received from Actavis or AstraZeneca are excluded from the amount above.

Actavis plc (formerly Forest Laboratories, Inc.). In September 2007, we entered into a collaboration agreement with Forest to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in North America. In July 2014, Actavis completed its acquisition of Forest. Our collaboration for the development and commercialization of linaclotide in North America remains in effect. Under the terms of the collaboration agreement, we and Actavis are jointly and equally funding the development and commercialization of LINZESS in the U.S., with equal share of any profits or losses. Additionally, we granted Actavis exclusive rights to develop and commercialize linaclotide in Canada and Mexico in which we receive royalties in the mid-teens percent on net sales in those countries. Actavis is solely responsible for the further development, regulatory approval and commercialization of linaclotide in those countries and funding any costs. In September 2012, Actavis sublicensed its commercialization rights in Mexico to Almirall. Total licensing, milestone payments and related equity investments to us under the Actavis collaboration agreement could total up to $330.0 million, including the $205.0 million that Actavis has already paid to us in license fees and development-related milestones and the $25.0 million of our capital stock that Actavis has already purchased.

Almirall, S.A. In April 2009, we entered into a license agreement with Almirall to develop and commercialize linaclotide in Europe (including the Commonwealth of Independent States and Turkey) for the treatment of IBS-C, CIC and other GI conditions. In June 2013 and February 2014, we and Almirall amended our license agreement to, among other things, expand the milestone payments payable to us to now include both launch-related and certain sales-related milestones and to adjust the royalty structure. As a result, if linaclotide is successfully commercialized in the Almirall territory, total licensing, milestone payments and related equity investments to us could now total up to $118.0 million, including the $57.0 million, net of foreign withholding taxes, that Almirall has already paid to us in development-related milestones, the $15.0 million of our capital stock that Almirall has already purchased, and the $4.0 million in milestone payments from Almirall related to the commercial launches in the United Kingdom, Germany, Italy and Spain. Almirall will pay us gross royalties based on sales volume in the Almirall territory, beginning in the low-twenties percent and escalating to the mid-forties percent through April 2017, and thereafter beginning in the mid-twenties percent and escalating to the mid-forties percent at lower sales thresholds than in the period through April 2017. In each case, these royalty payments are reduced by the transfer price paid for the active pharmaceutical ingredient, or API, included in the product actually sold in the Almirall territory and other contractual deductions.

Astellas Pharma Inc. In November 2009, we entered into a license agreement with Astellas to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in Japan, South Korea, Taiwan, Thailand, the Philippines and Indonesia. As a result of an amendment to the license agreement executed in March 2013, we regained rights to linaclotide in South Korea, Taiwan, Thailand, the Philippines and Indonesia. If linaclotide is successfully developed and commercialized in the Astellas territory, total licensing and milestone payments to us could total up to $75.0 million, including the $30.0 million up-front licensing fee and the $15.0 million development milestone that have already been paid to us. If Astellas receives approval to market and sell linaclotide, Astellas will pay us gross royalties which escalate based on sales volume in the Astellas territory, beginning in the low-twenties percent, less the transfer price paid for the API included in the product actually sold in the Astellas territory and other contractual deductions.

AstraZeneca AB. In October 2012, we entered into a collaboration with AstraZeneca to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau. Under the terms of the agreement, we and AstraZeneca are jointly funding the development and commercialization of linaclotide in the AstraZeneca territory, with AstraZeneca receiving 55% of the net profits or incurring 55% of the net losses until a certain specified commercial milestone is achieved, at which time profits or losses will be shared equally thereafter. If linaclotide is successfully developed and commercialized in China, total licensing and milestone payments to us under the collaboration agreement could total up to $150.0 million, including the $25.0 million that AstraZeneca has already paid to us. As part of the collaboration, Ironwood's sales force promoted AstraZeneca's NEXIUM® (esomeprazole magnesium), one of AstraZeneca's products, in the U.S. through May 2014.

We have retained all rights to linaclotide outside of the territories discussed above and continue to evaluate partnership opportunities in those unpartnered regions.

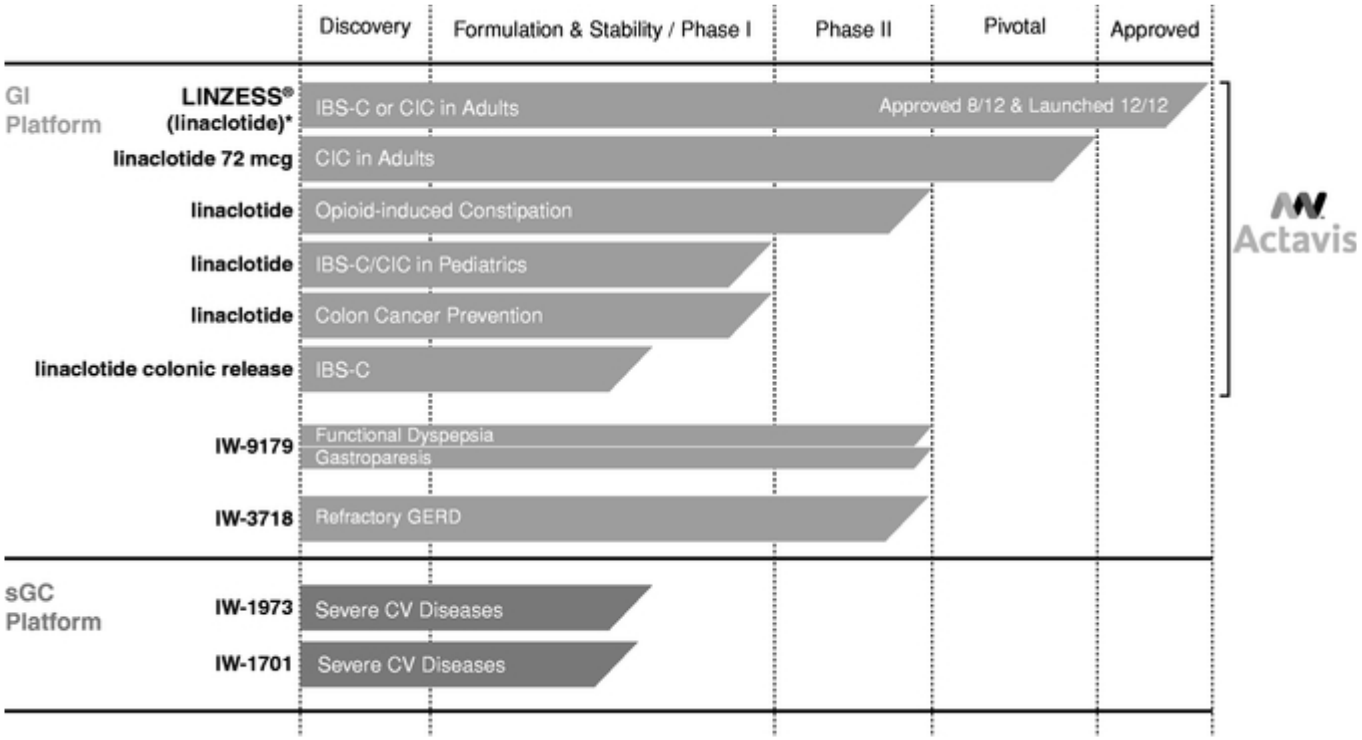
Pipeline

We have ongoing efforts to identify product candidates that leverage our development and commercial expertise in an effort to establish a leading GI therapeutics company. Millions of patients suffer from highly symptomatic disorders of the upper or lower GI tract and many of these patients are actively seeking care and new treatment options. Through the discovery, development and commercialization of linaclotide, a GC-C agonist, we have gained strong development and commercial capabilities in addressing GI disorders as well as pharmacologic expertise in GC pathways. We and Actavis are exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. In addition to working to maximize the utility of linaclotide, we are advancing multiple GI development programs as well as further leveraging our pharmacological expertise in GC pathways that we established through the development of linaclotide to advance a second GC program targeting sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in cardiovascular disease and other indications.

Our current product candidates have been discovered internally. We believe our discovery team has created a number of promising candidates over the past few years and has developed an extensive intellectual property estate in these areas. In addition, we are actively engaged in identifying and evaluating and licensing rights to externally -discovered drug candidates at all stages of development that fit within our core strategy. In evaluating potential assets, we apply the same investment criteria as those used for investments in internally-discovered assets.

In order to successfully grow our business, we will need to overcome the enormous challenges inherent in the pharmaceutical product development model. Developing a novel therapeutic agent can take a decade or more and cost hundreds of millions of dollars, and most drug candidates fail to reach the market profitably. We recognize that most companies undertaking this endeavor fail, yet despite the significant risks and our own experiences with multiple failed drug candidates, we are enthusiastic and passionate about our mission to create medicines that make a difference for patients. To achieve our mission, we continue to build a team, a culture and processes centered on creating and marketing important new drugs. If we are successful getting medicines to patients and generating substantial returns for our stockholders, we will continue to reinvest a portion of our future cash flows into our research and development efforts in order to accelerate and enhance our ability to bring new products to market.

Our programs include the following:



The status of the development programs in the table above represents the ongoing phase of development, and does not correspond to the initiation or completion of a particular phase. In its current target product profile, IW-9179 is a wholly owned asset.

GI Platform

Linaclotide

72 mcg for CIC in Adults. In November 2014, we and Actavis initiated a randomized, double-blind, placebo-controlled, multi-site Phase III clinical trial in the U.S. to assess the efficacy and safety of linaclotide in a 72 mcg dose in adult patients with CIC. If approved, the 72 mcg dose would provide a broader range of treatment options to physicians and adult CIC patients.

Opioid-induced Constipation, or OIC. Opioids are a commonly prescribed class of pain medications that may reduce fluids and movement within the intestine, resulting in constipation. Symptoms of OIC may include reduced bowel movement frequency, straining, incomplete evacuation and a sensation of bowel obstruction. Considering information published in 2010 by M. Camilleri in *Clin and Syst Rev* and in 2010 by S. Panchal, et. al. in *Int J Clin Prac* along with market analytics data, we estimate that more than 8 million people in the U.S. suffer from OIC. We are evaluating linaclotide to see if it has the potential to provide relief of the GI dysfunction associated with OIC. In October 2014, we and Actavis initiated a randomized, double-blind, placebo-controlled Phase II clinical study evaluating linaclotide in adult patients with this category of constipation.

Pediatrics. We and Actavis have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients. The first step in this plan was to undertake certain additional nonclinical studies, which we have completed. The FDA has concluded that the nonclinical data from these additional studies do not present a reason not to proceed with clinical studies in older pediatric patients (age 12 and above). We and Actavis are working with the FDA on a plan for clinical pediatric studies.

Colon Cancer Prevention. Colon cancer is the third most common non-skin cancer in both men and women and is the second leading cause of cancer-related mortality in the U.S., according to the National Cancer Institute, or NCI. In partnership with the NCI, linaclotide is being explored in a Phase I biomarker study. This trial is designed to assess the colorectal bioactivity of linaclotide in healthy volunteers, and to inform the feasibility and design of a study to evaluate the potential for linaclotide to prevent colorectal cancer. The NCI is funding and managing the clinical study.

Linaclotide colonic release

We and Actavis are exploring targeted delivery of orally-administered linaclotide to the distal small intestine and colon, which could potentially enhance lower abdominal symptom relief for adult patients with IBS-C. We are also exploring linaclotide colonic release for use in additional GI disorders where lower abdominal pain is a predominant symptom, including other IBS subtypes, ulcerative colitis and diverticulitis, among others. Linaclotide colonic release formulation development is ongoing.

Linaclotide Ex-U.S.

In addition to our linaclotide development efforts in the U.S. with Actavis, in the third quarter of 2013 we and AstraZeneca initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C for China, and in the fourth quarter of 2014, Astellas initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C for Japan.

IW-9179

We are investigating IW-9179, a GC-C agonist designed to target upper GI conditions, for the treatment of gastroparesis and functional dyspepsia.

Gastroparesis. Gastroparesis is an upper GI disorder in which the muscles and/or nerves of the stomach do not function properly, which disrupts the functional activities of the stomach. Diabetic gastroparesis, which is the focus of our Phase IIa study discussed below, is a condition in which symptoms of gastroparesis occur in patients with type 1 or type 2 diabetes, and has additional harmful effects on glycemic control, as well as secondary effects on organs, which may lead to increased mortality. Information published in 2010 in *Neuro & Mot* by Parkman HP *et al* provides that gastroparesis symptoms are reported by approximately five to 12 percent of diabetic patients. In December 2014, we initiated a randomized, placebo-controlled, multi-site Phase IIa clinical study evaluating whether IW-9179 can provide symptomatic relief to adult patients with diabetic gastroparesis.

Functional Dyspepsia. Functional dyspepsia, or FD, is an upper GI disorder characterized by key symptoms of epigastric pain, epigastric bloating, postprandial fullness, epigastric burning, nausea, belching, and early satiety. Based upon a study published in 2005 in *Neuro & Mot* by G.R. Locke, it is estimated that approximately 35 million people suffer from FD in the U.S. In October 2014, we presented initial data from a randomized, double-blind Phase IIa clinical study evaluating IW-9179 for the treatment of functional dyspepsia. Patients treated with IW-9179 reported a numerically greater improvement from baseline, compared with placebo-treated patients, on six out of seven FD symptoms evaluated, including epigastric pain, epigastric bloating, postprandial fullness, early satiation, nausea and belching. The most common adverse event in IW-9179-treated patients was diarrhea. Enrollment in this study was limited by stringent enrollment criteria that sought to identify patients suffering only from GI symptoms of FD. These data inform our continued work with GI experts and regulatory authorities to define the path to bring forward new therapies in FD.

IW-3718

Refractory GERD. According to a study published in 2010 in *Alimentary Pharmacology & Therapeutics* by H. El-Sarag, there are an estimated eight million Americans who suffer regularly from symptoms of gastroesophageal reflux disease, or GERD, such as heartburn and regurgitation, despite receiving the current standard of care of treatment with a proton pump inhibitor, or PPI, to suppress stomach acid. Research suggests some refractory GERD patients may experience reflux of bile from the intestine into the stomach and esophagus. IW-3718 is a gastric retentive formulation of a bile acid sequestrant designed to bind over an extended period of time to bile that refluxes into the stomach and upper small intestine, potentially providing symptomatic relief in refractory GERD. In February 2015, we reported top-line data from an exploratory Phase IIa clinical study of IW-3718 in patients with refractory GERD. Data from this study demonstrated encouraging improvements in relief of heartburn and certain other upper gastrointestinal symptoms often associated with refractory GERD.

sGC Platform

We are advancing a second GC program targeting sGC, a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development. To date, we have identified two sGC development candidates, IW-1973 and IW-1701, which we are exploring for utility in cardiovascular disease. In February 2015, we initiated a Phase I clinical study with IW-1973.

Owner-related Business Principles

We encourage all current and potential stockholders to read the owner-related business principles below that guide our overall strategy and decision making.

1. Ironwood's stockholders own the business; all of our employees work for them.

Each of our employees also has equity in the business, aligning their interests with their fellow stockholders. As employees and co-owners of Ironwood, our management and employee team seek to effectively allocate scarce stockholder capital to maximize the average annual growth of per share value.

Through our policies and communication, we seek to attract like-minded owner-oriented stockholders. We strive to effectively communicate our views of the business opportunities and risks over time so that entering and exiting stockholders are doing so at a price that approximately reflects our intrinsic value.

2. We believe we can best maximize long-term stockholder value by building a great pharmaceutical franchise.

We believe that Ironwood has the potential to deliver outstanding long-term returns to stockholders who are sober to the risks inherent in the pharmaceutical product lifecycle and to the potential dramatic highs and lows along the way, and who focus on superior long-term, per share cash flows.

Since the pharmaceutical product lifecycle is lengthy and unpredictable, we believe it is critical to have a long-term strategic horizon. We work hard to embed our long-term focus into our policies and practices, which may give us a competitive advantage in attracting like-minded stockholders and the highest caliber employees. Our current and future employees may perceive both financial and qualitative advantages in having their inventions or hard work result in marketed drugs that they and

their fellow stockholders continue to own. Some of our key policies and practices that are aligned with this imperative include:

a. Our dual class equity voting structure (which provides for super-voting rights of our pre-IPO stockholders only in the event of a change of control vote) is designed to concentrate change of control decisions in the hands of long-term focused owners who have a history of experience with us.

b. Compensation is weighted to equity over salary for all of our employees, and many employees have a significant portion of their incentive compensation in milestone-based equity grants that reward achievement of major value-creating events a number of years out from the time of grant.

c. We have adopted a change of control severance plan for all of our employees that is intended to encourage them to bring forward their best ideas by providing them with the comfort that if a change of control occurs and their employment is terminated, they will still have an opportunity to share in the economic value that they have helped create for stockholders.

d. All of the members of our board of directors are substantial investors in the company. Furthermore, each director is required to hold all shares of stock acquired as payment for his or her service as a director throughout his or her term on the board.

e. Our partnerships with Actavis, Almirall, Astellas and AstraZeneca all include standstill agreements, which serve to protect us from an unwelcome acquisition attempt by one of our partners. In addition, we have change of control provisions in our partnership agreements in order to protect the economic value of linaclotide should the acquirer of one of our partners be unable or unwilling to devote the time and resources required to maximize linaclotide's benefit to patients in their respective territory.

3. We are and will remain careful stewards of our stockholders' capital.

We work intensely to allocate capital carefully and prudently, continually reinforcing a lean, cost-conscious culture.

While we are mindful of the declining productivity and inherent challenges of pharmaceutical research and development, we intend to invest in discovery and development research for many years to come. Our singular passion is to create, develop and commercialize novel drug candidates, seeking to integrate the most successful drugmaking and marketing practices of the past and the best of today's cutting-edge technologies and basic research, development and commercialization advances.

While we hope to improve the productivity and efficiency of our drug creation efforts over time, our discovery process revolves around small, highly interactive, cross-functional teams. We believe that this is one area where our relatively small size is a competitive advantage, so for the foreseeable future, we do not expect our drug discovery team to grow beyond 100-150 scientists. We will continue to prioritize constrained resources and maintain organizational discipline. Once internally-or externally-derived candidates advance into development, compounds follow careful stage-gated plans, with further advancement depending on clear data points. Since most pharmaceutical research and development projects fail, it is critical that our teams are rigorous in making early go/no go decisions, following the data, terminating unsuccessful programs, and allocating scarce dollars and talent to the most promising efforts, thus enhancing the likelihood of late phase development success.

Our global operations and commercial teams take a similar approach to capital allocation and decision-making. By establishing redundancy at each critical node of the linaclotide global supply chain, our global operations team is mitigating against a fundamental risk inherent with pharmaceuticals—unanticipated shortages of commercial product. Likewise, we have established a commercial

organization dedicated to bringing innovative, highly-valued healthcare solutions to all of our customers. Our commercial organization works closely and methodically with our global commercialization partners, striving to maximize linaclotide's commercial potential through focused efforts aimed at educating patients, payers and healthcare providers.

4. Our financial goal is to maximize long-term per share cash flows.

Our goal is to maximize long-term cash flows per share, and we will prioritize this even if it leads to uneven short-term financial results. If and when we become profitable, we expect and accept uneven earnings growth. Our underlying product development model is risky and unpredictable, and we have no intention to advance marginal development candidates or consummate suboptimal in-license transactions in an attempt to fill anticipated gaps in revenue growth. Successful drugs can be enormously beneficial to patients and highly profitable and rewarding to stockholders, and we believe strongly in our ability to occasionally (but not in regular or predictable fashion) create and commercialize great medicines that make a meaningful difference in patients' lives.

If and when we reach profitability, we do not intend to issue quarterly or annual earnings guidance, however we plan to continue to be transparent about the key elements of our performance, including near-term operating plans and longer-term strategic goals.

Our Strategy

Our mission is to create medicines that make a difference for patients, build value to earn the continued support of our fellow shareholders, and empower our team to passionately pursue excellence. Our core strategy to achieve this mission is to establish a leading GI therapeutics company leveraging our development and commercial capabilities in addressing GI disorders as well as our pharmacologic expertise in GC pathways. Key elements of our strategy include:

- attracting and incentivizing a team with a singular passion for creating, developing and commercializing medicines that can make a significant difference in patients' lives;
- solidifying and expanding our position as the leader in the field of GC-C agonists;
- successfully and profitably commercializing LINZESS in collaboration with Actavis in the U.S.;
- leveraging our commercial capabilities across marketing, reimbursement, patient engagement and sales;
- supporting our global partners to commercialize linaclotide outside of the U.S.;
- harvesting the maximum value of linaclotide outside of our currently partnered territories;
- exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions;
- investing in our pipeline of novel GI product candidates and advancing a second GC program targeting sGC;
- evaluating candidates outside of the company for in-licensing or acquisition opportunities;
- maximizing the commercial potential of our drugs and playing an active role in their commercialization or find partners who share our vision, values, culture and processes; and
- executing our strategy with our stockholders' long-term interests in mind by seeking to maximize long-term per share cash flows.

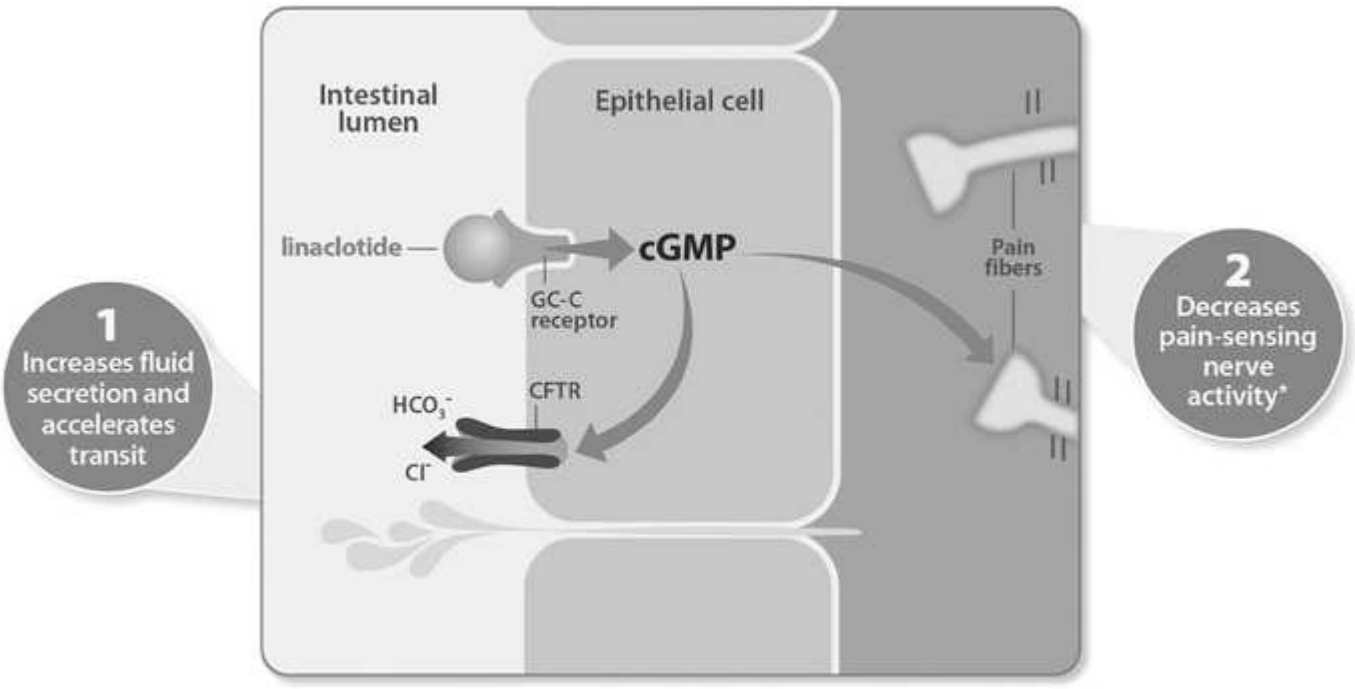
Linaclotide

In August 2012, LINZESS became the first and only GC-C agonist approved by the FDA for the treatment of both IBS-C and CIC in adults. Linaclotide is a treatment for patients suffering from both abdominal pain associated with IBS-C and constipation symptoms associated with both IBS-C and CIC. In four Phase III clinical trials of more than 2,800 adult patients, linaclotide was demonstrated to reduce abdominal pain and constipation associated with IBS-C, as well as constipation, infrequent bowel movements, incomplete evacuation and hard stools associated with CIC. Improvements were reported in the first week of treatment and maintained throughout the 12-week treatment period. Additionally, patients reported symptoms returned within one week after discontinued use of linaclotide. LINZESS is marketed by us and Actavis in the U.S.

In November 2012, CONSTELLA became the first and only medicine approved by the European Commission for the symptomatic treatment of moderate to severe IBS-C in adults in the E.U. CONSTELLA is a once-daily capsule that improves abdominal pain/discomfort, bloating and constipation associated with IBS-C. CONSTELLA is described as a GC-C agonist with visceral analgesic and secretory activities in the product label for European use and CONSTELLA is marketed in certain European countries, including the United Kingdom, Italy and Spain, by our European partner, Almirall. In May 2014, Almirall suspended commercialization of CONSTELLA in Germany following an inability to reach agreement with the German National Association of Statutory Health Insurance Funds on a reimbursement price, and is assessing all possibilities to facilitate continued access to CONSTELLA for appropriate patients in Germany. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners.

Linaclotide is a 14 amino acid peptide agonist of GC-C, a receptor found on the luminal surface of the intestinal epithelium. As the figure below shows, activation of GC-C results in an increase of intracellular and extracellular cyclic guanosine monophosphate, or cGMP, which, based on nonclinical studies, is believed to act in two ways. First, elevation in intracellular cGMP stimulates secretion of chloride and bicarbonate into the intestinal lumen, mainly through activation of the cystic fibrosis transmembrane conductance regulator, or CFTR, ion channel, resulting in increased intestinal fluid and accelerated transit. Second, elevation in extracellular cGMP was shown to decrease the activity of

pain-sensing nerves. The clinical relevance of the effects on pain-sensing nerves seen in nonclinical studies has not been established.



* Clinical relevance of the effect on pain fibers in nonclinical studies has not been established.

Irritable Bowel Syndrome with Constipation (IBS-C) and Chronic Idiopathic Constipation (CIC)

IBS-C and CIC are chronic, functional GI disorders that afflict millions of sufferers worldwide. IBS-C and CIC are characterized by frequent and bothersome symptoms that dramatically affect patients' daily lives. Symptoms of IBS-C include abdominal pain, discomfort or bloating and constipation symptoms (*e.g.* incomplete evacuation, infrequent bowel movements, hard/lumpy stools), while CIC is primarily characterized by constipation symptoms. Previously available treatment options primarily improved constipation, leading healthcare providers to diagnose and manage IBS-C and CIC based on stool frequency. However, patients view these conditions as multi-symptom disorders, and while laxatives can be effective at relieving constipation symptoms, they do not necessarily improve abdominal pain, discomfort or bloating, and can often exacerbate these symptoms. This disconnect between patients and physicians, amplified by patients' embarrassment to discuss all of their GI symptoms, often delays diagnosis and may compromise treatment, possibly causing additional suffering and disruption to patients' daily activities.

While estimates vary, as many as 13 million adults suffer from IBS-C and as many as 35 million adults suffer from CIC in the U.S., according to our analysis of studies published in 2005 by Andrews *et al* in *Alimentary Pharmacology & Therapeutics* and by the American College of Gastroenterology Chronic Constipation Task Force in the *American Journal of Gastroenterology.* As a result of the less than optimal treatment options previously available, patients seeking care experienced a very low level of satisfaction. Due to patients' lack of satisfaction with existing treatment options, about 70% of patients stop prescription therapy within one month, according to IMS Health. It is estimated that patients seek medical care from five or more different healthcare providers over the course of their illness with limited or no success, as shown in a 2009 study by D.A. Drossman in the *Journal of Clinical Gastroenterology* . Many of the remaining patients are too embarrassed to discuss the full range of their symptoms, or for other reasons do not see the need to seek medical care and continue to suffer in silence while unsuccessfully self-treating with fiber, over the counter, or OTC, laxatives and other remedies which improve constipation, but often exacerbate pain and bloating.

We believe that the prevalence rates of IBS-C in Europe, China and Japan are similar to the prevalence rates in the U.S.

Linaclotide Competition

Polyethylene glycol, or PEG (such as MiraLAX®), and lactulose account for the majority of prescription laxative treatments. Both agents demonstrate an increase in stool frequency and consistency but do not improve bloating or abdominal discomfort. Clinical trials and product labels document several adverse effects with PEG and lactulose, including exacerbation of bloating, cramping and, according to L.E. Brandt in a study published in 2005 in the *American Journal of Gastroenterology* , up to a 40% incidence of diarrhea. Overall, up to 75% of patients taking prescription laxatives report not being completely satisfied with the predictability of when they will experience a bowel movement on treatment, and 50% were not completely satisfied with relief of the multiple symptoms associated with constipation, according to the J.F. Johanson study published in 2007 in *Alimentary Pharmacology & Therapeutics* .

OTC laxatives make up the majority of the IBS-C and CIC treatment market, according to a GI patient landscape survey performed in 2010 by Lieberman *et al* . Given the low barriers to access, many IBS-C and CIC sufferers try OTC fiber and laxatives, but according to this same patient landscape survey, less than half of them are very satisfied with the ability of these OTC products to manage their symptoms. Two of the largest selling OTC laxatives in the U.S., based on 2013 U.S. sales volume data from Euromonitor International, are MiraLAX and Dulcolax®.

Until the launch of LINZESS, the only available prescription therapy for IBS-C and CIC in the U.S. was Amitiza® (lubiprostone), which was approved for the treatment of CIC in 2006, for the treatment of IBS-C in 2008, and for the treatment of opioid-induced constipation in 2013. Amitiza is also approved for the treatment of CIC in the United Kingdom and Switzerland, and for the treatment of chronic constipation in Japan.

Manufacturing and Supply

We currently manage our global supply and distribution of linaclotide through a combination of contract manufacturers and collaboration partners. It is our objective to produce safe and effective medicine on a worldwide basis, with redundancy built into critical steps of the process. We believe that we have sufficient in-house expertise to manage our manufacturing and supply chain network to meet worldwide demand.

Linaclotide production consists of three phases—manufacture of the API (sometimes referred to as drug substance), manufacture of drug product and manufacture of finished goods. We have entered into agreements with multiple third party manufacturers for the production of linaclotide API, as it is an objective of our strategy to maintain redundancy at critical steps in the supply chain. We believe our commercial suppliers have the capabilities to produce linaclotide API in accordance with current good manufacturing practices, or GMP, on a sufficient scale to meet our development and commercial needs.

Each of Actavis, Almirall and Astellas is responsible for drug product and finished goods manufacturing (including bottling and packaging) for its respective territory, and distributing the finished goods to wholesalers. We have an agreement with an independent third party to serve as an additional source of drug product manufacturing of linaclotide for our partnered territories and we have worked with our partners to achieve sufficient redundancy in this component of the linaclotide supply chain. Under our collaboration with AstraZeneca, we are accountable for drug product and finished goods manufacturing for China, Hong Kong and Macau.

Prior to linaclotide, there was no precedent for long-term room temperature shelf storage formulation for an orally dosed peptide to be produced in millions of capsules per year. Our efforts to

date have led to a formulation that is both cost effective and able to meet the stability requirements for commercial pharmaceutical products. Our work in this area has created an opportunity to seek additional intellectual property protection around the linaclotide program. In conjunction with Actavis and Astellas, we have filed patent applications in the U.S. and foreign jurisdictions and have been issued two U.S. patents to protect the current commercial formulation of linaclotide as well as related formulations. The two issued U.S. patents expire in 2031. If issued, the pending patent applications would expire in 2029 or later in the U.S. and foreign jurisdictions and would be eligible for potential patent term adjustments or patent term extensions in countries where such extensions may be available.

Sales and Marketing

For the foreseeable future, we intend to develop and commercialize our drugs in the U.S. alone or with partners, and expect to rely on partners to commercialize our drugs in territories outside the U.S. In executing our strategy, our goal is to retain significant worldwide oversight over the development process and commercialization of our products, by playing an active role in their commercialization or finding partners who share our vision, values, culture and processes.

We have built our commercial capabilities, including marketing, reimbursement, patient engagement and sales, around linaclotide, with the intent to leverage these capabilities for future products. To date, we have established a high-quality commercial organization dedicated to bringing innovative, highly-valued healthcare solutions to our customers, including patients, payers, and healthcare providers.

We are coordinating efforts with all of our partners to ensure that we launch an integrated, global linaclotide brand. By leveraging the knowledge-base and expertise of our experienced commercial team and the insights of each of our linaclotide commercialization partners, we continually improve our collective marketing strategies.

Maximizing the Value of Linaclotide in the U.S.

Our objective is to establish LINZESS as the prescription product of choice for both IBS-C and CIC. We, together with our U.S. commercialization partner Actavis, are building awareness that patients suffer from multiple, highly bothersome symptoms of IBS-C or CIC. In April 2014, Ironwood and Actavis commenced an expanded direct-to-consumer patient awareness campaign for LINZESS designed to help adults in the U.S. suffering from IBS-C or CIC recognize the symptoms of their disorder, describe their symptoms to their doctor, and ask their doctor whether LINZESS can help proactively manage their disease.

Actavis has demonstrated the ability to successfully launch innovative products, penetrate primary care markets and drive the growth of multiple brands in highly competitive markets. Actavis brings large and experienced sales, national accounts, trade relations, operations and management teams providing ready access to primary care offices and key managed care accounts. Complementing Actavis' expertise, we have built strong commercial capabilities across marketing, reimbursement, patient engagement and sales. We have strong alignment with Actavis and a shared vision for LINZESS. The combined Ironwood and Actavis marketing team possesses a deep understanding of gastroenterology and primary care customers, and we continue to utilize this knowledge to develop a compelling medical message and promotional campaign in the hope of delivering an effective treatment for patients suffering with the defining symptoms of IBS-C or CIC.

Maximizing the Value of Linaclotide Outside the U.S.

We have out-licensed commercialization rights for Canada and Mexico to Actavis, Europe to Almirall and Japan to Astellas. In September 2012, Actavis sublicensed the commercialization rights in

Mexico to Almirall. We have also partnered with AstraZeneca to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau.

Almirall provides access to the highest potential European markets with an established direct presence in each of the United Kingdom, Italy, France, Germany and Spain, and also has a presence in Austria, Belgium, the Nordics, Poland, Portugal and Switzerland. Almirall is coordinating sales and marketing efforts from its central office in an effort to ensure consistency of the overall brand strategy and objectively assess performance. We believe Almirall's knowledge of the local markets is helping to facilitate regulatory access, reimbursement and market penetration through a customized approach to implementing promotional and selling campaigns in the E.U.

Astellas is one of Japan's largest pharmaceutical companies and has top commercial capabilities in both primary care and specialty categories throughout Asia. Their demonstrated ability to market innovative medicines and their growing GI franchise in Japan make them an ideal partner for Ironwood.

AstraZeneca is a world leader in GI disease medicine and operates in over 100 countries with a growing presence in emerging markets, including China where they have significant commercial and research and development capabilities. We believe that we and AstraZeneca are strongly aligned with our vision for linaclotide in this region.

We have retained all rights to linaclotide outside of the territories discussed above and we continue to evaluate partnership opportunities in those unpartnered regions.

Patents and Proprietary Rights

We actively seek to protect the proprietary technology that we consider important to our business, including pursuing patents that cover our products and compositions, their methods of use and the processes for their manufacture, as well as any other relevant inventions and improvements that are commercially important to the development of our business. We also rely on trade secrets that may be important to the development of our business.

Our success will depend significantly on our ability to obtain and maintain patent and other proprietary protection for the technology, inventions and improvements we consider important to our business; defend our patents; preserve the confidentiality of our trade secrets; and operate without infringing the patents and proprietary rights of third parties.

Linaclotide Patent Portfolio

Our linaclotide patent portfolio is currently composed of eight U.S. patents listed in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations" (also known as the "Orange Book"), three granted European patents (each of which has been validated in 31 European countries), two granted Japanese patents, 27 issued patents in other foreign jurisdictions, and numerous pending provisional, U.S. non-provisional, foreign and PCT patent applications. We own or jointly own all of the issued patents and pending applications.

The issued U.S. patents, which will expire between 2024 and 2031, contain claims directed to the linaclotide molecule, pharmaceutical compositions thereof, methods of using linaclotide to treat GI disorders, processes for making the molecule, and room temperature stable formulations of linaclotide and methods of use thereof. The granted European patents, which will expire in 2024, contain claims directed to the linaclotide molecule, pharmaceutical compositions thereof and uses of linaclotide to prepare medicaments for treating GI disorders.

We have pending patent applications worldwide covering the current commercial formulation of linaclotide that, if issued, will expire in 2029 or later, based upon potential patent term adjustments.

We have pending applications directed to linaclotide products under development that will extend patent protection, if issued, until 2034 or later. We also have pending provisional, U.S. non-provisional, foreign and PCT applications directed to linaclotide and related molecules, pharmaceutical formulations thereof, methods of using linaclotide to treat various diseases and disorders and processes for making the molecule. These additional patent applications, if issued, will expire between 2024 and 2035.

The patent term of a patent that covers an FDA-approved drug is also eligible for patent term extension, which permits patent term restoration as compensation for some of the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of a single patent applicable to an approved drug for up to five years beyond the expiration of the patent but the extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval by the FDA. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug. We have applied to extend the patent term of U.S. Patent 7,304,036, which covers linaclotide and methods of use thereof. If granted, the patent term of this patent will be extended to August 30, 2026, 14 years from the date of linaclotide's approval by the FDA.

Pipeline Patent Portfolio

Our pipeline patent portfolio relating to our GI and sGC research and development programs outside of linaclotide is currently composed of two issued U.S. patents; six issued patents in foreign jurisdictions; and numerous pending provisional, U.S. non-provisional, foreign and PCT patent applications. We own all of the issued patents and pending applications. The issued U.S. patents expire between 2028 and 2031. The foreign issued patents expire between 2027 and 2031. The pending patent applications, if issued, will expire between 2027 and 2035.

Additional Intellectual Property

In addition to the patents and patent applications related to linaclotide and our GI and sGC pipeline, we currently have four issued U.S. patents; two patents granted in foreign jurisdictions; and a number of pending provisional, U.S. non-provisional, foreign and PCT applications directed to other GC-C agonist molecules and uses thereof. We also have other issued patents and pending patent applications relating to our other research and development programs, and we are the licensee of a number of issued patents and pending patent applications.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the date of filing the non-provisional application. In the U.S., a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. We also expect to apply for patent term extensions for some of our patents once issued, depending upon the length of clinical trials and other factors involved in the submission of a new drug application, or NDA.

Government Regulation

In the U.S., pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, FDA post marketing requirements and assessments, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. The FDA has very broad enforcement authority and failure to abide by applicable regulatory

requirements can result in administrative or judicial sanctions being imposed on us, including warning letters, refusals of government contracts, clinical holds, civil penalties, injunctions, restitution, disgorgement of profits, recall or seizure of products, total or partial suspension of production or distribution, withdrawal of approval, refusal to approve pending applications, and civil or criminal prosecution.

FDA Approval Process

We believe that our product candidates will be regulated by the FDA as drugs. No manufacturer may market a new drug until it has submitted an NDA to the FDA, and the FDA has approved it. The steps required before the FDA may approve an NDA generally include:

- nonclinical laboratory tests and animal tests conducted in compliance with FDA's good laboratory practice requirements;
- development, manufacture and testing of active pharmaceutical product and dosage forms suitable for human use in compliance with current GMP;
- the submission to the FDA of an investigational new drug application, or IND, for human clinical testing, which must become effective before human clinical trials may begin;
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the product for its specific intended use (s);
- the submission to the FDA of an NDA;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current GMP requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity; and
- FDA review and approval of the NDA.

Nonclinical tests include laboratory evaluation of the product candidate, as well as animal studies to assess the potential safety and efficacy of the product candidate. The conduct of the nonclinical tests must comply with federal regulations and requirements including good laboratory practices. We must submit the results of the nonclinical tests, together with manufacturing information, analytical data and a proposed clinical trial protocol to the FDA as part of an IND, which must become effective before we may commence human clinical trials. The IND will automatically become effective 30 days after its receipt by the FDA, unless the FDA raises concerns or questions before that time about the conduct of the proposed trial. In such a case, we must work with the FDA to resolve any outstanding concerns before the clinical trial can proceed. We cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that will cause us or the FDA to suspend or terminate such trials. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board for approval. An institutional review board may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the institutional review board's requirements or if the trial has been associated with unexpected serious harm to subjects. An institutional review board may also impose other conditions on the trial.

Clinical trials involve the administration of the product candidate to humans under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are typically conducted in three sequential phases, though the phases may overlap or be combined. In Phase I, the initial introduction of the drug into healthy human subjects, the drug is usually tested for safety (adverse effects), dosage tolerance and pharmacologic action, as well as to

understand how the drug is taken up by and distributed within the body. Phase II usually involves studies in a limited patient population (individuals with the disease under study) to:

- evaluate preliminarily the efficacy of the drug for specific, targeted conditions;
- determine dosage tolerance and appropriate dosage as well as other important information about how to design larger Phase III trials; and
- identify possible adverse effects and safety risks.

Phase III trials generally further evaluate clinical efficacy and test for safety within an expanded patient population. The conduct of clinical trials is subject to extensive regulation, including compliance with good clinical practice regulations and guidance.

The FDA may order the temporary or permanent discontinuation of a clinical trial at any time or impose other sanctions if it believes that the clinical trial is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. We may also suspend clinical trials at any time on various grounds.

The results of the nonclinical and clinical studies, together with other detailed information, including the manufacture and composition of the product candidate, are submitted to the FDA in the form of an NDA requesting approval to market the drug. FDA approval of the NDA is required before marketing of the product may begin in the U.S. If the NDA contains all pertinent information and data, the FDA will "file" the application and begin review. The review process, however, may be extended by FDA requests for additional information, nonclinical or clinical studies, clarification regarding information already provided in the submission, or submission of a risk evaluation and mitigation strategy. The FDA may refer an application to an advisory committee for review, evaluation and recommendation as to whether the application should be approved. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. Before approving an NDA, the FDA will typically inspect the facilities at which the product candidate is manufactured and will not approve the product candidate unless GMP compliance is satisfactory. FDA also typically inspects facilities responsible for performing animal testing, as well as clinical investigators who participate in clinical trials. The FDA may refuse to approve an NDA if applicable regulatory criteria are not satisfied, or may require additional testing or information. The FDA may also limit the indications for use and/or require post-marketing testing and surveillance to monitor the safety or efficacy of a product. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

The testing and approval process requires substantial time, effort and financial resources, and our product candidates may not be approved on a timely basis, if at all. The time and expense required to perform the clinical testing necessary to obtain FDA approval for regulated products can frequently exceed the time and expense of the research and development initially required to create the product. The results of nonclinical studies and initial clinical trials of our product candidates are not necessarily predictive of the results from large-scale clinical trials, and clinical trials may be subject to additional costs, delays or modifications due to a number of factors, including difficulty in obtaining enough patients, investigators or product candidate supply. Failure by us or our collaborators, licensors or licensees, including Actavis, Almirall, Astellas and AstraZeneca, to obtain, or any delay in obtaining, regulatory approvals or in complying with requirements could adversely affect commercialization and our ability to receive product or royalty revenues.

Hatch-Waxman Act

The Hatch-Waxman Act established abbreviated approval procedures for generic drugs. Approval to market and distribute these drugs is obtained by submitting an Abbreviated New Drug Application,

or ANDA, with the FDA. The application for a generic drug is "abbreviated" because it need not include nonclinical or clinical data to demonstrate safety and effectiveness and may instead rely on the FDA's previous finding that the brand drug, or reference drug, is safe and effective. In order to obtain approval of an ANDA, an applicant must, among other things, establish that its product is bioequivalent to an existing approved drug and that it has the same active ingredient(s), strength, dosage form, and the same route of administration. A generic drug is considered bioequivalent to its reference drug if testing demonstrates that the rate and extent of absorption of the generic drug is not significantly different from the rate and extent of absorption of the reference drug when administered under similar experimental conditions.

The Hatch-Waxman Act also provides incentives by awarding, in certain circumstances, certain legal protections from generic competition. This protection comes in the form of a non-patent exclusivity period, during which the FDA may not accept, or approve, an application for a generic drug, whether the application for such drug is submitted through an ANDA or a through another form of application, known as a 505(b)(2) application.

The Hatch-Waxman Act grants five years of exclusivity when a company develops and gains NDA approval of a new chemical entity that has not been previously approved by the FDA. This exclusivity provides that the FDA may not accept an ANDA or 505(b)(2) application for five years after the date of approval of previously approved drug, or four years in the case of an ANDA or 505(b)(2) application that challenges a patent claiming the reference drug (see discussion below regarding Paragraph IV Certifications). The Hatch-Waxman Act also provides three years of exclusivity for approved applications for drugs that are not new chemical entities, if the application contains the results of new clinical investigations (other than bioavailability studies) that were essential to approval of the application. Examples of such applications include applications for new indications, dosage forms (including new drug delivery systems), strengths, or conditions of use for an already approved product. This three-year exclusivity period only protects against FDA approval of ANDAs and 505(b)(2) applications for generic drugs that include the innovation that required new clinical investigations that were essential to approval; it does not prohibit the FDA from accepting or approving ANDAs or 505(b)(2) NDAs for generic drugs that do not include such an innovation.

Paragraph IV Certifications. Under the Hatch-Waxman Act, NDA applicants and NDA holders must provide information about certain patents claiming their drugs for listing in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," also known as the "Orange Book." When an ANDA or 505(b)(2) application is submitted, it must contain one of several possible certifications regarding each of the patents listed in the Orange Book for the reference drug. A certification that a listed patent is invalid or will not be infringed by the sale of the proposed product is called a "Paragraph IV" certification.

Within 20 days of the acceptance by the FDA of an ANDA or 505(b)(2) application containing a Paragraph IV certification, the applicant must notify the NDA holder and patent owner that the application has been submitted, and provide the factual and legal basis for the applicant's opinion that the patent is invalid or not infringed. The NDA holder or patent holder may then initiate a patent infringement suit in response to the Paragraph IV notice. If this is done within 45 days of receiving notice of the Paragraph IV certification, a 30-month stay of the FDA's ability to approve the ANDA or 505(b)(2) application is triggered. The FDA may approve the proposed product before the expiration of the 30-month stay only if a court finds the patent invalid or not infringed, or if the court shortens the period because the parties have failed to cooperate in expediting the litigation.

Patent Term Restoration. Under the Hatch-Waxman Act, a portion of the patent term lost during product development and FDA review of an NDA or 505(b)(2) application is restored if approval of the application is the first permitted commercial marketing of a drug containing the active ingredient. The patent term restoration period is generally one-half the time between the effective date of the IND

and the date of submission of the NDA, plus the time between the date of submission of the NDA and the date of FDA approval of the product. The maximum period of patent term extension is five years, and the patent cannot be extended to more than 14 years from the date of FDA approval of the product. Only one patent claiming each approved product is eligible for restoration and the patent holder must apply for restoration within 60 days of approval. The U.S. Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for patent term restoration.

Other Regulatory Requirements

After approval, drug products are subject to extensive continuing regulation by the FDA, which include company obligations to manufacture products in accordance with GMP, maintain and provide to the FDA updated safety and efficacy information, report adverse experiences with the product, keep certain records and submit periodic reports, obtain FDA approval of certain manufacturing or labeling changes, and comply with FDA promotion and advertising requirements and restrictions. Failure to meet these obligations can result in various adverse consequences, both voluntary and FDA-imposed, including product recalls, withdrawal of approval, restrictions on marketing, and the imposition of civil fines and criminal penalties against the NDA holder. In addition, later discovery of previously unknown safety or efficacy issues may result in restrictions on the product, manufacturer or NDA holder.

We and any manufacturers of our products are required to comply with applicable FDA manufacturing requirements contained in the FDA's GMP regulations. GMP regulations require, among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation. The manufacturing facilities for our products must meet GMP requirements to the satisfaction of the FDA pursuant to a pre-approval inspection before we can use them to manufacture our products. We and any third-party manufacturers are also subject to periodic inspections of facilities by the FDA and other authorities, including procedures and operations used in the testing and manufacture of our products to assess our compliance with applicable regulations.

With respect to post-market product advertising and promotion, the FDA imposes a number of complex regulations on entities that advertise and promote pharmaceuticals, which include, among others, standards for direct-to-consumer advertising, prohibitions on promoting drugs for uses or in patient populations that are not described in the drug's approved labeling (known as "off-label use"), and principles governing industry-sponsored scientific and educational activities. Failure to comply with FDA requirements can have negative consequences, including adverse publicity, enforcement letters from the FDA, mandated corrective advertising or communications with doctors or patients, and civil or criminal penalties. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such off-label uses.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar in type and quality to the clinical data supporting the original application for the original indication, and the FDA uses similar procedures and actions in reviewing such NDA supplements as it does in reviewing NDAs.

Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-marketing testing, known as Phase IV testing, risk minimization action plans, and surveillance to monitor the effects of an approved product or to place conditions on an approval that restrict the distribution or use of the product.

Outside the U.S., our and our collaborators' abilities to market a product are contingent upon receiving marketing authorization from the appropriate regulatory authorities. The requirements governing marketing authorization, pricing and reimbursement vary widely from jurisdiction to jurisdiction. At present, foreign marketing authorizations are applied for at a national level, although

within the E.U. registration procedures are available to companies wishing to market a product in more than one E.U. member state.

Employees

As of December 31, 2014, we had 464 employees. Approximately 43 were scientists engaged in discovery research, 120 were in our drug development organization, 203 were in our sales and commercial team, and 98 were in general and administrative functions. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Executive Officers of the Registrant

The following table sets forth the name, age and position of each of our executive officers as of February 5, 2015:

Name	Age	Position
Peter M. Hecht, Ph.D.	51	Chief Executive Officer, Director
Tom Graney	50	Chief Financial Officer and Senior Vice President, Finance and Corporate Strategy
Mark G. Currie, Ph.D.	60	Senior Vice President, Chief Scientific Officer and President of R&D
Halley E. Gilbert	45	Senior Vice President, Chief Legal Officer, and Secretary
Thomas A. McCourt	57	Senior Vice President, Marketing and Sales and Chief Commercial Officer

Peter M. Hecht has served as our chief executive officer and a director since our founding in 1998. Under his leadership, Ironwood has grown from nine Ph.D. scientists to an integrated research, development and commercial organization. Prior to founding Ironwood, Dr. Hecht was a research fellow at Whitehead Institute for Biomedical Research. Dr. Hecht earned a B.S. in mathematics and an M.S. in biology from Stanford University, and holds a Ph.D. in molecular biology from the University of California at Berkeley.

Tom Graney has served as our chief financial officer and senior vice president of finance and corporate strategy since joining us in August 2014. Prior to joining our company, Mr. Graney held a number of positions in the areas of mergers and acquisitions, strategic marketing, finance and accounting at Johnson & Johnson, or J&J, and its affiliates since 1994. Most recently Mr. Graney served as worldwide vice president of finance and chief financial officer of Ethicon, a global leader in surgical medical devices, from January 2010 to August 2014. Prior to that, Mr. Graney was vice president of finance for J&J Global Supply Chain from August 2009 to January 2010, chief financial officer of J&J's Janssen Pharmaceuticals from February 2008 to August 2009, and chief financial officer for J&J Global Virology (including Tibotec Pharmaceuticals) from November 2005 to February 2008. A chartered financial analyst charterholder, Mr. Graney holds a Bachelor of Science degree in accounting from the University of Delaware and an M.B.A. in marketing, finance and international business from the Leonard N. Stern School of Business at New York University.

Mark G. Currie serves as our senior vice president, chief scientific officer and president of research and development, and has led our research and development efforts since joining us in 2002. Prior to joining Ironwood, Dr. Currie directed cardiovascular and central nervous system disease research as vice president of discovery research at Sepracor Inc. Previously, Dr. Currie initiated, built and led discovery pharmacology and also served as director of arthritis and inflammation at Monsanto Company. Dr. Currie earned a B.S. in biology from the University of South Alabama and holds a Ph.D. in cell biology from the Bowman-Gray School of Medicine of Wake Forest University.

Halley E. Gilbert serves as our senior vice president, chief legal officer, and secretary and has led our legal function since joining us in 2008. Prior to joining us, Ms. Gilbert was vice president and deputy general counsel at Cubist Pharmaceuticals, Inc. and corporate counsel at Genzyme Corp., and prior to that, she was an associate specializing in mergers and acquisitions and securities law at Skadden, Arps, Slate, Meagher & Flom LLP. Ms. Gilbert received her J.D. from Northwestern University School of Law and a B.A. from Tufts University.

Thomas A. McCourt has served as our senior vice president of marketing and sales and chief commercial officer since joining Ironwood in 2009. Prior to joining Ironwood, Mr. McCourt led the U.S. brand team for denosumab at Amgen Inc. from April 2008 to August 2009. Prior to that, Mr. McCourt was with Novartis AG from 2001 to 2008, where he directed the launch and growth of Zelnorm for the treatment of patients with IBS-C and CIC and held a number of senior commercial roles, including vice president of strategic marketing and operations. Mr. McCourt was also part of the founding team at Astra Merck Inc., leading the development of the medical affairs and science liaison group and then serving as brand manager for Prilosec™ and NEXIUM®. Mr. McCourt has a degree in pharmacy from the University of Wisconsin.

Available Information

You may obtain free copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to those reports, as soon as reasonably practicable after they are electronically filed or furnished to the SEC, on the Investors section of our website at www.ironwoodpharma.com or by contacting our Investor Relations department at (617) 374-5082. The contents of our website are not incorporated by reference into this report and you should not consider information provided on our website to be part of this report.

Item 1A. *Risk Factors*

In addition to the other information in this Annual Report on Form 10-K, any of the factors described below could significantly and negatively affect our business, financial condition, results of operations or prospects. The trading price of our Class A common stock may decline due to these risks.

Risks Related to Our Business and Industry

We are highly dependent on the commercial success of LINZESS in the U.S. for the foreseeable future; we may be unable to attain profitability and positive cash flow from operations.

In August 2012, the FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. We and our partner, Actavis plc (following the completion of its acquisition of Forest Laboratories, Inc.), or Actavis, began selling LINZESS in the U.S. during December 2012. The commercial success of LINZESS depends on a number of factors, including:

- the effectiveness of LINZESS as a treatment for adult patients with IBS-C or CIC;
- the size of the treatable patient population;
- the effectiveness of the sales, managed markets and marketing efforts by us and Actavis;
- the adoption of LINZESS by physicians, which depends on whether physicians view it as a safe and effective treatment for adult patients with IBS-C and CIC;
- our success in educating and activating adult IBS-C and CIC patients, including through direct-to-consumer education, to enable them to more effectively communicate their symptoms and treatment history to their physicians;

- our ability to both secure and maintain adequate reimbursement for, and optimize patient access to, LINZESS by providing third party payers with a strong value proposition based on the existing burden of illness associated with IBS-C and CIC and the benefits of LINZESS;
- the effectiveness of our partners' distribution networks;
- the occurrence of any side effects, adverse reactions or misuse, or any unfavorable publicity in these areas, associated with LINZESS; and
- the development or commercialization of competing products or therapies for the treatment of IBS-C or CIC, or their associated symptoms.

Our revenues from the commercialization of LINZESS are subject to these factors, and therefore may be unpredictable from quarter-to-quarter. Ultimately, we may never generate sufficient revenues from LINZESS to reach or maintain profitability for our company or to sustain our anticipated levels of operations.

Linaclotide may cause undesirable side effects or have other properties that could limit its commercial potential.

The most commonly reported adverse reactions in the placebo-controlled trials that supported the approval of linaclotide in the U.S. and Europe were diarrhea, abdominal pain, flatulence and abdominal distension, with diarrhea being the most common. Severe diarrhea was reported in 2% of the linaclotide-treated patients, and its incidence was similar between the IBS-C and CIC populations in these trials. If we or others identify previously unknown side effects, if known side effects are more frequent or severe than in the past, if we or others detect unexpected safety signals for linaclotide or any products perceived to be similar to linaclotide, or if any of the foregoing are perceived to have occurred, then in any of these circumstances:

- sales of linaclotide may be impaired;
- regulatory approvals for linaclotide may be restricted or withdrawn;
- we may decide to, or be required to, send product warning letters or field alerts to physicians, pharmacists and hospitals;
- reformulation of the product, additional nonclinical or clinical studies, changes in labeling or changes to or reapprovals of manufacturing facilities may be required;
- we may be precluded from pursuing additional development opportunities to enhance the clinical profile of LINZESS within its indicated populations, as well as be precluded from studying linaclotide in additional indications and populations and in new formulations;
- our reputation in the marketplace may suffer; and
- government investigations or lawsuits, including class action suits, may be brought against us.

Any of the above occurrences would harm or prevent sales of linaclotide, increase our expenses and impair our ability to successfully commercialize linaclotide.

Furthermore, with LINZESS and CONSTELLA commercially available in certain countries and used in wider populations and in less rigorously controlled environments than in clinical studies, and as we and Actavis explore development opportunities to enhance the clinical profile of LINZESS through additional clinical trials, the number of patients treated with linaclotide within and outside of its current indications or patient populations may expand, which could result in the identification of previously unknown side effects, increased frequency or severity of known side effects, or detection of unexpected safety signals. As a result, regulatory authorities, healthcare practitioners, third party payers

or patients may perceive or conclude that the use of linaclotide is associated with serious adverse effects, undermining our commercialization efforts.

In addition, the FDA-approved label for LINZESS contains a boxed warning about its use in pediatric patients. LINZESS is contraindicated in pediatric patients up to 6 years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than 2 years of age. There is also a warning advising physicians to avoid the use of LINZESS in pediatric patients 6 through 17 years of age. This warning is based on data in young juvenile mice and the lack of clinical safety and efficacy data in pediatric patients of any age group. We and Actavis have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients, which is discussed below.

We rely entirely on contract manufacturers and our collaboration partners to manufacture and distribute linaclotide. If they are unable to comply with applicable regulatory requirements, unable to source sufficient raw materials, experience manufacturing or distribution difficulties, or are otherwise unable to manufacture and distribute sufficient quantities to meet demand, our commercialization efforts may be materially harmed.

We have no internal manufacturing or distribution capabilities. Instead, we rely on a combination of contract manufacturers and our partners to manufacture linaclotide API and final linaclotide drug product, and to distribute that drug product to third party purchasers. We have commercial supply agreements with independent third parties to manufacture the linaclotide API used to support all of our partnered and unpartnered territories. Each of Actavis, Almirall and Astellas is responsible for drug product and finished goods manufacturing (including bottling and packaging) for its respective territory, and distributing the finished goods to wholesalers. Among our drug product manufacturers, only Actavis and Almirall have manufactured linaclotide on a commercial scale. We have an agreement with an independent third party to serve as an additional source of drug product manufacturing of linaclotide for our partnered territories and we have worked with our partners to achieve sufficient redundancy in this component of the linaclotide supply chain. Under our collaboration with AstraZeneca, we are accountable for drug product and finished goods manufacturing for China, Hong Kong and Macau.

Each of our linaclotide API and drug product manufacturers must comply with current good manufacturing practices, or GMP, and other stringent regulatory requirements enforced by the FDA and foreign regulatory authorities in other jurisdictions. These requirements include, among other things, quality control, quality assurance and the maintenance of records and documentation, which occur in addition to our quality assurance release of linaclotide API. Manufacturers of linaclotide may be unable to comply with these GMP requirements and with other regulatory requirements. We have little control over our manufacturers' or collaboration partners' compliance with these regulations and standards.

Our manufacturers may experience problems with their respective manufacturing and distribution operations and processes, including for example, quality issues, including product specification and stability failures, procedural deviations, improper equipment installation or operation, utility failures, contamination and natural disasters. In addition, our API manufacturers acquire the raw materials necessary to make linaclotide API from a limited number of sources. Any delay or disruption in the availability of these raw materials or a change in raw material suppliers could result in production disruptions, delays or higher costs with consequent adverse effects on us.

The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in commercial production. These problems include difficulties with production costs and yields, quality control, including stability of the product and quality assurance testing, and shortages of qualified personnel, as well as compliance with federal,

state and foreign regulations and the challenges associated with complex supply chain management. Even if our manufacturers do not experience problems and commercial manufacturing is achieved, their maximum manufacturing capacities may be insufficient to meet commercial demand. Finding alternative manufacturers or adding additional manufacturers could take a significant amount of time and involve significant expense. New manufacturers would need to develop and implement the necessary production techniques and processes, which along with their facilities, would need to be inspected and approved by the regulatory authorities in each applicable territory.

If our API or drug product manufacturers fail to adhere to applicable GMP or other regulatory requirements, experience delays or disruptions in the availability of raw materials or experience manufacturing or distribution problems, we will suffer significant consequences, including product seizures or recalls, loss of product approval, fines and sanctions, reputational damage, shipment delays, inventory shortages, inventory write-offs and other product-related charges and increased manufacturing costs. If we experience any of these results, or if our manufacturers' maximum capacities are insufficient to meet demand, we may not be able to successfully commercialize linaclotide.

If any of our partners undergoes a change in control or in management, this may adversely affect our collaborative relationship or the success of the commercialization of LINZESS in the U.S. or the continued launches and commercialization of CONSTELLA in the E.U., or the ability to achieve regulatory approval, launch and commercialize linaclotide in our other partnered territories.

We work jointly and collaboratively with each of our partners on many aspects of the development, manufacturing and commercialization of linaclotide. In doing so, we have established relationships with several key members of the management teams of our linaclotide partners in functional areas such as development, quality, regulatory, drug safety and pharmacovigilance, operations, marketing, sales, field operations and medical science. Further, the success of our collaborations is highly dependent on the resources, efforts and skills of our partners and their key employees. As we and our partners commercialize LINZESS in the U.S., continue to launch and commercialize CONSTELLA in the E.U. and develop, launch and commercialize linaclotide in other parts of the world, the drug's success becomes more dependent on us maintaining highly collaborative and well aligned partnerships. In July 2014, Actavis completed its acquisition of Forest Laboratories, Inc. Our collaboration for the development and commercialization of linaclotide in North America remains in effect. In connection with this transaction, we are reestablishing many relationships and confirming alignment on our development and commercialization strategy for linaclotide. If any of our linaclotide partners undergo a change of control or in management in the future, we would likewise need to reestablish such relationships and confirm continued alignment on our development and commercialization strategy. Further, in connection with any change of control or in management, there is inherent uncertainty and disruption in operations, which could result in distraction, inefficiencies, and misalignment of priorities. As a result, in the event of a change of control or in management at one of our partners, we cannot be sure that we will be able to successfully execute on our development and commercialization strategy for linaclotide in an effective and efficient manner and without disruption or reduced performance. Finally, any change of control or in management may result in a reprioritization of linaclotide within a partner's portfolio, or such partner may fail to maintain the financial or other resources necessary to continue supporting its portion of the development, manufacturing or commercialization of linaclotide.

If any of our partners undergoes a change of control and the acquirer either is unable to perform such partner's obligations under its collaboration or license agreement with us or has a product that competes with linaclotide that such acquirer does not divest, we have the right to terminate the collaboration or license agreement and reacquire that partner's rights with respect to linaclotide. If we elect to exercise these rights in such circumstances, we will need to either establish the capability to develop, manufacture and commercialize linaclotide in that partnered territory on our own or we will need to establish a relationship with a new partner. We have assembled a team of specialists in

manufacturing, quality, sales, marketing, payer, pricing and field operations, and specialized medical scientists, who represent the functional areas necessary for a successful commercial launch of a high potential, GI therapy and who support the commercialization of LINZESS in the U.S. If Actavis was subject to a change of control that allowed us to further commercialize LINZESS in the U.S. on our own, and we chose to do so, we would need to enhance each of these functional aspects to replace the capabilities that Actavis was previously providing to the collaboration. Any such transition might result in a period of reduced efficiency or performance by our operations and commercialization teams, which could adversely affect our ability to commercialize LINZESS.

Although many members of our global operations, commercial and medical affairs teams have strategic oversight of, and a certain level of involvement in, their functional areas globally, we do not have corresponding operational capabilities in these areas outside of the U.S. If Actavis, Almirall, Astellas or AstraZeneca was subject to a change of control that allowed us to continue linaclotide's development or commercialization anywhere outside of the U.S. on our own, and we chose to do so rather than establishing a relationship with a new partner, we would need to build operational capabilities in the relevant territory. In any of these situations, the timeline and likelihood of achieving regulatory approval and, ultimately, the commercialization of linaclotide could be negatively impacted.

We must work effectively and collaboratively with Actavis to market and sell LINZESS in the U.S. in order for it to achieve its maximum commercial potential.

We are working closely with Actavis to implement our joint commercialization plan for LINZESS. The commercialization plan includes an agreed upon marketing campaign that targets the physicians who see patients who could benefit from LINZESS treatment. Our marketing campaign also targets the adult men and women who suffer from IBS-C or CIC, including through our direct-to-consumer education program. Our commercialization plan also includes an integrated call plan for our sales forces to optimize the education of specific gastroenterologists and primary care physicians on whom our and Actavis' sales representatives call, and the frequency with which the representatives meet with them.

In order to optimize the commercial potential of LINZESS, we and Actavis must execute upon this commercialization plan effectively and efficiently. In addition, we and Actavis must continually assess and modify our commercialization plan in a coordinated and integrated fashion in order to adapt to the promotional response. Further, we and Actavis must continue to focus and refine our marketing campaign to ensure a clear and understandable physician-patient dialogue around IBS-C, CIC and the potential for LINZESS as an appropriate therapy. In addition, we and Actavis must provide our sales forces with the highest quality support, guidance and oversight in order for them to continue to effectively promote LINZESS to gastroenterologists and primary care physicians. If we and Actavis fail to perform these commercial functions in the highest quality manner and in accordance with our joint commercialization plan and related agreements, LINZESS will not achieve its maximum commercial potential and we may suffer financial harm. Our efforts to further target and engage adult patients with IBS-C or CIC through direct-to-consumer education may not effectively increase appropriate patient awareness or patient/physician dialogue, and may not increase the revenues that we generate from LINZESS.

We are subject to uncertainty relating to pricing and reimbursement policies which, if not favorable for linaclotide, could hinder or prevent linaclotide's commercial success.

Our and Actavis' ability to commercialize LINZESS in the U.S. successfully depends in part on the coverage and reimbursement levels set by governmental authorities, private health insurers and other third-party payers. In determining whether to approve reimbursement for LINZESS and at what level, we expect that third-party payers will consider factors that include the efficacy, cost effectiveness and safety of LINZESS, as well as the availability of other treatments including generic prescription drugs

and over-the-counter alternatives. Further, in order to maintain acceptable reimbursement levels and access for patients at copay levels that are reasonable and customary, we may face increasing pressure to offer discounts or rebates from list prices or discounts to a greater number of third-party payers or other unfavorable pricing modifications. Obtaining and maintaining favorable reimbursement can be a time consuming and expensive process, and there is no guarantee that we or Actavis will be able to negotiate pricing terms with all third-party payers at levels that are profitable to us, or at all. Certain third-party payers also require prior authorization for, or even refuse to provide, reimbursement for LINZESS, and others may do so in the future. Our business would be materially adversely affected if we and Actavis are not able to receive approval for reimbursement of LINZESS from third-party payers on a broad, timely or satisfactory basis; if reimbursement is subject to overly restrictive prior authorization requirements; or if reimbursement is not maintained at a satisfactory level or becomes subject to prior authorization. In addition, our business could be adversely affected if private insurers, including managed care organizations, the Medicare or Medicaid programs or other reimbursing bodies or payers limit or reduce the indications for or conditions under which LINZESS may be reimbursed.

We expect to experience pricing pressures in connection with the sale of linaclotide and our future products due to the healthcare reforms discussed below, as well as the trend toward programs aimed at reducing healthcare costs, the increasing influence of health maintenance organizations, the ongoing debates on reducing government spending and additional legislative proposals. These healthcare reform efforts or any future legislation or regulatory actions aimed at controlling and reducing healthcare costs, including through measures designed to limit reimbursement, restrict access or impose unfavorable pricing modifications on pharmaceutical products, could impact our and our partners' ability to obtain or maintain reimbursement for linaclotide at a satisfactory level, or at all, which could materially harm our business and financial results.

In some foreign countries, particularly Canada and the countries of Europe, the pricing and payment of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory approval and product launch. To obtain favorable reimbursement for the indications sought or pricing approval in some countries, we and our partners may be required to conduct a clinical trial that compares the cost-effectiveness of our products, including linaclotide, to other available therapies. In addition, in countries in which linaclotide is the only approved therapy for a particular indication, such as CONSTELLA as the only product approved for the symptomatic treatment of moderate to severe IBS-C in adults in Europe, there may be disagreement as to what the most comparable product is, or if there even is one. Further, several European countries have implemented government measures to either freeze or reduce pricing of pharmaceutical products. Many third-party payers and governmental authorities also consider the price for which the same product is being sold in other countries to determine their own pricing and reimbursement strategy, so if linaclotide is priced low or gets limited reimbursement in a particular country, this could result in similarly low pricing and reimbursement in other countries. If reimbursement for our products is unavailable in any country in which reimbursement is sought, limited in scope or amount, or if pricing is set at or reduced to unsatisfactory levels, our ability to successfully commercialize linaclotide in such country would be impacted negatively. Furthermore, if these measures prevent us or any of our partners from selling linaclotide on a profitable basis in a particular country, they could prevent the commercial launch or continued sale of linaclotide in that country.

If the pricing and reimbursement of CONSTELLA in the E.U. is low, our royalty revenues based on sales of linaclotide will be adversely affected.

In November 2012, the European Commission granted marketing authorization to CONSTELLA for the symptomatic treatment of moderate to severe IBS-C in adults. This approval followed the positive recommendation received from the European Committee for Medicinal Products for Human

Use in September 2012. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain. In May 2014, Almirall suspended commercialization of CONSTELLA in Germany following an inability to reach agreement with the German National Association of Statutory Health Insurance Funds on a reimbursement price that reflects the innovation and value of CONSTELLA. Almirall is assessing all possibilities to facilitate continued access to CONSTELLA for appropriate patients in Germany.

The pricing and reimbursement strategy is a key component of Almirall's commercialization plan for CONSTELLA in Europe. Reimbursement sources are different in each country, and each country may include a combination of distinct potential payers, including private insurance and governmental payers. Countries in Europe may restrict the range of medicinal products for which their national health insurance systems provide reimbursement and control the prices of medicinal products for human use. Our revenues may suffer if Almirall is unable to successfully and timely conclude reimbursement, price approval or funding processes and market CONSTELLA in key member states of the E.U., or if coverage and reimbursement for CONSTELLA is limited or reduced. If Almirall is not able to obtain coverage, pricing or reimbursement on acceptable terms or at all, or if such terms change in any countries in its territory, Almirall may not be able to, or may decide not to, sell CONSTELLA in such countries. Further, Almirall could sell CONSTELLA at a low price. Since we receive royalties on net sales of CONSTELLA in the E.U., which is correlated directly to the price at which Almirall sells CONSTELLA in the E.U., our royalty revenues globally could be limited should Almirall sell CONSTELLA at a low price or elect not to launch in a certain country within the E.U.

Because we work with partners to develop, manufacture and commercialize linaclotide, we are dependent upon third parties, and our relationships with those third parties, in our efforts to commercialize LINZESS and to obtain regulatory approval for, and to commercialize, linaclotide in our other partnered territories.

Actavis played a significant role in the conduct of the clinical trials for linaclotide and in the subsequent collection and analysis of data, and Actavis holds the NDA for LINZESS. In addition, we are commercializing LINZESS in the U.S. with Actavis. Actavis is also responsible for the development, regulatory approval and commercialization of linaclotide in Canada and Mexico, which, for Mexico, it has sublicensed its commercialization rights to Almirall. Actavis is commercializing CONSTELLA in Canada and Almirall is commercializing LINZESS in Mexico. Almirall also holds the marketing authorization for CONSTELLA in the E.U. and is responsible for obtaining regulatory approval of linaclotide in the countries in its territory. Astellas, our partner in Japan, is responsible for completing the clinical programs and obtaining regulatory approval of linaclotide in its territory. Further, we are jointly overseeing the development, and will jointly oversee the commercialization, of linaclotide in China, Hong Kong and Macau through our collaboration with AstraZeneca, with AstraZeneca having primary responsibility for the local operational execution. Upon any approval, each of Almirall, Astellas and AstraZeneca is responsible for commercializing linaclotide in its respective territory, and each has agreed to use commercially reasonable efforts to do so. Each of our partners is responsible for reporting adverse event information from its territory to us. Finally, each of our partners, other than AstraZeneca, is responsible for drug product manufacturing of linaclotide and making it into finished goods (including bottling and packaging) for its respective territory. The integration of our efforts with our partners' efforts is subject to the uncertainty of the markets for pharmaceutical products in each partner's respective territories, and accordingly, these relationships must evolve to meet any new challenges that arise in those regions.

These integrated functions may not be carried out effectively and efficiently if we fail to communicate and coordinate with our partners, and vice versa. Our partnering strategy imposes obligations, risks and operational requirements on us as the central node in our global network of partners. If we do not effectively communicate with each partner and ensure that the entire network is making integrated and cohesive decisions focused on the global brand for linaclotide, linaclotide will

not achieve its maximum commercial potential. As the holder of the global safety database for linaclotide, we are responsible for coordinating the safety surveillance and adverse event reporting efforts worldwide. If we are unsuccessful in doing so due to poor process, execution, oversight, communication, adjudication or otherwise, then our and our partner's ability to obtain and maintain regulatory approval of linaclotide will be at risk.

We have limited ability to control the amount or timing of resources that our partners devote to linaclotide. If any of our partners fails to devote sufficient time and resources to linaclotide, or if its performance is substandard, it will delay the potential submission or approval of regulatory applications for linaclotide, as well as the manufacturing and commercialization of linaclotide in the particular territory. A material breach by any of our partners of our collaboration or license agreement with such partner, or a significant disagreement between us and a partner, could also delay the regulatory approval and commercialization of linaclotide, potentially lead to costly litigation, and could have a material adverse impact on our financial condition. Moreover, although we have non-compete restrictions in place with each of our partners, they may have relationships with other commercial entities, some of which may compete with us. If any of our partners assists our competitors, it could harm our competitive position.

Even though LINZESS is approved by the FDA for the treatment of adults with IBS-C or CIC, it faces future post-approval development and regulatory requirements, which will present additional challenges.

In August 2012, the FDA approved LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. LINZESS is subject to ongoing FDA requirements governing the labeling, packaging, storage, advertising, promotion, recordkeeping and submission of safety and other post-market information.

LINZESS is contraindicated in pediatric patients up to 6 years of age based on nonclinical data from studies in neonatal mice approximately equivalent to human pediatric patients less than 2 years of age. There is also a warning advising physicians to avoid the use of LINZESS in pediatric patients 6 through 17 years of age. This warning is based on data in young juvenile mice and the lack of clinical safety and efficacy data in pediatric patients of any age group. We and Actavis have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatric patients. The first step in this plan was to undertake additional nonclinical studies to further understand the results of the earlier neonatal mouse study and to understand the tolerability of LINZESS in older juvenile mice. We have completed these nonclinical studies and the FDA has concluded that the nonclinical data do not present a reason not to proceed with clinical studies in older pediatric patients (age 12 and above). We and Actavis are working with the FDA on a plan for clinical pediatric studies. Our ability to conduct clinical studies in younger pediatric patients will depend, in part, on the safety and efficacy data from our clinical studies in older pediatric patients. Our ability to ever expand the indication for LINZESS to pediatrics will depend on, among other things, our successful completion of pediatric clinical studies.

We and Actavis have also committed to certain nonclinical and clinical studies aimed at understanding: (a) whether orally administered linaclotide can be detected in breast milk, (b) the potential for antibodies to be developed to linaclotide, and if so, (c) whether antibodies specific for linaclotide could have any therapeutic or safety implications. We expect to complete these studies over the next three to five years.

These post-approval requirements impose burdens and costs on us. Failure to complete the required studies and meet our other post-approval commitments would lead to negative regulatory action at the FDA, which could include withdrawal of regulatory approval of LINZESS for the treatment of adults with IBS-C or CIC.

Manufacturers of drug products and their facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with GMP regulations. If we or a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with a facility where the product is manufactured, a regulatory agency may impose restrictions on that product or the manufacturer, including requiring implementation of a risk evaluation and mitigation strategy program, withdrawal of the product from the market or suspension of manufacturing. If we, our partners or the manufacturing facilities for linaclotide fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters or untitled letters;
- impose civil or criminal penalties;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications submitted by us;
- impose restrictions on operations, including costly new manufacturing requirements; or
- seize or detain products or require us to initiate a product recall.

Even though linaclotide is approved for marketing in the U.S. as LINZESS and in the E.U. as CONSTELLA, and is approved for marketing in a number of other countries, we or our collaborators may never receive approval to commercialize linaclotide in additional parts of the world.

In order to market any products outside of the U.S., we or our partners must comply with numerous and varying regulatory requirements of other jurisdictions regarding safety and efficacy. Approval procedures vary among jurisdictions and can involve product testing and administrative review periods different from, and greater than, those in the U.S., the E.U. and the other countries where linaclotide is approved. Potential risks include that the regulatory authorities:

- may not deem linaclotide safe and effective;
- may not find the data from nonclinical studies and clinical trials sufficient to support approval;
- may not approve of manufacturing processes and facilities;
- may not approve linaclotide for any or all indications or patient populations for which approval is sought;
- may require significant warnings or restrictions on use to the product label for linaclotide; or
- may change their approval policies or adopt new regulations.

Regulatory approval in one jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory processes in others. If linaclotide is not approved for all indications or patient populations or with the label requested, this would limit the uses of linaclotide and have an adverse effect on its commercial potential or require costly post-marketing studies.

We face potential product liability exposure, and, if claims brought against us are successful, we could incur substantial liabilities.

The use of our product candidates in clinical trials and the sale of marketed products expose us to product liability claims. If we do not successfully defend ourselves against product liability claims, we

could incur substantial liabilities. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- decreased demand for approved products;
- impairment of our business reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- litigation costs;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- loss of revenues; and
- the inability to commercialize our product candidates.

We currently have product liability insurance coverage for the commercial sale of linaclotide and for the clinical trials of our product candidates which is subject to industry-standard terms, conditions and exclusions. Our insurance coverage may not be sufficient to reimburse us for expenses or losses associated with claims. Moreover, insurance coverage is becoming increasingly expensive, and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. On occasion, large judgments have been awarded in lawsuits based on drugs that had unanticipated side effects. A successful product liability claim or series of claims could cause our stock price to decline and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

We may face competition in the IBS-C and CIC marketplace, and new products may emerge that provide different or better alternatives for treatment of GI conditions.

Linaclotide competes globally with certain prescription therapies and over the counter products for the treatment of IBS-C and CIC, or their associated symptoms. The availability of prescription competitors and over the counter products for GI conditions could limit the demand, and the price we are able to charge, for linaclotide unless we are able to differentiate linaclotide on the basis of its actual or perceived benefits. New developments, including the development of other drug technologies and methods of preventing the incidence of disease, occur in the pharmaceutical and medical technology industries at a rapid pace. These developments may render linaclotide obsolete or noncompetitive.

We believe other companies are developing products which could compete with linaclotide, should they be approved by the FDA or foreign regulatory authorities. Currently, there are compounds in late stage development and other potential competitors are in earlier stages of development for the treatment of patients with either IBS-C or CIC. If our potential competitors are successful in completing drug development for their drug candidates and obtain approval from the FDA or foreign regulatory authorities, they could limit the demand for linaclotide.

In addition, certain of our competitors have substantially greater financial, technical and human resources than us. Mergers and acquisitions in the pharmaceutical industry may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances made in the commercial applicability of technologies and greater availability of capital for investment in these fields.

We will incur significant liability if it is determined that we are promoting any "off-label" use of LINZESS.

Physicians are permitted to prescribe drug products for uses that are not described in the product's labeling and that differ from those approved by the FDA or other applicable regulatory agencies. Such "off-label" uses are common across medical specialties. Although the FDA and other regulatory agencies do not regulate a physician's choice of treatments, the FDA and other regulatory agencies do restrict communications on the subject of off-label use. Companies are not permitted to promote drugs for off-label uses. Accordingly, we may not promote LINZESS in the U.S. for use in any indications other than IBS-C or CIC or in any patient populations other than adult men and women. The FDA and other regulatory and enforcement authorities actively enforce laws and regulations prohibiting promotion of off-label uses and the promotion of products for which marketing approval has not been obtained. A company that is found to have improperly promoted off-label uses will be subject to significant liability, including civil and administrative remedies as well as criminal sanctions.

Notwithstanding the regulatory restrictions on off-label promotion, the FDA and other regulatory authorities allow companies to engage in truthful, non-misleading, and non-promotional scientific exchange concerning their products. We intend to engage in medical education activities and communicate with healthcare providers in compliance with all applicable laws, regulatory guidance and industry best practices. Although we believe we have put in place a robust compliance program, which is designed to ensure that all such activities are performed in a legal and compliant manner, we cannot be certain that our program will address all areas of potential exposure and the risks in this area cannot be entirely eliminated.

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

As a manufacturer of pharmaceuticals, even though we do not (and do not expect in the future to) control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payers, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. We are subject to healthcare fraud and abuse and patient privacy regulation by both the federal government and the states in which we conduct our business. The regulations include:

- federal healthcare program anti-kickback laws, which prohibit, among other things, persons from soliciting, receiving or providing remuneration, directly or indirectly, to induce either the referral of an individual, for an item or service or the purchasing or ordering of a good or service, for which payment may be made under federal healthcare programs such as Medicare and Medicaid;
- federal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payers that are false or fraudulent, and which may apply to entities like us which provide coding and billing advice to customers;
- the federal Health Insurance Portability and Accountability Act of 1996, which prohibits executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters and which also imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information;
- the Federal Food, Drug, and Cosmetic Act, which among other things, strictly regulates drug product marketing, prohibits manufacturers from marketing drug products for off-label use and regulates the distribution of drug samples;
- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payer, including

commercial insurers, and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by federal laws, thus complicating compliance efforts;

- the federal Foreign Corrupt Practices Act which prohibits corporations and individuals from paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, government staff member, political party, or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in an official capacity; and

- the federal Physician Payments Sunshine Act, which was passed as part of the Patient Protection and Affordable Care Act of 2010, and similar state laws in certain states, that require pharmaceutical and medical device companies to monitor and report payments, gifts, the provision of samples and other remuneration made to physicians and other healthcare professional and healthcare organizations.

If our operations are found to be in violation of any of the laws described above or any other laws, rules or regulations that apply to us, we will be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could adversely affect our ability to operate our business and our financial results. Although compliance programs can mitigate the risk of investigation and prosecution for violations of these laws, rules or regulations, we cannot be certain that our program will address all areas of potential exposure and the risks in this area cannot be entirely eliminated, particularly because the requirements in this space are constantly evolving. Any action against us for violation of these laws, rules or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business, as well as damage our business or reputation. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security, fraud and reporting laws may prove costly.

Healthcare reform and other governmental and private payer initiatives may have an adverse effect upon, and could prevent, our product's or product candidates' commercial success.

The U.S. government and individual states are aggressively pursuing healthcare reform, as evidenced by the passing of the Patient Protection and Affordable Care Act, as modified by the Health Care and Education Reconciliation Act of 2010. These healthcare reform laws contain several cost containment measures that could adversely affect our future revenue, including, for example, increased drug rebates under Medicaid for brand name prescription drugs, extension of Medicaid rebates to Medicaid managed care plans, and extension of so-called 340B discounted pricing on pharmaceuticals sold to certain healthcare providers. Additional provisions of the healthcare reform laws that may negatively affect our future revenue and prospects for profitability include the assessment of an annual fee based on our proportionate share of sales of brand name prescription drugs to certain government programs, including Medicare and Medicaid, as well as mandatory discounts on pharmaceuticals sold to certain Medicare Part D beneficiaries. Other aspects of healthcare reform, such as expanded government enforcement authority and heightened standards that could increase compliance-related costs, could also affect our business.

In addition to governmental efforts in the U.S., foreign jurisdictions as well as private health insurers and managed care plans are likely to continue challenging manufacturers' ability to obtain reimbursement, as well as the level of reimbursement, for pharmaceuticals and other healthcare related products and services. These cost-control initiatives could significantly decrease the available coverage and the price we might establish for linaclotide and our other potential products, which would have an adverse effect on our financial results.

The Food and Drug Administration Amendments Act of 2007 also provides the FDA enhanced post-marketing authority, including the authority to require post-marketing studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA. We and Actavis have established a nonclinical and clinical post-marketing plan with the FDA to understand the safety and efficacy of LINZESS in pediatrics, which is discussed above. The FDA's exercise of this authority has resulted (and is expected to continue to result) in increased development-related costs following the commercial launch of LINZESS for the treatment of adult men and women suffering from IBS-C or CIC, and could result in potential restrictions on the sale and/or distribution of LINZESS, even in its approved indications and patient populations.

In pursuing our growth strategy, we will incur a variety of costs and may devote resources to potential opportunities that are never completed or for which we never receive the benefit. Our failure to successfully discover, acquire, develop and market additional product candidates or approved products would impair our ability to grow and adversely affect our business.

As part of our growth strategy, we intend to explore further linaclotide development opportunities. We and Actavis are exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. These development efforts may fail or may not increase the revenues that we generate from LINZESS. Furthermore, they may result in adverse events, or perceived adverse events, in certain patient populations that are then attributed to the currently approved patient population, which may result in adverse regulatory action at the FDA or in other countries or harm linaclotide's reputation in the marketplace, each of which could materially harm our revenues from linaclotide.

We are also pursuing various other programs in our pipeline. We may spend several years and make significant investments in developing any current or future internal product candidate, and failure may occur at any point. Our product candidates are in various stages of development and must satisfy rigorous standards of safety and efficacy before they can be approved for sale by the FDA. To satisfy these standards, we must allocate resources among our various development programs and we must engage in costly and lengthy discovery and development efforts, which are subject to unanticipated delays and other significant uncertainties. Despite our efforts, our product candidates may not offer therapeutic or other improvement over existing competitive drugs, be proven safe and effective in clinical trials, or meet applicable regulatory standards. It is possible that none of the product candidates we are developing will be approved for commercial sale, which would impair our ability to grow.

We have ongoing or planned nonclinical and clinical trials for linaclotide and a number of our internal product candidates, and the strength of our company's pipeline will depend in large part on the outcomes of these studies. Many companies in the pharmaceutical industry have suffered significant setbacks in clinical trials even after achieving promising results in earlier nonclinical or clinical trials. The findings from our completed nonclinical studies may not be replicated in later clinical trials, and our clinical trials may not be predictive of the results we may obtain in later-stage clinical trials or of the likelihood of regulatory approval. Results from our clinical trials and findings from our nonclinical studies could lead to abrupt changes in our development activities, including the possible limitation or cessation of development activities associated with a particular product candidate or program. Furthermore, our analysis of data obtained from nonclinical and clinical activities is subject to confirmation and interpretation by the FDA and other applicable regulatory authorities, which could delay, limit or prevent regulatory approval. Satisfaction of FDA or other applicable regulatory requirements is costly, time-consuming, uncertain and subject to unanticipated delays.

In addition, because our internal research capabilities are limited, we may be dependent upon pharmaceutical and biotechnology companies, academic scientists and other researchers to sell or

license products or technology to us. The success of this strategy depends partly upon our ability to identify, select, discover and acquire promising pharmaceutical product candidates and products. The process of proposing, negotiating and implementing a license or acquisition of a product candidate or approved product is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of product candidates and approved products. We have limited resources to identify and execute the acquisition or in-licensing of third-party products, businesses and technologies and integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. We may not be able to acquire the rights to additional products or product candidates on terms that we find acceptable, or at all.

In addition, future acquisitions may entail numerous operational and financial risks, including:

- exposure to unknown liabilities;
- disruption of our business and diversion of our management's time and attention to develop acquired products, product candidates or technologies;
- incurrence of substantial debt, dilutive issuances of securities or depletion of cash to pay for acquisitions;
- higher than expected acquisition and integration costs;
- difficulty in combining the operations and personnel of any acquired businesses with our operations and personnel;
- increased amortization expenses;
- impairment of relationships with key suppliers or customers of any acquired businesses due to changes in management and ownership; and
- inability to motivate key employees of any acquired businesses.

Further, any product candidate that we acquire may require additional development efforts prior to commercial sale, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All product candidates are prone to risks of failure typical of pharmaceutical product development, including the possibility that a product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities.

Delays in the completion of clinical testing of any of our product candidates could result in increased costs and delay or limit our ability to generate revenues.

Delays in the completion of clinical testing could significantly affect our product development costs. We do not know whether planned clinical trials will be completed on schedule, if at all. The commencement and completion of clinical trials can be delayed for a number of reasons, including delays related to:

- obtaining regulatory approval to commence a clinical trial;
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- manufacturing sufficient quantities of a product candidate for use in clinical trials;
- obtaining institutional review board approval to conduct a clinical trial at a prospective site;

- recruiting and enrolling patients to participate in clinical trials for a variety of reasons, including competition from other clinical trial programs for the treatment of similar conditions; and

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

Clinical trials may also be delayed as a result of ambiguous or negative interim results. In addition, a clinical trial may be suspended or terminated by us, an institutional review board overseeing the clinical trial at a clinical trial site (with respect to that site), the FDA, or other regulatory authorities due to a number of factors, including:

- failure to conduct the clinical trial in accordance with regulatory requirements or the study protocols;

- inspection of the clinical trial operations or trial sites by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;

- unforeseen safety issues; or

- lack of adequate enrollment or funding to continue the clinical trial.

Additionally, changes in regulatory requirements and guidance may occur, and we may need to amend clinical trial protocols to reflect these changes. Each protocol amendment would require institutional review board review and approval, which may adversely impact the costs, timing or successful completion of the associated clinical trials. If we experience delays in completion, or if we terminate any of our clinical trials, the commercial prospects for our product candidate may be harmed, and our ability to generate product revenues will be delayed. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval.

We may not be able to manage our business effectively if we lose any of our current management team or if we are unable to attract and motivate key personnel.

We may not be able to attract or motivate qualified management and scientific, clinical, operations and commercial personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses, particularly in the greater-Boston area. If we are not able to attract and motivate necessary personnel to accomplish our business objectives, we will experience constraints that will significantly impede the achievement of our objectives.

We are highly dependent on the drug discovery, development, regulatory, commercial, financial and other expertise of our management, particularly Peter M. Hecht, Ph.D., our chief executive officer; Mark G. Currie, Ph.D., our senior vice president, chief scientific officer and president of research and development; Tom Graney, our chief financial officer and senior vice president, finance and corporate strategy; Thomas A. McCourt, our senior vice president, marketing and sales and chief commercial officer; and Halley E. Gilbert, our senior vice president, chief legal officer, and secretary. Transitions in our senior management team may result in operational disruptions, and our business may be harmed as a result. In addition to the competition for personnel, the Boston area in particular is characterized by a high cost of living. As such, we could have difficulty attracting experienced personnel to our company and may be required to expend significant financial resources in our employee recruitment efforts.

We also have scientific and clinical advisors who assist us in formulating our product development, clinical strategies and our global supply chain plans, as well as sales and marketing advisors who have assisted us in our commercialization strategy and brand plan for linaclotide. These advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us, or may have arrangements with other companies to assist in the development and commercialization of products that may compete with ours.

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of our suppliers and business partners, as well as personally identifiable information of linaclotide patients, clinical trial participants and employees. We also have outsourced elements of our information technology structure, and as a result, we are managing independent vendor relationships with third parties who may or could have access to our confidential information. Similarly, our business partners and other third party providers possess certain of our sensitive data. The secure maintenance of this information is critical to our operations and business strategy. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. We, our partners, vendors and other third party providers could be susceptible to third party attacks on our, and their, information security systems, which attacks are of ever increasing levels of sophistication and are made by groups and individuals with a wide range of motives and expertise, including criminal groups. Any such breach could compromise our, and their, networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, disrupt our operations, and damage our reputation, any of which could adversely affect our business.

Our business involves the use of hazardous materials, and we must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our activities involve the controlled storage, use and disposal of hazardous materials. We are subject to federal, state, city and local laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. Although we believe that the safety procedures we use for handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. We do not currently maintain hazardous materials insurance coverage.

Risks Related to Intellectual Property

Limitations on our patent rights relating to our product candidates may limit our ability to prevent third parties from competing against us.

Our success depends on our ability to obtain and maintain patent protection for our product candidates, preserve our trade secrets, prevent third parties from infringing upon our proprietary rights and operate without infringing upon the proprietary rights of others.

The strength of patents in the pharmaceutical industry involves complex legal and scientific questions and can be uncertain. Patent applications in the U.S. and most other countries are confidential for a period of time until they are published, and publication of discoveries in scientific or patent literature typically lags actual discoveries by several months or more. As a result, we cannot be certain that we were the first to conceive inventions covered by our patents and pending patent applications or that we were the first to file patent applications for such inventions. In addition, we cannot be certain that our patent applications will be granted, that any issued patents will adequately protect our intellectual property or that such patents will not be challenged, narrowed, invalidated or circumvented.

We have several issued patents and pending applications in the U.S. related to LINZESS, including a LINZESS composition of matter and methods of use patent (U.S. Patent 7,304,036) as well as

additional patents and applications covering processes for making LINZESS, formulations and dosing regimens thereof, and molecules related to LINZESS. We were recently issued two U.S. patents relating to our commercial, room temperature stable formulation of linaclotide and methods of using this formulation. Although none of our issued patents currently is subject to a patent reexamination or review, we cannot guarantee that they will not be subject to reexamination or review by the USPTO in the future. If any or all of our LINZESS-related patents were invalidated, we would still have at least five years of marketing exclusivity under the Hatch-Waxman Act from FDA approval of LINZESS. We believe that each of the patents in our linaclotide patent portfolio was rightfully issued and the portfolio gives us sufficient freedom to operate; however, if any of our present or future patents is invalidated, this could have an adverse effect on our business and financial results, particularly for the period beyond five years following marketing approval.

In March 2013, an opposition to one of our granted patents covering linaclotide was filed in Europe. We believe that this patent was appropriately granted and will be upheld by the European Patent Office but we cannot be certain of this until the opposition proceedings are complete. While the opposition is ongoing, we will incur additional expense and be required to focus additional efforts on the proceedings. However, even if this patent were found to be invalid, we have other composition of matter- and use-related linaclotide patents that are granted and in force, and we believe these patents provide strong and sufficient patent protection in Europe.

Furthermore, the America Invents Act, which was signed into law in 2011, has made several major changes in the U.S. patent statutes. These changes will permit third parties to challenge our patents more easily and will create uncertainty with respect to the interpretation and practice of U.S. patent law for the foreseeable future.

We also rely upon unpatented trade secrets, unpatented know-how and continuing technological innovation to develop and maintain our competitive position, which we seek to protect, in part, by confidentiality agreements with our employees and our collaborators and consultants. We also have agreements with our employees and selected consultants that obligate them to assign their inventions to us. It is possible, however, that technology relevant to our business will be independently developed by a person that is not a party to such an agreement. Furthermore, if the employees and consultants that are parties to these agreements breach or violate the terms of these agreements, we may not have adequate remedies, and we could lose our trade secrets through such breaches or violations. Further, our trade secrets could otherwise become known or be independently discovered by our competitors.

In addition, the laws of certain foreign countries do not protect proprietary rights to the same extent or in the same manner as the U.S., and, therefore, we may encounter problems in protecting and defending our intellectual property in certain foreign jurisdictions.

If we are sued for infringing intellectual property rights of third parties, it will be costly and time consuming, and an unfavorable outcome in such litigation could have a material adverse effect on our business.

Our commercial success depends on our ability, and the ability of our collaborators, to develop, manufacture, market and sell our products and use our proprietary technologies without infringing the proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing products. As the biotechnology and pharmaceutical industry expands and more patents are issued, the risk increases that our potential products may give rise to claims of infringement of the patent rights of others. There may be issued patents of third parties of which we are currently unaware that may be infringed by linaclotide or our product candidates. Because patent applications can take many years to issue, there may be currently pending applications which may later result in issued patents that linaclotide or our product candidates may infringe.

We may be exposed to, or threatened with, litigation by third parties alleging that linaclotide or our product candidates infringe their intellectual property rights. If linaclotide or one of our product candidates is found to infringe the intellectual property rights of a third party, we or our collaborators could be enjoined by a court and required to pay damages and could be unable to commercialize linaclotide or the applicable product candidate unless we obtain a license to the intellectual property rights. A license may not be available to us on acceptable terms, if at all. In addition, during litigation, the counter-party could obtain a preliminary injunction or other equitable relief which could prohibit us from making, using or selling our products, pending a trial on the merits, which may not occur for several years.

There is a substantial amount of litigation involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries generally. If a third party claims that we or our collaborators infringe its intellectual property rights, we may face a number of issues, including, but not limited to:

- infringement and other intellectual property claims which, regardless of merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business;
- substantial damages for infringement, which we may have to pay if a court decides that the product at issue infringes on or violates the third party's rights, and, if the court finds that the infringement was willful, we could be ordered to pay treble damages and the patent owner's attorneys' fees;
- a court prohibiting us from selling our product unless the third party licenses its rights to us, which it is not required to do;
- if a license is available from a third party, we may have to pay substantial royalties, fees or grant cross-licenses to our intellectual property rights; and
- redesigning our products so they do not infringe, which may not be possible or may require substantial monetary expenditures and time.

We may become involved in lawsuits to protect or enforce our patents, which could be expensive and time consuming, and unfavorable outcomes in such litigation could have a material adverse effect on our business.

Competitors may infringe our patents or may assert our patents are invalid. To counter ongoing or potential infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. Litigation with generic manufacturers has become increasingly common in the biotechnology and pharmaceutical industries. In addition, in an infringement or invalidity proceeding, a court or patent administrative body may determine that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference or derivation proceedings brought by the USPTO may be necessary to determine the priority of inventions with respect to our patents and patent applications or those of our collaborators. An unfavorable outcome could require us to cease using the technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if a prevailing party does not offer us a license on terms that are acceptable to us. Litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distraction of our management and other employees. In addition, we may not be able to prevent, alone or with our collaborators, misappropriation of our proprietary rights, particularly in countries where the laws may not protect those rights as fully as in the U.S.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, as well as the potential for public announcements of the results of hearings, motions or other interim proceeding or developments, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation.

Risks Related to Our Finances and Capital Requirements

We have incurred significant operating losses since our inception and anticipate that we will incur continued losses for the foreseeable future.

In recent years, we have focused primarily on developing, manufacturing and commercializing linaclotide. We and Actavis launched LINZESS in the U.S. in December 2012, and we believe that it will take us some time to attain profitability and positive cash flow from operations for Ironwood. We have financed our operations to date primarily through the issuance of equity, our collaboration and license arrangements and our January 2013 issuance of debt securities related to the sales of LINZESS in the U.S., and we have incurred losses in each year since our inception in 1998. We incurred net losses of approximately $189.6 million, $272.8 million, and $72.6 million in the years ended December 31, 2014, 2013 and 2012, respectively. As of December 31, 2014, we had an accumulated deficit of approximately $967.5 million. Our prior losses and expected future losses, have had and we expect will continue to have, an adverse effect on our stockholders' equity and working capital. We expect to continue to incur substantial expenses in connection with our efforts to commercialize linaclotide and our research and development of our product candidates. As a result, we expect to continue to incur significant operating losses for the foreseeable future. Because of the numerous risks and uncertainties associated with developing pharmaceutical products, we are unable to predict the extent of any future losses or when, or if, our company will become profitable.

We may need additional funding and may be unable to raise capital when needed, which could cause us to delay, reduce or eliminate our product development programs or commercialization efforts.

In the first quarter of 2014, we completed an offering of approximately 15.8 million shares of our Class A common stock at a public offering price of $12.75 per share. However, marketing and selling a primary care drug, purchasing commercial quantities of pharmaceutical products, and developing product candidates and conducting clinical trials are expensive and uncertain. Circumstances, our strategic imperatives, or opportunities to create or acquire new programs could require us to, or we may choose to, seek to raise additional funds. The amount and timing of our future funding requirements will depend on many factors, including, but not limited to:

- the level of underlying demand for linaclotide by prescribers and patients in the U.S., the E.U. and the other countries where it is approved;
- the costs associated with commercializing LINZESS in the U.S.;
- the costs of maintaining and expanding sales, marketing and distribution capabilities for linaclotide;
- the regulatory approval of linaclotide outside of the U.S., the E.U. and the other countries where it is approved, and the timing of commercial launches in those countries, as well as the associated development and commercial milestones and royalties;
- the rate of progress, the cost of our clinical trials and the other costs associated with our product development programs, including our post-approval nonclinical and clinical studies of linaclotide in pediatrics and our investment to enhance the clinical profile of LINZESS within its indicated populations, as well as to study linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions;

- the costs and timing of in-licensing additional product candidates or acquiring other complementary companies;
- the status, terms and timing of any collaboration, licensing, co-commercialization or other arrangements; and
- the timing of any regulatory approvals of our product candidates.

Additional funding may not be available on acceptable terms or at all. If adequate funds are not available, we may be required to delay or reduce the scope of our commercialization efforts, delay, reduce or eliminate one or more of our development programs or delay or abandon potential strategic opportunities.

Our ability to pay principal of and interest on our outstanding debt securities will depend in part on the receipt of payments from Actavis under our collaboration agreement that are equal to or in excess of our quarterly payment obligations on each payment date.

In January 2013, we issued $175.0 million in debt securities bearing an annual interest rate of 11%. Quarterly interest payments on these securities commenced on June 15, 2013. In March 2014, we began making quarterly payments on the notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter and (ii) the quarterly interest amount. Principal on the notes is repaid in an amount equal to the difference between (i) and (ii) above, when this is a positive number, until the principal has been paid in full. If the cash flows derived from the net quarterly payments that we receive from Actavis under the collaboration agreement are insufficient on any particular payment date to fund the quarterly interest payment, at a minimum, we will be obligated to pay the amounts of such shortfall out of our general funds. We expect that for the next few years, at a minimum, the net quarterly payments from Actavis will be our primary source of cash flow from operations. The determination of whether Actavis will be obligated to make a net quarterly payment to us in respect of a particular quarterly period is a function of the revenue generated by LINZESS in the U.S. as well as the development, manufacturing and commercialization expenses incurred by each of us and Actavis under the collaboration agreement. Accordingly, since we believe that it will take our company some time to attain profitability and positive cash flow from operations, we cannot guarantee that (i) we will have the available funds to fund the quarterly interest payment, at a minimum, in the event that there is a deficiency in the net quarterly payment received from Actavis, (ii) there will be a net quarterly payment from Actavis at all or (iii) we will not also be required to make a true-up payment to Actavis under the collaboration agreement, in each case, in respect of a particular quarterly period.

Our indebtedness could adversely affect our financial condition or restrict our future operations.

As of December 31, 2014, we had total indebtedness of approximately $173.6 million. We chose to issue debt securities based on the additional strategic optionality that this creates for us, and the limited restrictions that these debt securities place on our ability to run our business compared to other potential available financing transactions. However, our indebtedness could have important consequences, including:

- limiting our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or other general corporate requirements;
- requiring a substantial portion of our cash flow to be dedicated to debt service payments instead of other purposes, thereby reducing the amount of cash flow available for working capital, capital expenditures, corporate transactions and other general corporate purposes;
- increasing our vulnerability to adverse changes in general economic, industry and competitive conditions;

- limiting our flexibility in planning for and reacting to changes in the industry in which we compete;
- placing us at a disadvantage compared to other, less leveraged competitors or competitors with comparable debt at more favorable interest rates; and
- increasing our cost of borrowing.

Although we are not as restricted under these debt securities as we might have been under a more traditional secured credit facility provided by a bank, the indenture governing our debt securities contains a number of restrictive covenants that impose restrictions on us and may limit our ability to engage in certain acts, including restrictions on our ability to:

- amend our collaboration agreement with Actavis in a way that would have a material adverse effect on the noteholders rights, or terminate this collaboration agreement with respect to the U.S.;
- transfer our rights to commercialize the product under our collaboration agreement with Actavis; and
- incur certain liens.

Upon a breach of the covenants under our indenture, the noteholders could elect to declare all amounts outstanding under the outstanding debt securities to be immediately due and payable. If we are unable to repay those amounts, the noteholders could proceed against the collateral granted to them to secure the debt securities. If the noteholders under the indenture accelerate the repayment of the debt securities, we cannot be certain that we will have sufficient assets to repay them.

If we breach our covenants under our indenture and seek a waiver, we may not be able to obtain a waiver from the required noteholders. If this occurs we would be in default under our indenture, the noteholders could exercise their rights, as described above, and we could be forced into bankruptcy or liquidation.

Our quarterly and annual operating results may fluctuate significantly.

We expect our operating results to be subject to frequent fluctuations. Our net loss and other operating results will be affected by numerous factors, including:

- the level of underlying demand for linaclotide in the U.S., the E.U. and the other countries where it is approved, and wholesalers' buying patterns;
- the costs associated with commercializing LINZESS in the U.S.;
- the achievement and timing of milestone payments under our existing collaboration and license agreements;
- our execution of any collaboration, partnership, licensing or other strategic arrangements, and the timing of payments we may make or receive under these arrangements;
- any excess or obsolete inventory and associated write-downs;
- variations in the level of expenses related to our development programs;
- addition or termination of clinical trials;
- regulatory developments affecting linaclotide or our product candidates; and
- any material lawsuit in which we may become involved.

If our operating results fall below the expectations of investors or securities analysts, the price of our Class A common stock could decline substantially. Furthermore, any quarterly or annual fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially.

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

Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, contain rules that limit the ability of a company that undergoes an ownership change, which is generally any change in ownership of more than 50% of its stock over a three-year period, to utilize its net operating loss and tax credit carryforwards and certain built-in losses recognized in years after the ownership change. These rules generally operate by focusing on ownership changes involving stockholders owning directly or indirectly 5% or more of the stock of a company and any change in ownership arising from a new issuance of stock by the company. Generally, if an ownership change occurs, the yearly taxable income limitation on the use of net operating loss and tax credit carryforwards and certain built-in losses is equal to the product of the applicable long term tax exempt rate and the value of the company's stock immediately before the ownership change. We may be unable to offset our taxable income with losses, or our tax liability with credits, before such losses and credits expire and therefore would incur larger federal or state income tax liability. We have completed several financings since our inception which may have resulted in a change in control as defined by Section 382, or could result in a change in control in the future.

Risks Relating to Securities Markets and Investment in Our Stock

Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control which could negatively impact the market price of our Class A common stock.

Provisions in our certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control. These provisions include the following:

- Our certificate of incorporation provides for a dual class common stock structure. As a result of this structure, holders of our Class B common stock have significant influence over certain matters requiring stockholder approval, including a merger involving Ironwood, a sale of substantially all Ironwood assets and a dissolution or liquidation of Ironwood. This concentrated control could discourage others from initiating a change of control transaction that other stockholders may view as beneficial.

- Our board of directors is divided into three classes serving staggered three-year terms, such that not all members of the board are elected at one time. This staggered board structure prevents stockholders from replacing the entire board at a single stockholders' meeting.

- Our board of directors has the right to elect directors to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors.

- Our board of directors may issue, without stockholder approval, shares of preferred stock. The ability to authorize preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

- Stockholders must provide advance notice to nominate individuals for election to the board of directors or to propose matters that can be acted upon at a stockholders' meeting. Furthermore, stockholders may only remove a member of our board of directors for cause. These provisions

may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect such acquirer's own slate of directors or otherwise attempting to obtain control of our company.

- Our stockholders may not act by written consent. As a result, a holder, or holders, controlling a majority of our capital stock are not able to take certain actions outside of a stockholders' meeting.

- Special meetings of stockholders may be called only by the chairman of our board of directors, our chief executive officer or a majority of our board of directors. As a result, a holder, or holders, controlling a majority of our capital stock are not able to call a special meeting.

- A majority of the outstanding shares of Class B common stock are required to amend our certificate of incorporation and a super-majority (80%) of the outstanding shares of common stock are required to amend our bylaws, which make it more difficult to change the provisions described above.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. These and other provisions in our certificate of incorporation and our bylaws and in the Delaware General Corporation Law could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors.

The concentration of voting control on certain corporate matters with our pre-IPO stockholders will limit the ability of the holders of our Class A common stock to influence such matters.

Because of our dual class common stock structure, the holders of our Class B common stock, who consist of our pre-IPO investors (and their affiliates), founders, directors, executives and certain of our employees, are able to control certain corporate matters listed below if any such matter is submitted to our stockholders for approval even though such stockholders own less than 50% of the outstanding shares of our common stock. As of December 31, 2014, there were 124,915,658 and 15,907,272 shares of our Class A common stock and Class B common stock issued and outstanding, respectively, and an aggregate of 14,068,613 and 5,889,160 outstanding stock options (vested and unvested) to purchase shares of our Class A common stock and Class B common stock, respectively. As of December 31, 2014, the holders of our Class A common stock own approximately 89% and the holders of our Class B common stock own approximately 11% of the outstanding shares of Class A common stock and Class B common stock, combined. However, because of our dual class common stock structure these holders of our Class A common stock have approximately 44% and holders of our Class B common stock have approximately 56% of the total votes on each of the matters identified in the list below. This concentrated control of our Class B common stockholders limits the ability of the Class A common stockholders to influence those corporate matters and, as a result, we may take actions that many of our stockholders do not view as beneficial, which could adversely affect the market price of our Class A common stock.

Each share of Class A common stock and each share of Class B common stock has one vote per share on all matters except for the following matters, for which each share of our Class B common stock has ten votes per share and each share of our Class A common stock has one vote per share:

- adoption of a merger or consolidation agreement involving Ironwood;

- a sale of all or substantially all of Ironwood's assets;

- a dissolution or liquidation of Ironwood; and

- every matter, if and when any individual, entity or "group" (as that term is used in Regulation 13D of the Exchange Act) has, or has publicly disclosed (through a press release or a

filing with the SEC) an intent to have, beneficial ownership of 30% or more of the number of outstanding shares of Class A common stock and Class B common stock, combined.

If we identify a material weakness in our internal control over financial reporting, it could have an adverse effect on our business and financial results and our ability to meet our reporting obligations could be negatively affected, each of which could negatively affect the trading price of our Class A common stock.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Accordingly, a material weakness increases the risk that the financial information we report contains material errors.

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies. In addition, we are required under the Sarbanes-Oxley Act of 2002 to report annually on our internal control over financial reporting. Our system of internal controls, however well designed and operated, is based in part on certain assumptions and includes elements that rely on information from third parties, including our collaboration partners. Our system can provide only reasonable, not absolute, assurances that the objectives of the system are met. If we, or our independent registered public accounting firm, determine that our internal controls over financial reporting are not effective, or we discover areas that need improvement in the future, these shortcomings could have an adverse effect on our business and financial results, and the price of our Class A common stock could be negatively affected.

Further, we are dependent on our collaboration partners for information related to our results of operations. Our net profit or net loss generated from the sales of LINZESS in the U.S. is partially determined based on amounts provided by Actavis and involves the use of estimates and judgments, which could be modified in the future. We are also highly dependent on our partners for timely and accurate information regarding any revenues realized from sales of linaclotide in their respective territories, and in the case of Actavis and AstraZeneca, the costs incurred in developing and commercializing it in order to accurately report our results of operations. If we do not receive timely and accurate information or incorrectly estimate activity levels associated with the relevant collaboration at a given point in time, whether the result of a material weakness or not, we could be required to record adjustments in future periods. Such adjustments, if significant, could have an adverse effect on our financial results, which could lead to a decline in our Class A common stock price.

If we cannot conclude that we have effective internal control over our financial reporting, or if our independent registered public accounting firm is unable to provide an unqualified opinion regarding the effectiveness of our internal control over financial reporting, investors could lose confidence in the reliability of our financial statements, which could lead to a decline in our stock price. Failure to comply with reporting requirements could also subject us to sanctions and/or investigations by the SEC, The NASDAQ Stock Market or other regulatory authorities.

We expect that the price of our Class A common stock will fluctuate substantially.

The market price of our Class A common stock may be highly volatile due to many factors, including:

- the commercial performance of linaclotide in the U.S., the E.U. and the other countries where it is approved;
- any third-party coverage and reimbursement policies for linaclotide;
- market conditions in the pharmaceutical and biotechnology sectors;

- developments, litigation or public concern about the safety of linaclotide or our potential products;
- announcements of the introduction of new products by us or our competitors;
- announcements concerning product development results, including clinical trial results, or intellectual property rights of us or others;
- actual and anticipated fluctuations in our quarterly and annual operating results;
- deviations in our operating results from any guidance we may provide or the estimates of securities analysts;
- sales of additional shares of our common stock;
- additions or departures of key personnel;
- developments concerning current or future collaboration, partnership, licensing or other strategic arrangements; and
- discussion of us or our stock price in the financial or scientific press or in online investor communities.

The realization of any of the risks described in these "Risk Factors" could have a dramatic and material adverse impact on the market price of our Class A common stock. In addition, class action litigation has often been instituted against companies whose securities have experienced periods of volatility. Any such litigation brought against us could result in substantial costs and a diversion of management attention, which could hurt our business, operating results and financial condition.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. ***Properties***

Our corporate headquarters and operations are located in Cambridge, Massachusetts, where, as of December 31, 2014, we occupy approximately 205,000 square feet of office and laboratory space. We lease approximately 312,000 square feet of office and laboratory space at our Cambridge, Massachusetts facility under our lease expiring in January 2018. In 2014, we began subleasing approximately 107,000 square feet of our total leased space to third parties under subleases expiring in 2016 through 2018. We believe that our facilities are suitable and adequate for our needs for the foreseeable future.

Item 3. ***Legal Proceedings***

None.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

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

Shares of our Class A common stock are traded on the NASDAQ Global Select Market under the symbol "IRWD." Our shares have been publicly traded since February 3, 2010. The following table furnishes the high and low sales prices for our Class A common stock as reported by The NASDAQ Global Select Market for each quarter in the years ended December 31, 2014 and 2013:

	Class A Common Stock			
	2014		2013	
	High	Low	High	Low
First Quarter	$ 15.47	$ 11.22	$ 19.67	$ 11.11
Second Quarter	$ 15.83	$ 9.01	$ 18.38	$ 9.83
Third Quarter	$ 15.95	$ 11.97	$ 13.95	$ 9.83
Fourth Quarter	$ 15.62	$ 11.65	$ 12.19	$ 8.95

As of February 5, 2015, there were 44 stockholders of record of our Class A common stock and 88 stockholders of record of our Class B common stock. The number of record holders is based upon the actual number of holders registered on the books of the company at such date and does not include holders of shares in "street names" or persons, partnerships, associations, corporations or other entities identified in security position listings maintained by depositories.

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of Class A common stock and Class B common stock are entitled to share equally in any dividends that our board of directors may determine to issue from time to time. In the event a dividend is paid in the form of shares of common stock or rights to acquire shares of common stock, the holders of Class A common stock will receive Class A common stock, or rights to acquire Class A common stock, as the case may be, and the holders of Class B common stock will receive Class B common stock, or rights to acquire Class B common stock, as the case may be.

We have never declared or paid any cash dividends on our capital stock, and we do not currently anticipate declaring or paying cash dividends on our capital stock in the foreseeable future. We currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and covenants and other factors that our board of directors may deem relevant.

The information required to be disclosed by Item 201(d) of Regulation S-K, "Securities Authorized for Issuance Under Equity Compensation Plans," is referenced under Item 12 of Part III of this Annual Report on Form 10-K.

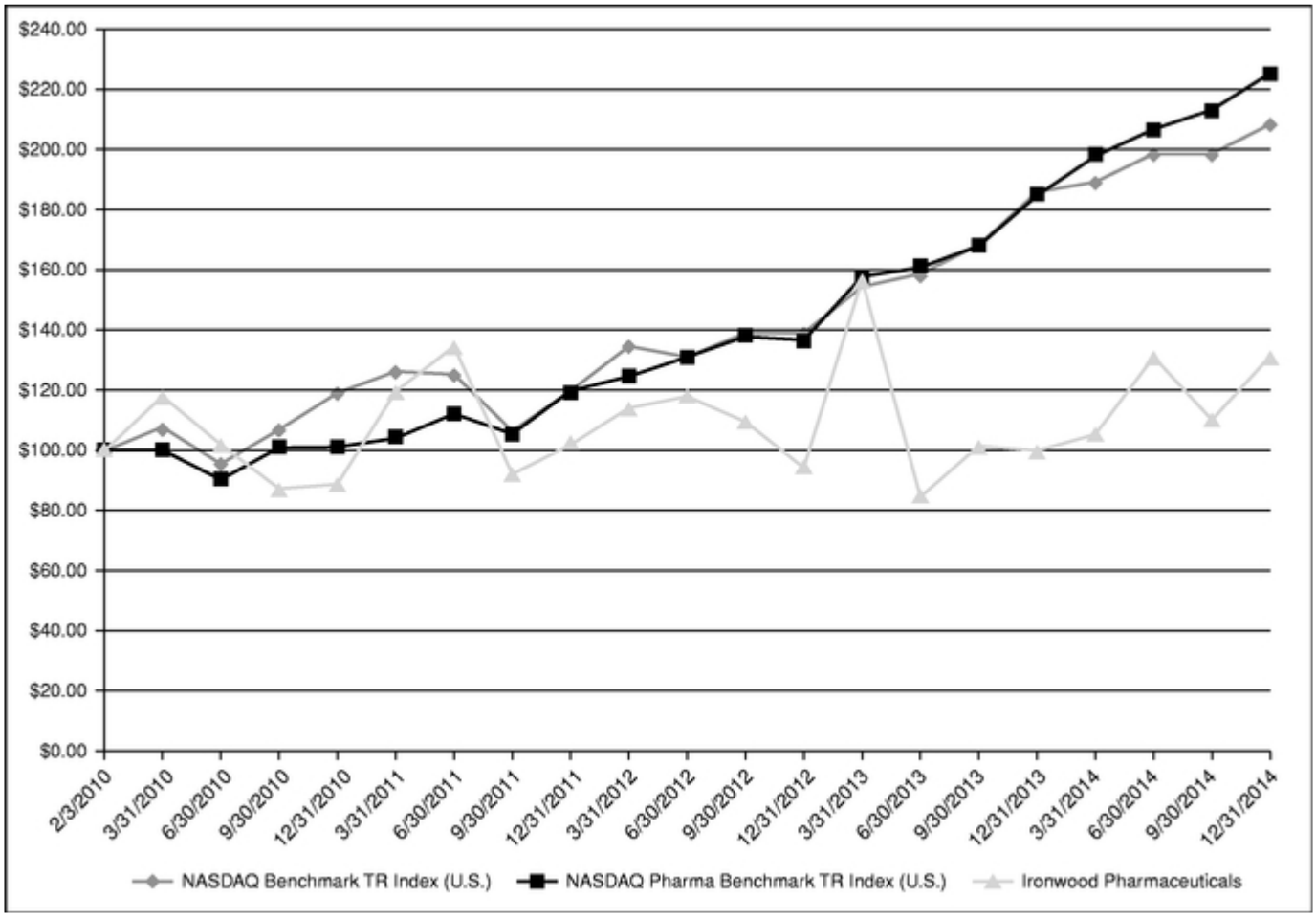
Corporate Performance Graph

The following performance graph and related information shall not be deemed to be "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended, or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the performance of our Class A common stock to the NASDAQ Benchmark TR Index (U.S.) and to the NASDAQ Pharmaceutical Benchmark TR Index (U.S.) from February 3, 2010 (the first date that shares of our Class A common stock were publicly traded) through December 31, 2014. The comparison assumes $100 was invested after the market closed on February 3,

2010 in our Class A common stock and in each of the presented indices, and it assumes reinvestment of dividends, if any.

COMPARISON OF QUARTERLY CUMULATIVE TOTAL RETURN
Among The NASDAQ Benchmark TR Index (U.S.),
the NASDAQ Pharmaceutical Benchmark TR Index (U.S.)
and Ironwood Pharmaceuticals, Inc.



Item 6. ***Selected Consolidated Financial Data***

You should read the following selected financial data together with our consolidated financial statements and the related notes appearing elsewhere in this Annual Report on Form 10-K. We have derived the consolidated statements of operations data for the years ended December 31, 2014, 2013 and 2012 and the consolidated balance sheet data as of December 31, 2014 and 2013 from our audited financial statements included elsewhere in this Annual Report on Form 10-K. We have derived the consolidated statements of operations data for the years ended December 31, 2011 and 2010 and the consolidated balance sheet data as of December 31, 2012, 2011 and 2010 from our audited financial

statements not included in this Annual Report on Form 10-K. Our historical results for any prior period are not necessarily indicative of results to be expected in any future period.

	Years Ended December 31,				
	2014	2013	2012	2011	2010
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Collaborative arrangements revenue	$ 76,436	$ 22,881	$ 150,245	$ 65,871	$ 43,857
Cost and expenses:					
Cost of revenue [1]	25,583	7,203	965	—	—
Research and development [2][3]	101,890	102,378	113,474	86,093	77,454
Selling, general and administrative [2][3]	118,333	123,228	92,538	45,920	27,169
Collaboration expense [4]	—	42,074	16,030	—	—
Total cost and expenses	245,806	274,883	223,007	132,013	104,623
Loss from operations	(169,370)	(252,002)	(72,762)	(66,142)	(60,766)
Other (expense) income:					
Interest expense	(21,166)	(21,002)	(59)	(63)	(196)
Interest and investment income	257	192	197	456	614
Other income	661	—	—	900	993
Other (expense) income, net	(20,248)	(20,810)	138	1,293	1,411
Net loss from continuing operations before income tax (benefit) expense	(189,618)	(272,812)	(72,624)	(64,849)	(59,355)
Income tax (benefit) expense	—	—	—	3	(2,944)
Net loss from continuing operations	(189,618)	(272,812)	(72,624)	(64,852)	(56,411)
Net income from discontinued operations [2]	—	—	—	—	4,551
Net loss	(189,618)	(272,812)	(72,624)	(64,852)	(51,860)
Net loss from discontinued operations attributable to noncontrolling interest	—	—	—	—	(1,121)
Net income attributable to Ironwood Pharmaceuticals, Inc.	$ (189,618)	$ (272,812)	$ (72,624)	$ (64,852)	$ (52,981)
Net income (loss) per share attributable to Ironwood Pharmaceuticals, Inc.—basic and diluted:					
Continuing operations	$ (1.39)	$ (2.35)	$ (0.68)	$ (0.65)	$ (0.63)
Discontinued operations	—	—	—	—	0.04
Net loss per share	$ (1.39)	$ (2.35)	$ (0.68)	$ (0.65)	$ (0.59)
Weighted average number of common shares used in net income (loss) per share attributable to Ironwood Pharmaceuticals, Inc.—basic and diluted	136,811	115,852	106,403	99,875	89,653

(1) During the year ended December 31, 2014, we recorded $20.3 million in cost of revenue related to a write-down of inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe. This write-down is more fully described in Note 7, *Inventory* , to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

(2) Includes share-based compensation expense as indicated in the following table:

	Years Ended December 31,				
	2014	2013	2012	2011	2010
			(in thousands)		
Research and development	$ 9,482	$ 9,178	$ 9,080	$ 6,071	$ 4,112
Selling, general and administrative	16,702	10,651	8,493	5,661	3,384
Discontinued operations	—	—	—	—	59

(3) During the year ended December 31, 2014, we recorded $4.2 million of costs related to a reduction in workforce in the quarter ended March 31, 2014, including employee severance, benefits and related costs and adjustments. These costs are reflected in our Consolidated Statement of Operations for the year ended December 31, 2014 as $3.0 million in research and development expenses and $1.2 million in selling, general and administrative expenses.

(4) Collaboration expense for the years ended December 31, 2011 and 2010 is included in selling, general and administrative expense and was not material.

	December 31,				
	2014	2013	2012	2011	2010
			(in thousands)		
Consolidated Balance Sheet Data:					
Cash, cash equivalents and available-for-sale securities	$ 248,334	$ 197,602	$ 168,228	$ 164,016	$ 248,027
Working capital of continuing operations (excluding deferred revenue)	236,380	193,162	132,883	138,724	234,699
Total assets	333,513	278,962	229,907	208,977	301,365
Deferred revenue, including current portion	16,180	16,490	21,405	57,421	102,433
Long-term debt, including current portion	173,596	174,672	—	—	—
Capital lease obligations, including current portion	3,723	4,273	569	655	590
Total liabilities	244,961	240,737	85,855	99,121	141,814
Total stockholders' equity	88,552	38,225	144,052	109,856	159,551

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

Forward-Looking Information

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the notes to those financial statements appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve significant risks and uncertainties. As a result of many factors, such as those set forth under "Risk Factors" in Item 1A of this Annual Report on Form 10-K, our actual results may differ materially from those anticipated in these forward-looking statements.

Overview

We are an entrepreneurial pharmaceutical company focused on creating medicines that make a difference for patients, building value to earn the continued support of our fellow shareholders, and empowering our team to passionately pursue excellence. Our core strategy is to establish a leading gastrointestinal, or GI, therapeutics company, leveraging our development and commercial capabilities in addressing GI disorders as well as our pharmacologic expertise in guanylate cyclase, or GC, pathways.

We have one marketed product, linaclotide, which is available in the United States, or U.S., and Mexico under the trademarked name LINZESS and is available in certain European countries and Canada under the trademarked name CONSTELLA. Linaclotide is also being developed and commercialized in other parts of the world by certain of our partners.

In August 2012, the U.S. Food and Drug Administration, or FDA, approved LINZESS as a once-daily treatment for adult men and women suffering from irritable bowel syndrome with constipation, or IBS-C, or chronic idiopathic constipation, or CIC. We and Forest Laboratories, Inc., or Forest, began commercializing LINZESS in the U.S. in December 2012. In July 2014, Actavis plc, or Actavis, completed its acquisition of Forest. Our collaboration for the development and commercialization of linaclotide in North America remains in effect.

In November 2012, the European Commission granted marketing authorization to CONSTELLA for the symptomatic treatment of moderate to severe IBS-C in adults. CONSTELLA is the first, and to date, only drug approved in the European Union, or E.U., for IBS-C. Our European partner, Almirall, S.A., or Almirall, began commercializing CONSTELLA in Europe in the second quarter of 2013. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain. In May 2014, Almirall suspended commercialization of CONSTELLA in Germany following an inability to reach agreement with the German National Association of Statutory Health Insurance Funds on a reimbursement price that reflects the innovation and value of CONSTELLA. Almirall is assessing all possibilities to facilitate continued access to CONSTELLA for appropriate patients in Germany.

In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Actavis has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Actavis, Almirall has exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Actavis began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico.

Astellas Pharma Inc., or Astellas, our partner in Japan, is developing linaclotide for the treatment of patients with IBS-C in its territory. In October 2014, Astellas initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. In October 2012, we entered into a collaboration agreement with AstraZeneca AB, or AstraZeneca, to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In the third quarter of 2013, we and AstraZeneca initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. We continue to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of our partnered territories.

We and Actavis are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. In November 2014, as part of this strategy we and Actavis initiated a Phase III clinical trial in the U.S. evaluating a 72 mcg dose of linaclotide in adult patients with CIC to provide a broader range of treatment options to physicians and adult CIC patients. In addition to linaclotide-based opportunities, we are advancing multiple GI development programs as well as further leveraging our pharmacological expertise in GC pathways that we established through the development of linaclotide, a guanylate cyclase type-C, or GC-C, agonists, to advance a second GC program targeting soluble guanylate cyclase, or sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in cardiovascular disease and other indications.

We were incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, we changed our name to Ironwood Pharmaceuticals, Inc. We currently operate in one reportable business segment—human therapeutics.

To date, we have dedicated substantially all of our activities to the research, development and commercialization of linaclotide, as well as to the research and development of our other product candidates. We have incurred significant operating losses since our inception in 1998. As of December 31, 2014, we had an accumulated deficit of approximately $967.5 million and we expect to continue to incur net losses for the foreseeable future.

In February 2012, we sold 6,037,500 shares of our Class A common stock through a firm commitment, underwritten public offering at a price to the public of $15.09 per share. As a result of the offering, we received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $85.2 million. On January 4, 2013, we closed a private placement of $175.0 million in aggregate principal amount of 11% notes due on or before June 15, 2024. As a result of the debt offering, we received aggregate net proceeds, after offering expenses, of approximately $167.3 million. During the second quarter of 2013, we sold 11,204,948 shares of our Class A common stock through a firm commitment, underwritten public offering at a price to the public of $13.00 per share. As a result of the offering, we received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $137.8 million. In February 2014, we sold 15,784,325 shares of our Class A common stock through a firm commitment, underwritten public offering at a price to the public of $12.75 per share. As a result of this offering, we received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $190.4 million. The net proceeds from this offering are being used to support the commercialization of LINZESS in the U.S. and to fund linaclotide and other development opportunities to advance our strategy to grow a leading GI company, in addition to general corporate purposes.

On January 8, 2014, we announced a headcount reduction of approximately 10% to align our workforce with our strategy to grow a leading GI therapeutics company. As maximizing LINZESS is core to our strategy, our field-based sales force and medical science liaison teams were excluded from this reduction in workforce. During the three months ended March 31, 2014, we substantially completed the implementation of this reduction in workforce and recorded approximately $4.3 million of costs in research and development and selling, general and administrative expenses, including employee severance, benefits and related costs. We did not record any additional charges associated with this workforce reduction during the year ended December 31, 2014. All payments related to this reduction in workforce were made by the end of 2014.

Financial Overview

Revenue. Revenue to date has been generated primarily through our collaboration agreements with Actavis and AstraZeneca, and our license agreements with Almirall and Astellas. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, and (iii) the manufacture of finished drug product, active pharmaceutical ingredient, or API, or development materials for the collaborative partners. Payments to us may include one or more of the following: nonrefundable license fees, payments for research and development activities, payments for the manufacture of finished drug product, API or development materials, payments based upon the achievement of certain milestones and royalties on product sales. Additionally, we receive our share of the net profits or bear our share of the net losses from the sale of linaclotide in the U.S. and China. LINZESS launched in the U.S. in December 2012 and CONSTELLA became commercially available in certain European countries beginning in the second quarter of 2013. Linaclotide is also approved in a number of other countries.

We record our share of the net profits and losses from the sales of LINZESS in the U.S. on a net basis and present the settlement payments as collaborative arrangements revenue or collaboration expense, as applicable. Net profits or losses consist of net sales to third-party customers in the U.S. less the cost of goods sold as well as selling, general and administrative expenses. Although we expect net sales to increase over time, the settlement payments between Actavis and us, resulting in collaborative arrangements revenue or collaboration expense, are subject to fluctuation based on the ratio of selling, general and administrative expenses incurred by each party. In addition, our collaborative arrangements revenue may fluctuate as a result of timing and amount of license fees and clinical and commercial milestones received and recognized under our current and future strategic partnerships as well as timing and amount of royalties from the sales of linaclotide in the European, Canadian or Mexican markets. One instance of this potential fluctuation relates to the challenging environment in the European pharmaceutical sector. As challenges in obtaining adequate pricing and reimbursement for pharmaceutical products in Europe have grown in recent periods, it became clear to us and our partner, Almirall, that revising certain aspects of our current partnership would benefit the potential for linaclotide. Accordingly, in June 2013 and February 2014, we amended the Almirall license agreement to make the amount and timing of certain of the commercial launch milestones contingent on the reimbursement amount in such countries in exchange for additional new sales-based incentives and a more favorable royalty structure at certain sales thresholds.

Cost of Revenue. Cost of revenue is recognized upon shipment of linaclotide API to certain of our licensing partners outside of the U.S. Our cost of revenue consists of the internal and external costs of producing such API. We expensed most of the manufacturing costs of API as research and development expenses in the periods prior to July 1, 2012, at which date we began capitalizing linaclotide-related inventory costs as their realizability became probable, based on our evaluation of, among other factors, the status of the linaclotide New Drug Applications, or NDA, in the U.S., the Committee for Medicinal Products for Human Use, or CHMP, positive recommendation to grant marketing approval for CONSTELLA in Europe, and the ability of our third-party suppliers to successfully manufacture commercial quantities of linaclotide API. As of December 31, 2012, the previously expensed commercial API inventory was substantially utilized. During the year ended December 31, 2014, we wrote-down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe. This write-down is more fully described in Note 7, *Inventory* , to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Research and Development Expense. Research and development expense consists of expenses incurred in connection with the discovery, development, manufacture and distribution of our product candidates. These expenses consist primarily of compensation, benefits and other employee-related expenses, research and development related facility costs, third-party contract costs relating to nonclinical study and clinical trial activities, development of manufacturing processes, regulatory registration of third-party manufacturing facilities and costs associated with linaclotide API prior to meeting our inventory capitalization policy, as well as licensing fees for our product candidates. We charge all research and development expenses to operations as incurred. Under our Actavis and AstraZeneca collaboration agreements, we are reimbursed for certain research and development expenses, and we net these reimbursements against our research and development expenses as incurred. Payments to Actavis or AstraZeneca are recorded as incremental research and development expense.

The core of our research and development strategy is to leverage our development capabilities in addressing GI disorders as well as our pharmacologic expertise in GC pathways to develop new and innovative products.

Linaclotide. Our lead product is linaclotide, and it represents the largest portion of our research and development expense for our product candidates. Linaclotide is the first and, to date, only FDA-approved GC-C agonist. Linaclotide is approved in the U.S., E.U., and a number of other countries. In addition, Astellas initiated a Phase III clinical trial of linaclotide in adult patients with IBS-C for Japan and we and AstraZeneca initiated a Phase III clinical trial of linaclotide in adult patients with IBS-C for China.

We and Actavis are exploring development opportunities in the U.S. to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. In November 2014, as part of this strategy we and Actavis initiated a Phase III clinical trial in the U.S. evaluating a 72 mcg dose of linaclotide in adult patients with CIC, which, if approved, would provide a broader range of treatment options to physicians and adult CIC patients. These development opportunities also include linaclotide colonic release, a targeted oral delivery formulation of linaclotide designed to potentially enhance lower abdominal pain relief in adult IBS-C patients, as well as providing the opportunity to investigate linaclotide as a potential treatment for multiple GI disorders with lower abdominal pain as a predominant symptom. Additionally, we and Actavis are studying linaclotide as a potential treatment of the GI dysfunction associated with opioid-induced constipation in adult patients and are working with the FDA on a plan for clinical pediatric studies with linaclotide.

Early Development Candidates. In addition to linaclotide-based opportunities, we are advancing multiple GI development programs. This includes IW-9179, a GC-C agonist designed to target upper GI conditions, which is being explored for the treatment of diabetic gastroparesis and functional dyspepsia. Additionally, IW-3718 is a gastric retentive formulation of a bile acid sequestrant that is being evaluated for the potential treatment of GERD symptoms in patients who have not responded adequately to treatment with a proton pump inhibitor. We are also leveraging our pharmacological expertise in GC pathways that we established through the development of linaclotide, a GC-C agonist, to advance a second GC program targeting sGC, which we are exploring for utility in cardiovascular disease. We have additional non-core assets in early development that we continued to advance through 2014, and we are currently exploring strategic options for further development of these assets.

Discovery Research. Our discovery efforts are primarily focused on identifying novel clinical candidates that draw on our proprietary and expanding expertise in GI disorders and GC.

The following table sets forth our research and development expenses related to our product pipeline for the years ended December 31, 2014, 2013 and 2012. These expenses relate primarily to external costs associated with nonclinical studies and clinical trial costs, costs incurred to develop manufacturing processes and register manufacturing facilities with the FDA, costs associated with linaclotide API that was expensed prior to meeting our inventory capitalization policy and licensing fees for our product candidates. In the third quarter of 2013, we began to allocate costs related to facilities, depreciation, share-based compensation and research and development support services, laboratory

supplies and certain other costs directly to programs. Prior-period amounts in the table below were reclassified to conform to the current period's presentation.

	Years Ended December 31,		
	2014	2013	2012
		(in thousands)	
Linaclotide	$ 48,340	$ 46,048	$ 51,044
Early development candidates:			
GI disorders (two compounds) [1]	15,992	11,068	15,547
sGC early development candidates (two compounds) [1]	11,775	—	—
Central nervous system disorders (two compounds) [1]	2,190	14,793	14,910
Allergic disorders (one compound) [1]	—	916	5,232
Total early development candidates	29,957	26,777	35,689
Discovery research	23,593	29,553	26,741
	$ 101,890	$ 102,378	$ 113,474

(1) Number of compounds for early development candidates is for the year ended December 31, 2014.

Since 2004, the date we began tracking costs by program, we have incurred approximately $306.7 million of research and development expenses related to linaclotide. The expenses for linaclotide include both our portion of the research and development costs incurred by Actavis and AstraZeneca for linaclotide and invoiced to us under the cost-sharing provisions of our collaboration agreements, as well as the unreimbursed portion of research and development costs incurred by us under such cost-sharing provisions.

The lengthy process of securing regulatory approvals for new drugs requires the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals would materially adversely affect our product development efforts and our business overall. In August 2012, the FDA approved our New Drug Applications for LINZESS as a once-daily treatment for adult men and women suffering from IBS-C or CIC. In connection with the FDA approval, we are required to conduct certain nonclinical and clinical studies, including those aimed at understanding: (a) whether orally administered linaclotide can be detected in breast milk, (b) the potential for antibodies to be developed to linaclotide, and if so, (c) whether antibodies specific for linaclotide could have any therapeutic or safety implications. In addition, we and Actavis established a nonclinical and clinical post-marketing plan with the FDA to understand the efficacy and safety of LINZESS in pediatric patients. The first step in this plan was to undertake certain additional nonclinical studies, which we have completed. The FDA has concluded that the nonclinical data from these additional studies do not present a reason not to proceed with clinical studies in older pediatric patients (age 12 and above). We and Actavis are working with the FDA on a plan for clinical pediatric studies. In October 2012, we entered into a collaboration agreement with AstraZeneca under which we will jointly develop and commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. We and Actavis are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. Therefore, we cannot currently estimate with any degree of certainty the amount of time or money that we will be required to expend in the future on linaclotide in pediatrics, for other geographic markets, within its indicated population, in additional indications and populations or in new formulations. In addition to linaclotide-based

opportunities, we are advancing multiple GI development programs as well as further leveraging our pharmacological expertise in GC pathways that we established through the development of linaclotide, a GC-C agonist, to advance a second GC program targeting sGC. sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in cardiovascular disease and other indications. Given the inherent uncertainties that come with the development of pharmaceutical products, we cannot estimate with any degree of certainty how these programs will evolve, and therefore the amount of time or money that would be required to obtain regulatory approval to market them. As a result of these uncertainties surrounding the timing and outcome of any approvals, we are currently unable to estimate precisely when, if ever, linaclotide's utility will be expanded in its indicated population; if or when linaclotide will be developed in pediatrics or otherwise outside of its current markets, indications, populations or formulations; or when, if ever, any of our other product candidates will generate revenues and cash flows.

We invest carefully in our pipeline, and the commitment of funding for each subsequent stage of our development programs is dependent upon the receipt of clear, supportive data. In addition, we are actively engaged in evaluating externally-discovered drug candidates at all stages of development that fit within our core strategy. In evaluating potential assets, we apply the same criteria as those used for investments in internally-discovered assets.

The successful development of our product candidates is highly uncertain and subject to a number of risks including, but not limited to:

- The duration of clinical trials may vary substantially according to the type, complexity and novelty of the product candidate.
- The FDA and comparable agencies in foreign countries impose substantial requirements on the introduction of therapeutic pharmaceutical products, typically requiring lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures.
- Data obtained from nonclinical and clinical activities at any step in the testing process may be adverse and lead to discontinuation or redirection of development activity. Data obtained from these activities also are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval.
- The duration and cost of discovery, nonclinical studies and clinical trials may vary significantly over the life of a product candidate and are difficult to predict.
- The costs, timing and outcome of regulatory review of a product candidate may not be favorable.
- The emergence of competing technologies and products and other adverse market developments may negatively impact us.

As a result of the uncertainties discussed above, we are unable to determine the duration and costs to complete current or future nonclinical and clinical stages of our product candidates or when, or to what extent, we will generate revenues from the commercialization and sale of our product candidates. Development timelines, probability of success and development costs vary widely. We anticipate that we will make determinations as to which additional programs to pursue and how much funding to direct to each program on an ongoing basis in response to the data of each product candidate, the competitive landscape and ongoing assessments of such product candidate's commercial potential. As a result of the regulatory approvals beginning in 2012, linaclotide has been generating sales in connection with commercial launches in the U.S. and a number of E.U. and other countries.

We expect our research and development costs will be substantial for the foreseeable future. We will continue to invest in linaclotide including the areas of its supply chain, the investigation of ways to

enhance the clinical profile within its indicated population and the exploration of its utility in other indications and populations and in new formulations. We will also invest in our other product candidates as we advance them through nonclinical studies and clinical trials, in addition to funding full-time equivalents for research and development activities under our external collaboration and license agreements.

Selling, General and Administrative Expense. Selling, general and administrative expense consists primarily of compensation, benefits and other employee-related expenses for personnel in our administrative, finance, legal, information technology, business development, commercial, sales, marketing, communications and human resource functions. Other costs include the legal costs of pursuing patent protection of our intellectual property, general and administrative related facility costs and professional fees for accounting and legal services. As we continue to invest in the commercialization of LINZESS, we expect our selling, general and administrative expenses will be substantial for the foreseeable future. We charge all selling, general and administrative expenses to operations as incurred.

Under our AstraZeneca collaboration agreement, we are reimbursed for certain selling, general and administrative expenses and we net these reimbursements against our selling, general and administrative expenses as incurred. We include Actavis' selling, general and administrative cost-sharing payments in the calculation of the net profits and net losses from the sale of LINZESS in the U.S. and present the net payment to or from Actavis as collaboration expense or collaborative arrangements revenue, respectively. The selling, general and administrative cost-sharing payments to Forest for the nine months ended September 30, 2012 were reclassified to conform to the current period's presentation.

Collaboration Expense. Collaboration expense represents settlement payments due to Actavis on 50% of LINZESS net sales in the U.S. as well as cost of goods sold and selling, general and administrative cost-sharing settlement between us and Actavis. Prior to the fourth quarter of 2012, selling, general and administrative cost-sharing payments were presented within selling, general and administrative expenses. The cost-sharing payments to Actavis for the nine months ended September 30, 2012 were reclassified to conform to the current period's presentation.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make certain estimates and assumptions that may affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses during the reported periods and related disclosures. These estimates and assumptions, including those related to revenue recognition, inventory valuation and related reserves, research and development expenses and share-based compensation are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on our historical experience, trends in the industry, and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from our estimates under different assumptions or conditions.

We believe that our application of the following accounting policies, each of which require significant judgments and estimates on the part of management, are the most critical to aid in fully understanding and evaluating our reported financial results. Our significant accounting policies are more fully described in Note 2, *Summary of Significant Accounting Policies* , to our consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

Revenue Recognition

Our revenue is generated primarily through collaborative research and development and licensing agreements. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, including participation on joint steering committees, and (iii) the manufacture of finished drug product, API or development materials for the collaborative partner, which are reimbursed at a contractually determined rate. Non-refundable payments to us under these agreements may include (i) up-front license fees, (ii) payments for research and development activities, (iii) payments for the manufacture of finished drug product, API or development materials, (iv) payments based upon the achievement of certain milestones and (v) royalties on product sales. Additionally, we may receive our share of the net profits or bear our share of the net losses from the sale of linaclotide in the U.S. and China through our collaborations with Actavis and AstraZeneca, respectively.

We evaluate revenue from new agreements that have multiple elements under the guidance of Accounting Standards Update, or ASU, No. 2009-13, *Multiple-Deliverable Revenue Arrangements* , or ASU 2009-13. We also evaluate whether amendments to our multiple element arrangements are considered material modifications that are subject to the application of ASU 2009-13. This evaluation requires us to assess all relevant facts and circumstances and to make subjective determinations and judgments. As part of this assessment, we consider whether the modification results in a material change to the arrangement, including whether there is a change in total arrangement consideration that is more than insignificant, whether there are changes in the deliverables included in the arrangement, whether there is a change in the term of the arrangement and whether there is a significant modification to the delivery schedule for contracted deliverables.

We identify the deliverables included within multiple element agreements and evaluate which deliverables represent separate units of accounting. We account for those components as separate elements when the following criteria are met:

- the delivered items have value to the customer on a stand-alone basis; and
- if there is a general right of return relative to the delivered items, delivery or performance of the undelivered items is considered probable and within our control.

This evaluation requires subjective determinations and requires us to make judgments about the individual deliverables and whether such deliverables are separable from the other aspects of the contractual relationship. In determining the units of accounting, we evaluate certain criteria, including whether the deliverables have standalone value, based on consideration of the relevant facts and circumstances for each arrangement. Factors considered in this determination include the research, manufacturing and commercialization capabilities of the partner and the availability of peptide research and manufacturing expertise in the general marketplace. In addition, we consider whether the collaborator can use the license or other deliverables for their intended purpose without the receipt of the remaining elements, and whether the value of the deliverable is dependent on the undelivered items and whether there are other vendors that can provide the undelivered items.

The consideration received is allocated among the separate units of accounting using the relative selling price method, and the applicable revenue recognition criteria are applied to each of the separate units.

We determine the estimated selling price for deliverables using vendor-specific objective evidence, or VSOE, of selling price, if available, third-party evidence, or TPE, of selling price if VSOE is not available, or best estimate of selling price, or BESP, if neither VSOE nor TPE is available. Determining the BESP for a deliverable requires significant judgment. We use BESP to estimate the selling price for licenses to our proprietary technology, since we often do not have VSOE or TPE of selling price for these deliverables. In those circumstances where we utilize BESP to determine the estimated selling

price of a license to our proprietary technology, we consider market conditions as well as entity-specific factors, including those factors contemplated in negotiating the agreements as well as internally developed models that include assumptions related to the market opportunity, estimated development costs, probability of success and the time needed to commercialize a product candidate pursuant to the license. In validating our BESP, we evaluate whether changes in the key assumptions used to determine the BESP will have a significant effect on the allocation of arrangement consideration between multiple deliverables.

We recognize revenue when there is persuasive evidence that an arrangement exists, services have been rendered or delivery has occurred, the price is fixed or determinable, and collection is reasonably assured.

For certain of our arrangements, particularly our license agreement with Almirall, it is required that taxes be withheld on payments to us. We have adopted a policy to recognize revenue net of these tax withholdings.

Net Profit or Net Loss Sharing

The determination of whether we should recognize revenue on a gross or net basis involves judgment based on the relevant facts and circumstances. In accordance with ASC 808 Topic, *Collaborative Arrangements* , and ASC 605-45, *Principal Agent Considerations* , we consider the nature and contractual terms of the arrangement and the nature of our business operations to determine the classification of the transactions under our collaboration agreements. We record revenue transactions gross in the consolidated statements of operations if we are deemed the principal in the transaction, which includes being the primary obligor and having the risks and rewards of ownership.

We recognize our share of the pre-tax commercial net profit or net loss generated from the sales of LINZESS in the U.S. in the period the product sales are reported by Actavis and related cost of goods sold and selling, general and administrative expenses are incurred by us and our collaboration partner. These amounts are partially determined based on amounts provided by Actavis and involve the use of estimates and judgments, such as product sales allowances and accruals related to prompt payment discounts, chargebacks, governmental and contractual rebates, wholesaler fees, product returns, and co-payment assistance costs, which could be adjusted based on actual results in the future. We are highly dependent on Actavis for timely and accurate information regarding any net revenues realized from sales of LINZESS and the costs incurred in selling it, in order to accurately report our results of operations. For the periods covered in the consolidated financial statements presented, there have been no material changes to prior period estimates of revenues, cost of goods sold or selling, general and administrative expenses associated with the sales of LINZESS in the U.S. However, if we do not receive timely and accurate information or incorrectly estimate activity levels associated with the collaboration at a given point in time, we could be required to record adjustments in future periods.

We record our share of the net profits or net losses from the sales of LINZESS on a net basis and present the settlement payments to and from Actavis as collaboration expense or collaborative arrangements revenue, as applicable, as we are not the primary obligor and do not have the risks and rewards of ownership in the collaboration agreement with Actavis. We and our collaboration partner settle the cost sharing quarterly and each payment represents 50% of LINZESS net sales in the U.S. as well as the cost sharing settlement of selling, general and administrative expenses and cost of goods sold between us and Actavis. Prior to the fourth quarter of 2012, selling, general and administrative cost-sharing payments were presented within selling, general and administrative expenses. The cost-sharing payments to Actavis for the nine months ended September 30, 2012 were reclassified to conform to the current period's presentation.

Up-Front License Fees

We recognize revenues from nonrefundable, up-front license fees related to collaboration and license agreements entered into prior to the adoption of ASU 2009-13, including the $70.0 million up-front license fee under the Actavis collaboration agreement entered into in September 2007, the $40.0 million up-front license fee, of which approximately $38.0 million was received net of foreign withholding taxes, under the Almirall license agreement entered into in April 2009 and the $30 million up-front license fee under the Astellas license agreement entered into in November 2009, on a straight-line basis over the contracted or estimated period of performance since the license deliverables were not deemed to have value on a standalone basis under pre-ASU 2009-13 guidance and we could not determine the fair value of the undelivered elements. The period of performance over which the revenues are recognized is typically the period over which the research and/or development is expected to occur. As a result, we often are required to make estimates regarding drug development and commercialization timelines for compounds being developed pursuant to a collaboration or license agreement. Because the drug development process is lengthy and our collaboration and license agreements typically cover activities over several years, this approach has resulted in the deferral of significant amounts of revenue into future periods. In addition, because of the many risks and uncertainties associated with the development of drug candidates, our estimates regarding the period of performance may change in the future. Any change in our estimates could result in substantial changes to the period over which the revenues from an up-front license fee are recognized. In March 2013, we revised our estimate of the development period associated with our Astellas license agreement from 115 months to 85 months and adjusted the amortization of the remaining deferred revenue accordingly. Aside from this change, we have had no other recent material changes to our estimated periods of continuing involvement under existing collaboration and license agreements. At September 30, 2012, the up-front license fees under the Actavis and Almirall collaborations were fully amortized.

We recognize revenue allocated to the license related to collaboration and license agreements entered into or materially modified, including the amounts allocated to the license under the AstraZeneca collaboration agreement entered into in October 2012, upon delivery, when we believe the license to our intellectual property has stand-alone value. When we recognize revenue allocated to the license upon delivery under any of our collaborations, we may experience significant fluctuations in our collaborative arrangements revenues from quarter to quarter and year to year depending on the timing of transactions. When we believe the license to our intellectual property does not have stand-alone value from the other deliverables to be provided in the arrangement, it is combined with other deliverables and the revenue of the combined unit of accounting is recorded based on the method appropriate for the last delivered item.

Milestones

At the inception of each arrangement that includes pre-commercial milestone payments, we evaluate whether each pre-commercial milestone is substantive, in accordance with ASU No. 2010-17, *Revenue Recognition—Milestone Method*, or ASU 2010-17. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. We evaluate factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. If a substantive pre-commercial milestone is achieved and collection of the related receivable is reasonably assured, we recognize revenue related to the milestone in its entirety in the period in which the milestone is

achieved. At December 31, 2014, we had no pre-commercial milestones that were deemed substantive. If we were to achieve milestones that we consider substantive under any of our collaborations, we may experience significant fluctuations in our collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of achieving such substantive milestones. In those circumstances where a pre-commercial milestone is not substantive, we recognize as revenue on the date the milestone is achieved an amount equal to the applicable percentage of the performance period that had elapsed as of the date the milestone was achieved, with the balance being deferred and recognized over the remaining period of performance. Pre-commercial milestone payments received prior to the adoption of ASU 2010-17 continue to be recognized over the remaining period of performance.

Commercial milestones are accounted for as royalties and are recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria are met.

Royalties on Product Sales

We receive, or expect to receive in the future, royalty revenues under certain of our license or collaboration agreements. If we do not have any future performance obligations under these license or collaborations agreements, we record these revenues as earned. To the extent we do not have access to the royalty reports from our partners or the ability to accurately estimate the royalty revenue in the period earned, we record such royalty revenues one quarter in arrears.

Other

We produce finished drug product, API and development materials for certain of our collaborators. We recognize revenue on finished drug product, API and development materials when the material has passed all quality testing required for collaborator acceptance, delivery has occurred, title and risk of loss have transferred to the collaborator, the price is fixed or determinable, and collection is reasonably assured. As it relates to development materials and API produced for Almirall and Astellas, we are reimbursed at a contracted rate. Such reimbursements are considered as part of revenue generated pursuant to the Almirall and Astellas license agreements and are presented as collaborative arrangements revenue. Any finished drug product, API and development materials currently produced for Actavis or AstraZeneca are recognized in accordance with the cost-sharing provisions of the Actavis and AstraZeneca collaboration agreements, respectively. We may experience fluctuations in our collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of such transactions.

Inventory Valuation

Inventory is stated at the lower of cost or market with cost determined under the first-in, first-out basis.

We evaluate inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements or inventory that fails to meet commercial sale specifications is written down with a corresponding charge to cost of revenue in the period that the impairment is first identified. We perform quarterly reviews of our inventory for potential excess or obsolescence and rely on data from several sources to estimate its net realizable value, including partner forecasts of projected inventory purchases, our internal forecasts and related process, historical sales by geographic region, and the status of and progress toward commercialization of linaclotide in partnered territories.

We capitalize inventories manufactured in preparation for initiating sales of a product candidate when the related product candidate is considered to have a high likelihood of regulatory approval and the related costs are expected to be recoverable through sales of the inventories. In determining

whether or not to capitalize such inventories, we evaluate, among other factors, information regarding the product candidate's safety and efficacy, the status of regulatory submissions and communications with regulatory authorities and the outlook for commercial sales, including the existence of current or anticipated competitive drugs and the availability of reimbursement. In addition, we evaluate risks associated with manufacturing the product candidate, including the ability of our third-party suppliers to complete the validation batches, and the remaining shelf life of the inventories.

Costs associated with developmental products prior to satisfying the inventory capitalization criteria are charged to research and development expense as incurred.

There is a risk inherent in these judgments and any changes in these judgments may have a material impact on our financial results in future periods.

Research and Development Expense

All research and development expenses are expensed as incurred. We defer and capitalize nonrefundable advance payments we make for research and development activities until the related goods are received or the related services are performed.

Research and development expenses are comprised of costs incurred in performing research and development activities, including salary, benefits and other employee-related expenses; share-based compensation expense; laboratory supplies and other direct expenses; facilities expenses; overhead expenses; third-party contractual costs relating to nonclinical studies and clinical trial activities and related contract manufacturing expenses, development of manufacturing processes and regulatory registration of third-party manufacturing facilities; costs associated with linaclotide API prior to us concluding that regulatory approval is probable and that its net realizable value is recoverable; licensing fees for our product candidates; and other outside expenses.

Clinical trial expenses include expenses associated with contract research organizations, or CROs. The invoicing from CROs for services rendered can lag several months. We accrue the cost of services rendered in connection with CRO activities based on our estimate of site management, monitoring costs, project management costs, and investigator fees. We maintain regular communication with our CRO vendors to gauge the reasonableness of our estimates. Differences between actual clinical trial expenses and estimated clinical trial expenses recorded have not been material and are adjusted for in the period in which they become known. However, if we incorrectly estimate activity levels associated with the CRO services at a given point in time, we could be required to record material adjustments in future periods. Under our Actavis and AstraZeneca collaboration agreements, we are reimbursed for certain research and development expenses and we net these reimbursements against our research and development expenses as incurred. Payments to Actavis or AstraZeneca are recorded as incremental research and development expense. Nonrefundable advance payments for research and development activities are capitalized and expensed over the related service period or as goods are received.

Share-based Compensation Expense

We make certain assumptions in order to value and record expense associated with awards made under our share-based compensation arrangements. We estimate the fair value of the share-based awards for employees and non-employees using the Black-Scholes option-pricing model. Determining the fair value of share-based awards requires the use of highly subjective assumptions, including expected term of the award and expected stock price volatility. For certain of these awards, we determine the appropriate amount to expense based on the anticipated achievement of performance targets, which requires judgment, including forecasting the achievement of future specified targets. Changes in these assumptions may lead to variability with respect to the amount of expense we recognize in connection with share-based payments.

During the quarter ended March 31, 2014, we transitioned from a "simplified method" to the use of our historical data when estimating the expected term of stock option grants for purposes of determining stock-based compensation expense. This change did not have a significant impact on our financial position or results of operations for the year ended December 31, 2014.

We recognize compensation expense on a straight-line basis over the requisite service period based upon options that are ultimately expected to vest, and accordingly, such compensation expense is adjusted by the amount of estimated forfeitures. We estimate forfeitures over the requisite service period when recognizing share-based compensation expense based on historical rates and forward-looking factors; these estimates are adjusted to the extent that actual forfeitures differ, or are expected to materially differ, from our estimates.

We have also granted time-accelerated stock options with terms that allow the acceleration in vesting of the stock options upon the achievement of performance-based milestones specified in the grants. Share-based compensation expense associated with these time-accelerated stock options is recognized over the requisite service period of the awards or the implied service period, if shorter.

While the assumptions used to calculate and account for share-based compensation awards represent management's best estimates, these estimates involve inherent uncertainties and the application of management's judgment. As a result, if revisions are made to our underlying assumptions and estimates, our share-based compensation expense could vary significantly from period to period.

Results of Operations

The following discussion summarizes the key factors our management believes are necessary for an understanding of our consolidated financial statements.

	Years Ended December 31,		
	2014	2013	2012
		(in thousands)	
Collaborative arrangements revenue	$ 76,436	$ 22,881	$ 150,245
Cost and expenses:			
Cost of revenue	25,583	7,203	965
Research and development	101,890	102,378	113,474
Selling, general and administrative	118,333	123,228	92,538
Collaboration expense	—	42,074	16,030
Total cost and expenses	245,806	274,883	223,007
Loss from operations	(169,370)	(252,002)	(72,762)
Other (expense) income:			
Interest expense	(21,166)	(21,002)	(59)
Interest and investment income	257	192	197
Other income	661	—	—
Other (expense) income, net	(20,248)	(20,810)	138
Net loss	$ (189,618)	$ (272,812)	$ (72,624)

Year Ended December 31, 2014 Compared to Year Ended December 31, 2013

Revenue

	Years Ended December 31,		Change	
	2014	2013	$	%
	(dollars in thousands)			
Collaborative arrangements revenue	$ 76,436	$ 22,881	$ 53,555	234.1%

Collaborative Arrangements Revenue. The increase in revenue from collaborative arrangements of approximately $53.6 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to an approximately $44.7 million increase in our share of the net profits from the sale of LINZESS in the U.S., an approximately $10.2 million increase in revenue recognized in connection with the achievement of a development milestone under our Astellas license agreement in the fourth quarter of 2014, an approximately $2.6 million increase in license revenue related to our collaboration agreement with AstraZeneca recognized in connection with a modification to the initial development plan and development budget in August 2014, which was deemed to be a material modification, an approximately $0.5 million increase in royalty revenue based on sales of CONSTELLA in the European territory, and an approximately $0.4 million increase in the amortization of deferred revenue associated with the Astellas license agreement due to a change in estimate in the development period in March 2013. The increases were partially offset by an approximately $4.7 million decrease in revenue from the shipments of linaclotide API to our licensing partners.

Cost and Expenses

	Years Ended December 31,		Change	
	2014	2013	$	%
	(dollars in thousands)			
Cost and expenses:				
Cost of revenue	$ 25,583	$ 7,203	$ 18,380	255.2%
Research and development	101,890	102,378	(488)	(0.5)%
Selling, general and administrative	118,333	123,228	(4,895)	(4.0)%
Collaboration expense	—	42,074	(42,074)	(100.0)%
Total cost and expenses	$ 245,806	$ 274,883	$ (29,077)	(10.6)%

Cost of Revenue. The increase in cost of revenue of approximately $18.4 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to a write-down of approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. We perform quarterly reviews of our inventory for potential excess or obsolescence and rely on data from several sources to estimate its net realizable value, including partner forecasts of projected inventory purchases, our internal forecasts and related process, historical sales by geographic region, and the status of and progress toward commercialization of linaclotide in partnered territories. Leading up to and early in the launch of CONSTELLA throughout Europe, we expanded our supply chain for API in order to reduce our reliance on any single supplier in this component of the supply chain. As a result, in connection with this expansion of the supply chain and to avoid shortages of API and possible patient impact, we agreed to purchase certain volumes based on higher potential demand levels projected with our European partner, Almirall. During the second quarter of 2014, Almirall reduced its inventory demand forecast, mainly due to the suspension of the commercialization of CONSTELLA in Germany, which led us to write down approximately $8.9 million

of inventory to net realizable value. During the fourth quarter of 2014, Almirall lowered its inventory demand forecast due to increased commercial challenges throughout Europe, including Germany. Due to this further forecast reduction, and the fact that we have better insight into the launch trajectories outside of the U.S. than we did at launch, in the fourth quarter of 2014, we began placing additional emphasis on historical sales and our internal long range forecasts to evaluate inventory for potential excess or obsolescence, rather than on other data points such as Almirall's inventory demand forecasts, which were used in prior periods. This change in emphasis, in combination with Almirall lowering its inventory demand forecast during the quarter ended December 31, 2014, resulted in a write-down of approximately $11.4 million of inventory to an estimated net realizable value of approximately $5.0 million. The increase in cost of revenue due to the write-down of inventory during the year ended December 31, 2014 was partially offset by $1.9 million attributable to lower sales of linaclotide API to our licensing partners outside of the U.S. in the year ended December 31, 2014 compared to the year ended December 31, 2013.

Research and Development Expense. The decrease in research and development expense of approximately $0.5 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to a decrease of approximately $5.5 million in compensation, benefits and other employee-related expenses primarily associated with decreased average headcount, a decrease of approximately $5.0 million related to the development of manufacturing processes and costs associated with linaclotide API prior to meeting our inventory capitalization policy, a decrease of approximately $3.6 million in costs related to the collaboration with Actavis, and a decrease of approximately $1.0 million in research costs related to our early stage pipeline candidates. The decreases were partially offset by an increase of approximately $8.0 million in external costs related to the development of linaclotide, an increase of approximately $3.2 million in operating costs, including information technology infrastructure costs and facility costs such as rent and amortization of leasehold improvements allocated to research and development, an increase in costs of approximately $3.0 million related to our January 2014 workforce reduction, and an increase of approximately $0.4 million in costs related to the collaboration with AstraZeneca.

Selling, General and Administrative Expense. Selling, general and administrative expenses decreased approximately $4.9 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 primarily as a result of an approximately $6.5 million decrease in external consulting and other service costs primarily associated with developing and maintaining the infrastructure to support linaclotide, an approximately $3.6 million decrease in costs associated with selling expenses and marketing programs, an approximately $1.5 million decrease in compensation, benefits and other employee-related expenses associated with decreased average headcount, and an approximately $0.4 million decrease in selling, general and administrative expenses related to facilities and information technology infrastructure costs associated with operating our Cambridge, Massachusetts facility, including rent and amortization of leasehold improvements. The decreases were partially offset by an approximately $5.9 million increase in share-based compensation costs, of which approximately $2.3 million is related to the departure of an executive officer, and an increase in costs of approximately $1.2 million related to our January 2014 workforce reduction.

Collaboration Expense. Collaboration expense decreased approximately $42.1 million for the year ended December 31, 2014 compared to the year ended December 31, 2013, primarily as a result of our share of higher LINZESS net sales in the U.S., which generated a payment from Actavis to us rather than a payment to Actavis.

Other (Expense) Income, Net

	Years Ended December 31,		Change	
	2014	2013	$	%
	(dollars in thousands)			
Other (expense) income:				
Interest expense	$ (21,166)	$ (21,002)	$ (164)	0.8%
Interest and investment income	257	192	65	33.9%
Other income	661	—	661	100%
Total other (expense) income, net	$ (20,248)	$ (20,810)	$ 562	(2.7)%

Interest Expense. Interest expense increased approximately $0.2 million for the year ended December 31, 2014 compared to the year ended December 31, 2013, mainly due to interest associated with capital leases for the automobiles for our field-based sales force and medical science liaisons.

Other Income. The increase in other income of approximately $0.7 million for the year ended December 31, 2014 compared to the year ended December 31, 2013 was primarily related to timing of the recognition of tax incentive awards that were previously received. In the year ended December 31, 2012, we were awarded an approximately $1.7 million tax incentive, associated with the Life Sciences Tax Incentive Program from the Massachusetts Life Sciences Center. During the year ended December 31, 2014, we recognized approximately $0.7 million as other income in the consolidated statement of operations, as we believe we have satisfied our job creation commitments related to this award for 2012 and 2013.

Year Ended December 31, 2013 Compared to Year Ended December 31, 2012

Revenue

	Years Ended December 31,		Change	
	2013	2012	$	%
	(dollars in thousands)			
Collaborative arrangements revenue	$ 22,881	$ 150,245	$ (127,364)	(85)%

Collaborative Arrangements Revenue. The decrease in collaborative arrangements revenue of approximately $127.4 million for the year ended December 31, 2013 compared to the year ended December 31, 2012 was primarily related to an approximately $85.0 million decrease in revenue related to the achievement of milestones under the Actavis collaboration agreement related to the approval of the linaclotide NDAs for both IBS-C and CIC in August 2012, an approximately $33.2 million decrease in the amortization of deferred revenue associated with the development phase of the arrangements with Actavis and Almirall as the performance periods ended in the third quarter of 2012, and an approximately $23.7 million decrease in revenue recognized under the AstraZeneca collaboration agreement primarily associated with revenue recognized upon delivery of the license in 2012. These decreases were partially offset by an approximately $8.0 million increase in revenue from shipments of linaclotide API, primarily to Almirall, an approximately $2.9 million increase in our share of the net profits and net losses from the sale of LINZESS in the U.S., an approximately $1.9 million increase in revenue related to the achievement of certain commercial launch milestones in our arrangement with Almirall (net of foreign tax withholdings), an approximately $1.5 million increase in revenue related to the amortization of deferred revenue associated with the Astellas license agreement due to a change in estimate in the development period, and an approximately $0.2 million increase in royalty revenue based on sales of CONSTELLA in the European territory.

Cost and Expenses

	Years Ended December 31,		Change	
	2013	2012	$	%
	(dollars in thousands)			
Cost and expenses:				
Cost of revenue	$ 7,203	$ 965	$ 6,238	646%
Research and development	102,378	113,474	(11,096)	(10)%
Selling, general and administrative	123,228	92,538	30,690	33%
Collaboration expense	42,074	16,030	26,044	162%
Total cost and expenses	$ 274,883	$ 223,007	$ 51,876	23%

Cost of Revenue. The increase in cost of revenue of approximately $6.2 million for the year ended December 31, 2013 compared to the year ended December 31, 2012 was primarily related to the cost of linaclotide API sold to our licensing partners. We expensed most of the manufacturing costs of linaclotide API as research and development expenses in the periods prior to July 1, 2012. In the third quarter of 2012, we began capitalizing inventory costs for linaclotide API manufactured in preparation for our planned launch in the U.S. and Europe based on our evaluation of, among other factors, the status of linaclotide NDAs in the U.S., the CHMP positive recommendation to grant marketing approval for CONSTELLA in Europe, and the ability of our third-party suppliers to successfully manufacture commercial quantities of linaclotide API, which provided us with reasonable assurance that the net realizable value of the inventory would be recoverable. As of December 31, 2012, the previously expensed commercial API inventory was substantially utilized.

Research and Development Expense. The decrease in research and development expense of approximately $11.1 million for the year ended December 31, 2013 compared to the year ended December 31, 2012 was primarily related to a decrease of approximately $7.9 million in research costs related to our early stage pipeline candidates, an approximately $4.8 million decrease in external costs related to the development of linaclotide, an approximately $2.4 million decrease in operating costs, including facility costs such as rent and amortization of leasehold improvements allocated to research and development, and an approximately $1.6 million decrease in costs related to the collaboration with Actavis. These decreases were partially offset by an increase of approximately $2.8 million in information technology and other operating costs allocated to research and development, an approximately $1.9 million increase in costs related to the collaboration with AstraZeneca, which was executed in October 2012, an approximately $0.6 million increase related to the development of manufacturing processes and costs associated with linaclotide API prior to meeting our inventory capitalization policy, an approximately $0.2 million increase in compensation, benefits, and employee related expenses primarily related to increased average headcount and increased healthcare costs, and an approximately $0.1 million increase in share-based compensation expense primarily related to our new hire grants and our annual stock option grant made in February 2013.

Selling, General and Administrative Expense. Selling, general and administrative expenses increased approximately $30.7 million for the year ended December 31, 2013 compared to the year ended December 31, 2012 primarily as a result of increases in our workforce expenses and infrastructure due to the launch and commercialization of LINZESS in the U.S. These increases include approximately $26.5 million in compensation, benefits and other employee related expenses associated with increased average headcount, primarily due to our field sales force, approximately $9.4 million in costs associated with selling expenses and marketing programs, approximately $4.0 million in selling, general and administrative expenses related to facilities and information technology infrastructure costs associated with operating our Cambridge, Massachusetts facility, including rent and amortization of leasehold improvements; and approximately $2.2 million in share-based compensation expense primarily related

to increased average headcount and our annual stock option grant made in February 2013. These increases were partially offset by an approximately $11.4 million decrease in external consulting and other service costs primarily associated with developing and maintaining the infrastructure to support linaclotide.

Collaboration Expense. Collaboration expense increased approximately $26.0 million for the year ended December 31, 2013 compared to the year ended December 31, 2012, primarily as a result of higher selling, general and administrative expenses incurred by us and Actavis and higher cost of goods sold reported by Actavis under our collaboration agreement, partially offset by our share of higher LINZESS net sales in the U.S.

Other (Expense) Income, Net

	Years Ended December 31,		Change	
	2013	2012	$	%
	(dollars in thousands)			
Other (expense) income:				
Interest expense	$ (21,002)	$ (59)	$ (20,943)	35,497%
Interest and investment income	192	197	(5)	(3)%
Total other (expense) income, net	$ (20,810)	$ 138	$ (20,948)	(15,180)%

Interest Expense. Interest expense increased approximately $20.9 million for the year ended December 31, 2013 compared to the year ended December 31, 2012, primarily due to interest on our $175.0 million in aggregate principal amount notes issued in January 2013.

Liquidity and Capital Resources

We have incurred losses since our inception in 1998 and, as of December 31, 2014, we had an accumulated deficit of approximately $967.5 million. We have financed our operations to date primarily through both the private sale of our preferred stock and the public sale of our common stock, including approximately $203.2 million of net proceeds from our initial public offering, or IPO, in February 2010, and approximately $413.4 million of net proceeds from our follow-on public offerings; payments received under our strategic collaborative arrangements, including upfront and milestone payments as well as reimbursement of certain expenses; debt financings, including approximately $167.3 million of net proceeds from the private placement of our notes in January 2013; and the strategic sale of assets or businesses and interest earned on investments. At December 31, 2014, we had approximately $248.3 million of unrestricted cash, cash equivalents and available-for-sale securities. Our cash equivalents include amounts held in money market funds and U.S. government sponsored securities. Our available-for-sale securities include amounts held in U.S. Treasury securities and U.S. government sponsored securities. We invest cash in excess of immediate requirements in accordance with our investment policy, which limits the amounts we may invest in any one type of investment and requires all investments held by us to be at least A+ rated, with a remaining maturity when purchased of less than twelve months, so as to primarily achieve liquidity and capital preservation.

During the year ended December 31, 2014, our balances of cash, cash equivalents and available-for-sale securities increased approximately $50.7 million. This increase is primarily due to approximately $190.4 million in net proceeds from our follow-on public stock offering in February 2014 and approximately $22.7 million in proceeds from the exercise of stock options and the issuance of shares pursuant to our employee stock purchase plan. These sources of cash were partially offset by the cash used to operate our business, as we made payments related to, among other things, research and development and selling, general and administrative expenses as we continued to invest in our research pipeline and support the continued commercialization of LINZESS in the U.S. We also invested approximately $3.5 million in capital expenditures, made principal payments of approximately $1.2 million on outstanding debt and made payments of $1.0 million on capital lease obligations.

Cash Flows From Operating Activities

Net cash used in operating activities totaled approximately $155.6 million for the year ended December 31, 2014. The primary uses of cash were our net loss of approximately $189.6 million and changes in assets and liabilities of approximately $30.1 million resulting primarily from an increase in related party accounts receivable principally due to higher amounts due from Actavis due to increased profits on the sale of LINZESS, an increase in purchases of linaclotide API, an increase in prepaid expenses and other assets, and an increase in deferred rent. These uses of cash were partially offset by non-cash items of approximately $64.2 million, including approximately $26.2 million in share-based compensation expense, approximately $20.3 million due to the write-down of inventory to net realizable value, approximately $12.3 million in depreciation and amortization expense of property and equipment, approximately $2.6 million in losses on facility subleases, approximately $1.6 million in non-cash interest expense and approximately $1.1 million in accretion of discounts and premiums on available-for-sale securities.

Net cash used in operating activities totaled approximately $273.4 million for the year ended December 31, 2013. The primary uses of cash were our net loss of approximately $272.8 million and changes in assets and liabilities of approximately $35.7 million resulting primarily from a decrease in accounts payable and accrued expenses, including accrued research and development costs due to timing of payments, an increase in inventory for linaclotide API, a decrease in deferred revenue associated with the Astellas license agreement, a decrease in deferred rent and an increase accounts receivable. These uses of cash were partially offset by non-cash items of approximately $35.1 million, including approximately $19.8 million in share-based compensation expense, approximately $11.7 million in depreciation and amortization expense of property and equipment, approximately $1.7 million in non-cash interest expense, approximately $1.3 million in accretion of discounts and premiums on available-for-sale securities and approximately $0.6 million in losses on the disposal of property and equipment.

Net cash used in operating activities totaled approximately $69.6 million for the year ended December 31, 2012. The primary uses of cash were our net loss of approximately $72.6 million and changes in assets and liabilities of approximately $27.1 million resulting primarily from a decrease in deferred revenue associated mainly with the recognition of collaborative arrangements revenue from our Actavis and Almirall agreements, an increase in inventory for linaclotide API manufactured in preparation for its sales launch in the U.S. and Europe, an increase in prepaid expenses and other current assets due to timing of payments, offset by increases in accounts payable and accrued expenses. These uses of cash were partially offset by non-cash items of approximately $30.1 million, including approximately $11.3 million in depreciation and amortization expense of property and equipment, approximately $17.6 million in share-based compensation expense and approximately $1.2 million in accretion of discounts and premiums on available-for-sale securities.

Cash Flows From Investing Activities

Cash used in investing activities for the year ended December 31, 2014 totaled approximately $56.6 million and resulted primarily from the purchase of approximately $254.0 million of available-for-sale securities and the purchase of approximately $3.5 million of property and equipment, primarily manufacturing and laboratory equipment as well as software to improve our information technology infrastructure. This was partially offset by the maturity of approximately $200.9 million in available-for-sale securities.

Cash used in investing activities for the year ended December 31, 2013 totaled approximately $101.4 million and resulted primarily from the purchase of approximately $287.9 million of available-for-sale securities and the purchase of $9.6 million of property and equipment, primarily manufacturing and laboratory equipment as well as software to improve our information technology

infrastructure. This was partially offset by the maturity of approximately $196.1 million in available-for-sale securities.

Cash provided by investing activities for the year ended December 31, 2012 totaled approximately $30.1 million and resulted primarily from the sale and maturity of approximately $140.8 million in available-for-sale securities. This was partially offset by the purchase of approximately $96.7 million of available-for-sale securities and the purchase of approximately $14.0 million of property and equipment, primarily leasehold improvements, associated with the expansion of our Cambridge, Massachusetts facility and software to improve our information technology infrastructure.

Cash Flows From Financing Activities

Cash provided by financing activities for the year ended December 31, 2014 totaled approximately $210.9 million and resulted primarily from approximately $190.4 million in net proceeds from our follow-on public stock offering in the first quarter of 2014 and approximately $22.7 million in cash provided by stock option exercises and the issuance of shares under our employee stock purchase plan, partially offset by approximately $1.2 million in cash used for principal payments on debt and approximately $1.0 million in cash used for payments on our capital leases.

Cash provided by financing activities for the year ended December 31, 2013 totaled approximately $313.6 million and resulted primarily from approximately $167.3 million in net proceeds from our debt financing in January 2013, approximately $137.8 million in net proceeds from our follow-on public stock offering in the second quarter of 2013 and approximately $9.3 million in cash provided by stock option exercises and the issuance of shares under our employee stock purchase plan, partially offset by approximately $0.8 million in cash used for payments on our capital leases.

Cash provided by financing activities for the year ended December 31, 2012 totaled approximately $89.0 million and resulted primarily from approximately $85.2 million in net proceeds from our follow-on public stock offering in February 2012, approximately $4.0 million in cash provided by stock option exercises and the purchase of shares under the employee stock purchase plan, partially offset by approximately $0.3 million in cash used for payments on our capital leases.

Funding Requirements

In August 2012, we received regulatory approval for LINZESS in the U.S. for the treatment of IBS-C or CIC in adults and, in December 2012, commenced our commercial launch with our collaboration partner, Actavis. While we began commercializing LINZESS in the fourth quarter of 2012, our company has not achieved profitability. In November 2012, our European partner, Almirall, received approval for CONSTELLA for the treatment of IBS-C in adults, which is currently being commercialized in certain European countries by Almirall. In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Actavis has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Actavis, Almirall has exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Actavis began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. Our partnership with Actavis requires total net sales of LINZESS in the U.S. to be reduced by commercial costs incurred by each party, and such resulting net profit or net loss attributable to LINZESS is shared equally between us and Actavis. Additionally, we receive royalties based on sales of linaclotide in the European territory, Canada, and Mexico from our partners. We cannot anticipate when, if ever, proceeds generated from sales of LINZESS and CONSTELLA will enable us to become cash flow positive. We anticipate that we will continue to incur substantial expenses for the next several years as we further develop and commercialize linaclotide in the U.S., China and other markets, and continue to invest in our pipeline and potentially other external opportunities. In addition, we are generally required to

make cash expenditures to manufacture linaclotide API in advance of selling it to our collaboration partners and collecting payments for such inventory sales, which may result in significant periodic uses of cash. We believe that our cash on hand as of December 31, 2014 will be sufficient to meet our projected operating needs at least through the next twelve months.

Our forecast of the period of time through which our financial resources will be adequate to support our operations, including the underlying estimates regarding the costs to obtain regulatory approval and the costs to commercialize linaclotide in the U.S., China and other markets, is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially and negatively as a result of a number of factors, including the factors discussed in the "Risk Factors" section of this Annual Report on Form 10-K. We have based our estimates on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect.

Due to the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate precisely the amounts of capital outlays and operating expenditures necessary to complete the development of, and to obtain regulatory approval for, linaclotide (other than in the countries where it is already approved) and our other product candidates, or to commercialize linaclotide and our other product candidates, in each case, for all of the markets, indications, populations and formulations for which we believe each product candidate is suited. Our funding requirements will depend on many factors, including, but not limited to, the following:

- the rate of progress and cost of our commercialization activities;
- the expenses we incur in marketing and selling LINZESS and any other products;
- the revenue generated by sales of LINZESS, CONSTELLA and any other products;
- the success of our third-party manufacturing activities;
- the time and costs involved in developing, and obtaining regulatory approvals for, our product candidates;
- the success of our research and development efforts;
- the emergence of competing or complementary developments;
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights;
- the terms and timing of any additional collaborative, licensing or other arrangements that we may establish; and
- the acquisition of businesses, products and technologies.

Financing Strategy

We may, from time to time, consider additional funding through a combination of new collaborative arrangements, strategic alliances, and additional equity and debt financings or from other sources. We will continue to manage our capital structure and to consider all financing opportunities, whenever they may occur, that could strengthen our long-term liquidity profile. Any such capital transactions may or may not be similar to transactions in which we have engaged in the past. There can be no assurance that any such financing opportunities will also be available on acceptable terms, if at all.

Contractual Commitments and Obligations

Lease and Commercial Supply Obligations

The following table summarizes our lease and commercial supply obligations at December 31, 2014 (excluding interest):

	Payments Due by Period				
	Total	Less Than 1 Year	1–3 Years	3–5 Years	More Than 5 Years
			(in thousands)		
Commercial supply obligations [1]	$ 26,580	$ 5,010	$ 13,980	$ 5,060	$ 2,530
Capital lease obligations [2]	4,182	1,434	2,663	85	—
Operating lease obligations [3]	46,764	14,342	31,787	635	—
Total contractual obligations	$ 77,526	$ 20,786	$ 48,430	$ 5,780	$ 2,530

(1) We have multiple commercial supply agreements with contract manufacturing organizations for the purchase of linaclotide finished drug product and API. The table above reflects our minimum purchase requirements under these commercial supply agreements, as well as any outstanding non-cancellable purchase orders, related to the supply contracts associated with the territories not covered by our collaboration with Actavis. In addition, we and Actavis are jointly obligated to make minimum purchases of linaclotide API for the territories covered by our collaboration with Actavis. Currently, Actavis fulfills all such minimum purchase commitments and, as a result, they are excluded from the table above.

(2) Our commitment for capital lease obligations principally relates to leased automobiles for our field-based sales force and medical science liaisons, and computer and office equipment.

(3) Our commitments for operating leases relate to our lease of office and laboratory space in Cambridge, Massachusetts and our data storage space in Boston, Massachusetts. In the third quarter of 2014, we entered into two arrangements, with the landlord's consent, to sublease a portion of our Cambridge, Massachusetts corporate headquarters. The future minimum lease payments included in this table do not reflect the $1.6 million of sublease rental income that we are entitled to receive through 2016 under the first sublease or the $14.6 million of sublease rental income that we are entitled to receive through 2018 under the second sublease.

Notes Payable

On January 4, 2013, we closed a private placement of $175.0 million in aggregate principal amount of notes due on or before June 15, 2024. The notes bear an annual interest rate of 11%, with interest payable March 15, June 15, September 15 and December 15 of each year (each a "Payment Date") beginning June 15, 2013. On March 15, 2014, we began making quarterly payments on the notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter (the "Synthetic Royalty Amount") and (ii) accrued and unpaid interest on the notes (the "Required Interest Amount"). Principal on the notes will be repaid in an amount equal to the Synthetic Royalty Amount minus the Required Interest Amount, when this is a positive number, until the principal has been paid in full. Given the principal payments on the notes are based on the net sales of LINZESS in the U.S., which will vary from quarter to quarter, the notes may be repaid prior to June 15, 2024, the final legal maturity date. We made principal payments of $1.2 million through December 31, 2014. Since we are unable to reliably estimate the exact timing and amounts of the principal payments, as discussed under "Risk Factors" in Item 1A of this Annual Report on Form 10-K, the notes-related commitments are not included in the table above.

Commitments Related to Our Collaboration and License Agreements

Under our collaborative agreements with Actavis and AstraZeneca, we share with Actavis and AstraZeneca all development and commercialization costs related to linaclotide in the U.S. and China, respectively. The actual amounts that we pay our partners or that partners pay to us will depend on numerous factors outside of our control, including the success of our clinical development efforts with respect to linaclotide, the content and timing of decisions made by the regulators, the reimbursement and competitive landscape around linaclotide and our other product candidates, and other factors described under "Risk Factors" in Item 1A of this Annual Report on Form 10-K.

In addition, we have commitments to make potential future milestone payments under one of our license and collaboration arrangements totaling $23.0 million, which includes $5.0 million for development milestones and $18.0 million for regulatory milestones. We are also committed to make potential future milestone payments of up to $114.5 million per product to one of our collaboration partners, including $21.5 million for development milestones, $58.0 million for regulatory milestones and $35.0 million for sales-based milestones. These milestones primarily include the commencement and results of clinical trials, obtaining regulatory approval in various jurisdictions and the future commercial success of development programs, the outcome and timing of which are difficult to predict and subject to significant uncertainty. In addition to the milestones discussed above, we are obligated to pay royalties on future sales, which are contingent on generating levels of sales of future products that have not been achieved and may never be achieved. Since we are unable to reliably estimate the timing and amounts of such milestone and royalty payments, or whether they will occur at all, these contingent payments have been excluded from the table above. See Note 4, "Collaboration and License Agreements," in the accompanying notes to consolidated financial statements for additional information regarding our license and collaboration arrangements.

Other Funding Commitments

As of December 31, 2014, we have several on-going studies in various clinical trial stages. Our most significant clinical trial expenditures are to CROs. The contracts with CROs generally are cancellable, with notice, at our option and do not have any significant cancellation penalties. These items are not included in the table above.

Off-Balance Sheet Arrangements

We do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, that would have been established for the purpose of facilitating off-balance sheet arrangements (as that term is defined in Item 303(a)(4)(ii) of Regulation S-K) or other contractually narrow or limited purposes. As such, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in those types of relationships. We enter into guarantees in the ordinary course of business related to the guarantee of our own performance and the performance of our subsidiaries.

New Accounting Pronouncements

For a discussion of new accounting pronouncements please refer to Note 2, "Summary of Significant Accounting Policies", to our consolidated financial statements included in this report.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk***

Interest Rate Risk

We are exposed to market risk related to changes in interest rates. We invest our cash in a variety of financial instruments, principally securities issued by the U.S. government and its agencies and

money market instruments. The goals of our investment policy are preservation of capital, fulfillment of liquidity needs and fiduciary control of cash and investments. We also seek to maximize income from our investments without assuming significant risk.

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of interest rates, particularly because our investments are in short-term marketable securities. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 1% change in interest rates would not have a material effect on the fair market value of our portfolio. Accordingly, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on our investment portfolio.

We do not believe our cash, cash equivalents and available-for-sale securities have significant risk of default or illiquidity. While we believe our cash, cash equivalents and available-for-sale securities do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash, cash equivalents and available-for-sale securities at one or more financial institutions that are in excess of federally insured limits. Given the potential instability of financial institutions, we cannot provide assurance that we will not experience losses on these deposits.

Our capital lease and debt obligations bear interest at a fixed rate and therefore have minimal exposure to changes in interest rates; however, because these interest rates are fixed, we may be paying a higher interest rate, relative to market, in the future if our credit rating improves or other circumstances change.

Foreign Currency Risk

We have no significant operations outside the U.S. and we do not expect to be impacted significantly by foreign currency fluctuations.

Effects of Inflation

We do not believe that inflation and changing prices over the years ended December 31, 2014, 2013 and 2012 had a significant impact on our results of operations.

Item 8. ***Consolidated Financial Statements and Supplementary Data***

Our consolidated financial statements, together with the independent registered public accounting firm report thereon, appear at pages F-1 through F-51, of this Annual Report on Form 10-K.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation as of the end of the period covered by this Annual Report on Form 10-K of the effectiveness of the design and operation of our disclosure controls and procedures. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective at the reasonable assurance level in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within

the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of our financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

(1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets;

(2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with the authorizations of management and directors; and

(3) provide reasonable assurance regarding the prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework provided in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2014.

The effectiveness of our internal control over financial reporting as of December 31, 2014 has been audited by Ernst and Young LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

Changes in Internal Control

As required by Rule 13a-15(d) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation of the internal control over financial reporting to determine whether any changes occurred during the quarter ended December 31, 2014 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer concluded no such changes during the quarter ended December 31, 2014 materially affected, or were reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders of Ironwood Pharmaceuticals, Inc.

We have audited Ironwood Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Ironwood Pharmaceuticals, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, Ironwood Pharmaceuticals, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Ironwood Pharmaceuticals, Inc. as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2014 of Ironwood Pharmaceuticals, Inc. and our report dated February 18, 2015 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 18, 2015

Item 9B. ***Other Information***

On February 13, 2015, in connection with its ongoing evaluation of our compensation practices, the Compensation and HR Committee of our Board of Directors, or the Committee, increased the individual bonus target for each of our executive officers from 30% to 50% of his or her base salary, commencing with bonuses payable in 2016 for 2015 performance. Consistent with our current practice, actual bonus achievement will be based upon the percent achievement of our corporate goals for the year and the individual performance of each executive officer, as determined by the Committee.

In addition, on such date, the Committee approved our entry into severance arrangements with each of our executive officers, or the Arrangements. Under the Arrangements, our executive officers are eligible to receive the following benefits in the event of an involuntary termination without Cause or a Constructive Termination (each as defined below), provided the executive officer has complied with all of our rules and policies, executed a separation agreement that includes a release of claims and complies with his or her post-employment obligations of non-disclosure, non-competition and non-solicitation:

- an amount equal to 12 months of his or her current base salary, a pro rata amount of his or her target annual cash incentive award for the current year (pro-rated based on the percentage of the year worked prior to the triggering event), an amount equal to his or her full target annual cash incentive award for the current year, and an amount equal to his or her actual annual cash incentive award for the prior year if such amount has not already been paid to him or her; and

- benefit continuation under the Consolidated Omnibus Budget Reconciliation Act, or COBRA, with Ironwood contributing to the cost of such coverage in the same amount as if the executive officer was actively employed, plus COBRA administrative fees, for 12 months following the triggering event. The executive officers are also eligible to receive outplacement assistance consistent with industry standards.

If the triggering event occurs in connection with a change of control of Ironwood, the Arrangements provide that the executive officer will be entitled to receive the greater of the benefits under his or her Arrangement and the benefits under the change of control severance benefit plan in effect at the time of such termination, on a payment-by-payment and benefit-by-benefit basis. The Arrangements further provide that if, in connection with the sale of all or substantially all of the assets of Ironwood, we will cause the acquirer of such assets to assume the Arrangements.

For purposes of the Arrangements, "Constructive Termination" means termination of employment by the executive officer for Good Reason (as defined below); provided that Constructive Termination shall not include any termination of employment (i) by Ironwood for Cause; (ii) by Ironwood as a result of the permanent disability of the executive officer; (iii) as a result of the death of the executive officer; or (iv) as a result of the voluntary termination of employment by the executive officer for any reason other than Good Reason. "Good Reason" means the occurrence of any of the following conditions: (a) a material diminution in the executive officer's authority, duties or responsibilities; (b) a material diminution in the executive officer's total target cash compensation unless such diminution is in connection with a proportional reduction in compensation for all or substantially all executive officers; or (c) the relocation of the executive officer's work place for Ironwood to a location more than 60 miles from the location of the work place prior to the Constructive Termination. The Arrangements provide that "Cause" has the same meaning as ascribed to the term in our Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan, as most recently in effect prior to the time of termination, which such plan was previously filed as Exhibit 4.1 to the registration statement on Form S-8 filed with the Securities and Exchange Commission on October 12, 2012.

This description of the Arrangements does not purport to be complete and is subject to and qualified in its entirety by reference to the full text thereof. A copy of the form of Executive Severance Agreement to be entered into with each of our executive officers is filed as Exhibit 10.6 hereto and incorporated herein by reference.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

We have adopted a code of business conduct and ethics applicable to our directors, executive officers and all other employees. A copy of that code is available on our corporate website at http://www.ironwoodpharma.com. Any amendments to the code of business conduct and ethics, and any waivers thereto involving our executive officers, also will be available on our corporate website. A printed copy of these documents will be made available upon request. The content on our website is not incorporated by reference into this Annual Report on Form 10-K.

Certain information regarding our executive officers is set forth at the end of Part I, Item 1 of this Form 10-K under the heading, "Executive Officers of the Registrant." The other information required by this item is incorporated by reference from our proxy statement for our 2015 Annual Meeting of Stockholders.

Item 11. *Executive Compensation*

The information required by this item is incorporated by reference from our proxy statement for our 2015 Annual Meeting of Stockholders.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The information relating to security ownership of certain beneficial owners of our common stock and information relating to the security ownership of our management required by this item is incorporated by reference from our proxy statement for our 2015 Annual Meeting of Stockholders.

The table below sets forth information with regard to securities authorized for issuance under our equity compensation plans as of December 31, 2014. As of December 31, 2014, we had four active equity compensation plans, each of which was approved by our stockholders:

- Our Amended and Restated 2002 Stock Incentive Plan;
- Our Amended and Restated 2005 Stock Incentive Plan;
- Our Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan; and
- Our Amended and Restated 2010 Employee Stock Purchase Plan.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants, and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	19,957,773	$ 10.07	10,811,998
Equity compensation plans not approved by security holders	—	—	—
Total	19,957,773	$ 10.07	10,811,998

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information required by this item is incorporated by reference from our proxy statement for our 2015 Annual Meeting of Stockholders.

Item 14. ***Principal Accountant Fees and Services***

The information required by this item is incorporated by reference from our proxy statement for our 2015 Annual Meeting of Stockholders.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) List of documents filed as part of this report

(1) Consolidated Financial Statements listed under Part II, Item 8 and included herein by reference.

(2) Consolidated Financial Statement Schedules

No schedules are submitted because they are not applicable, not required or because the information is included in the Consolidated Financial Statements or Notes to Consolidated Financial Statements.

(3) Exhibits

Number	Description	Incorporated by reference herein	
		Form	Date
3.1	Eleventh Amended and Restated Certificate of Incorporation	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
3.2	Fifth Amended and Restated Bylaws	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
4.1	Specimen Class A common stock certificate	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 20, 2010
4.2	Eighth Amended and Restated Investors' Rights Agreement, dated as of September 1, 2009, by and among Ironwood Pharmaceuticals, Inc., the Founders and the Investors named therein	Registration Statement on Form S-1, as amended (File No. 333-163275)	November 20, 2009
4.3	Indenture, dated as of January 4, 2013, by and between Ironwood Pharmaceuticals, Inc., as issuer of the Notes, and U.S. Bank National Association, as initial trustee of the Notes and as Operating Bank	Form 8-K (File No. 001-34620)	January 8, 2013
10.1#	Amended and Restated 2002 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.2#	Amended and Restated 2005 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 29, 2010
10.3#	Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Registration Statement on Form S-8, as amended (File No. 333-184396)	October 12, 2012

Number	Description	Incorporated by reference herein	
		Form	Date
10.3.1#*	Form of Stock Option Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		
10.3.2#*	Form of Non-employee Director Restricted Stock Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		
10.3.3#*	Form of Restricted Stock Unit Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		
10.4#	Amended and Restated 2010 Employee Stock Purchase Plan	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.5#	Change of Control Severance Benefit Plan, as amended and restated	Quarterly Report on Form 10-Q (File No. 001-34620)	April 29, 2014
10.6#*	Form of Executive Severance Agreement		
10.7#	Director Compensation Plan effective January 1, 2014	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.8#	Form of Indemnification Agreement with Directors and Officers	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.9#*	Consulting Agreement, dated as of December 16, 2014, by and between Christopher Walsh and Ironwood Pharmaceuticals, Inc.		
10.10+	Collaboration Agreement, dated as of September 12, 2007, as amended on November 3, 2009, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.10.1	Amendment No. 2 to the Collaboration Agreement, dated as of January 8, 2013, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013

Number	Description	Incorporated by reference herein	
		Form	Date
10.11+	License Agreement, dated as of April 30, 2009, by and between Almirall, S.A. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.11.1+	Amendment No. 1 to License Agreement, dated as of June 11, 2013, by and between Almirall, S.A. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 8, 2013
10.12+	License Agreement, dated as of November 10, 2009, by and among Astellas Pharma Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.13+	Collaboration Agreement, dated as of October 23, 2012, by and between AstraZeneca AB and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.14+	Commercial Supply Agreement, dated as of June 23, 2010, by and among PolyPeptide Laboratories, Inc. and Polypeptide Laboratories (SWEDEN) AB, Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 10, 2010
10.15+	Commercial Supply Agreement, dated as of March 28, 2011, by and among Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 13, 2011
10.15.1+	Amendment No. 3 to Commercial Supply Agreement, dated as of November 26, 2013, by and between Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.16	Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 12, 2007, as amended on April 9, 2009, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009

Number	Description	Incorporated by reference herein	
		Form	Date
10.16.1	Second Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 9, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
10.16.2	Third Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 1, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.16.3	Fourth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 3, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.16.4	Fifth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 18, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 29, 2012
10.16.5	Sixth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 19, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16.6	Seventh Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 30, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16.7*	Eighth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 8, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		

Number	Description	Incorporated by reference herein	
		Form	Date
10.16.8*	Ninth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 27, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
10.16.9*	Tenth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 21, 2015, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
10.16.10*	Sublease, dated as of July 1, 2014, by and between Biogen Idec MA Inc. and Ironwood Pharmaceuticals, Inc. to Lease for facilities at 301 Binney St., Cambridge, MA, as amended, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
21.1*	Subsidiaries of Ironwood Pharmaceuticals, Inc.		
23.1*	Consent of Independent Registered Public Accounting Firm		
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
32.1‡	Certification of Chief Executive Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
32.2‡	Certification of Chief Financial Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
101.INS*	XBRL Instance Document		

Number	Description	Incorporated by reference herein	
		Form	Date
101.SCH*	XBRL Taxonomy Extension Schema Document		
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document		
101.LAB*	XBRL Taxonomy Extension Label Linkbase Database		
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document		
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document		

* Filed herewith.

‡ Furnished herewith.

\+ Confidential treatment granted under 17 C.F.R. §§200.80(b)(4) and 230.406. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

\# Management contract or compensatory plan, contract, or arrangement.

(b) Exhibits.

The exhibits required by this Item are listed under Item 15(a)(3).

(c) Financial Statement Schedules.

The financial statement schedules required by this Item are listed under Item 15(a)(2).

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on the 18th day of February 2015.

Ironwood Pharmaceuticals, Inc.

By: /s/ PETER M. HECHT

Peter M. Hecht
Chief Executive Officer

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ PETER M. HECHT Peter M. Hecht	Chief Executive Officer and Director *(Principal Executive Officer)*	February 18, 2015
/s/ THOMAS GRANEY Thomas Graney	Chief Financial Officer *(Principal Financial Officer)*	February 18, 2015
/s/ GINA CONSYLMAN Gina Consylman	Vice President, Corporate Controller and Chief Accounting Officer *(Principal Accounting Officer)*	February 18, 2015
/s/ BRYAN E. ROBERTS Bryan E. Roberts	Chairman of the Board	February 18, 2015
/s/ GEORGE H. CONRADES George H. Conrades	Director	February 18, 2015
/s/ JOSEPH C. COOK, JR. Joseph C. Cook, Jr.	Director	February 18, 2015
/s/ DAVID A. EBERSMAN David A. Ebersman	Director	February 18, 2015

Signature	Title	Date
/s/ MARSHA H. FANUCCI Marsha H. Fanucci	Director	February 18, 2015
/s/ TERRANCE G. MCGUIRE Terrance G. McGuire	Director	February 18, 2015
/s/ JULIE H. MCHUGH Julie H. McHugh	Director	February 18, 2015
/s/ EDWARD P. OWENS Edward P. Owens	Director	February 18, 2015
/s/ CHRISTOPHER T. WALSH Christopher T. Walsh	Director	February 18, 2015
/s/ DOUGLAS E. WILLIAMS Douglas E. Williams	Director	February 18, 2015

Index to Consolidated Financial Statements of
Ironwood Pharmaceuticals, Inc.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Ironwood Pharmaceuticals, Inc.

We have audited the accompanying consolidated balance sheets of Ironwood Pharmaceuticals, Inc. as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2014. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Ironwood Pharmaceuticals, Inc. at December 31, 2014 and 2013, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Ironwood Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 18, 2015 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 18, 2015

Ironwood Pharmaceuticals, Inc.

Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	December 31, 2014	December 31, 2013
Assets		
Current assets:		
Cash and cash equivalents	$ 74,297	$ 75,490
Available-for-sale securities	174,037	122,112
Accounts receivable	10	513
Related party accounts receivable, net	25,829	2,700
Inventory	4,954	22,145
Prepaid expenses and other current assets	10,603	6,168
Total current assets	289,730	229,128
Restricted cash	8,147	8,147
Property and equipment, net	29,826	37,376
Other assets	5,810	4,311
Total assets	$ 333,513	$ 278,962
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 9,754	$ 10,139
Related party accounts payable, net	8	48
Accrued research and development costs	3,574	3,412
Accrued expenses	22,612	18,438
Current portion of capital lease obligations	1,152	1,139
Current portion of deferred rent	4,992	2,790
Current portion of deferred revenue	7,191	5,074
Current portion of notes payable	11,258	—
Total current liabilities	60,541	41,040
Capital lease obligations, net of current portion	2,571	3,134
Deferred rent, net of current portion	10,522	8,822
Deferred revenue, net of current portion	8,989	11,416
Notes payable, net of current portion	162,338	174,672
Other liabilities	—	1,653
Commitments and contingencies (Note 4, 10 and 11)		
Stockholders' equity:		
Preferred stock, $0.001 par value, 75,000,000 shares authorized, no shares issued and outstanding	—	—
Class A common stock, $0.001 par value, 500,000,000 shares authorized and 124,915,658 and 102,803,093 shares issued and outstanding at December 31, 2014 and 2013, respectively	125	103
Class B common stock, $0.001 par value, 100,000,000 shares authorized and 15,907,272 and 18,362,037 shares issued and outstanding at December 31, 2014 and 2013, respectively	16	18
Additional paid-in capital	1,055,876	815,930
Accumulated deficit	(967,446)	(777,828)
Accumulated other comprehensive income (loss)	(19)	2
Total stockholders' equity	88,552	38,225
Total liabilities and stockholders' equity	$ 333,513	$ 278,962

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Operations

(In thousands, except per share amounts)

	Years Ended December 31,		
	2014	2013	2012
Collaborative arrangements revenue	$ 76,436	$ 22,881	$ 150,245
Cost and expenses:			
Cost of revenue	25,583	7,203	965
Research and development	101,890	102,378	113,474
Selling, general and administrative	118,333	123,228	92,538
Collaboration expense	—	42,074	16,030
Total cost and expenses	245,806	274,883	223,007
Loss from operations	(169,370)	(252,002)	(72,762)
Other (expense) income:			
Interest expense	(21,166)	(21,002)	(59)
Interest and investment income	257	192	197
Other income	661	—	—
Other (expense) income, net	(20,248)	(20,810)	138
Net loss	$ (189,618)	$ (272,812)	$ (72,624)
Net loss per share—basic and diluted	$ (1.39)	$ (2.35)	$ (0.68)
Weighted average number of common shares used in net loss per share—basic and diluted	136,811	115,852	106,403

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Comprehensive Loss

(In thousands)

	Years Ended December 31,		
	2014	2013	2012
Net loss	$ (189,618)	$ (272,812)	$ (72,624)
Other comprehensive loss:			
Unrealized losses on available-for-sale securities	(21)	(3)	(1)
Total other comprehensive loss	(21)	(3)	(1)
Comprehensive loss	$ (189,639)	$ (272,815)	$ (72,625)

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Stockholders' Equity

(In thousands, except share amounts)

	Class A common stock		Class B common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income (loss)	Total stockholders' equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2011	61,801,770	$ 62	38,914,080	$ 39	$ 542,141	$ (432,392)	$ 6	$ 109,856
Issuance of common stock upon exercise of stock options and employee stock purchase plan	226,658	—	782,955	1	4,019	—	—	4,020
Issuance of common stock awards	2,364	—	—	—	30	—	—	30
Issuance of common stock upon public offering, net of offering costs of $5.9 millior	6,037,500	6	—	—	85,222	—	—	85,228
Conversion of Class B common stock to Class A common stock	10,184,782	10	(10,184,782)	(10)	—	—	—	—
Share-based compensati expense related to issuance of stock options to non-employees	—	—	—	—	60	—	—	60
Share-based compensati expense related to issuance of stock options to employees and employee stock purchase plan	—	—	—	—	17,483	—	—	17,483
Restricted common shares subject to repurchase	—	—	—	—	(7)	—	—	(7)
Restricted common stock no longer subject to repurchase	—	—	—	—	7	—	—	7
Unrealized loss on short-term investments	—	—	—	—	—	—	(1)	(1)
Net loss	—	—	—	—	—	(72,624)	—	(72,624)
Balance at								

December 31, 2012	78,253,074	78	29,512,253	30	648,955	(505,016)	5	144,052
Issuance of common stock upon exercise of stock options and employee stock purchase plan	645,196	1	1,538,887	1	9,295	—	—	9,297
Issuance of common stock awards	10,772	—	—	—	28	—	—	28
Issuance of common stock upon public offering, net of offering costs of $7.9 millior	11,204,948	11	—	—	137,755	—	—	137,766
Conversion of Class B common stock to Class A common stock	12,689,103	13	(12,689,103)	(13)	—	—	—	—
Share-based compensati expense related to issuance of stock options to non-employees	—	—	—	—	272	—	—	272
Share-based compensati expense related to issuance of stock options to employees and employee stock purchase plan	—	—	—	—	19,624	—	—	19,624
Restricted common stock no longer subject to repurchase	—	—	—	—	1	—	—	1
Unrealized loss on short-term investments	—	—	—	—	—	—	(3)	(3)
Net loss	—	—	—	—	—	(272,812)	—	(272,812)

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Stockholders' Equity (Continued)

(In thousands, except share amounts)

	Class A common stock		Class B common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income (loss)	Total stockholders' equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2013	102,803,093	103	18,362,037	18	815,930	(777,828)	2	38,225
Issuance of common stock upon exercise of stock options and employee stock purchase plan	1,705,752	2	1,876,880	2	23,328	—	—	23,332
Issuance of common stock awards	290,843	—	—	—	22	—	—	22
Issuance of common stock upon public offering, net of offering costs of $10.8 millic	15,784,325	16	—	—	190,412	—	—	190,428
Conversion of Class B common stock to Class A common stock	4,331,645	4	(4,331,645)	(4)	—	—	—	—
Share-based compensati expense related to issuance of stock options to non-employees	—	—	—	—	2,618	—	—	2,618
Share-based compensati expense related to issuance of stock options to employees and employee stock purchase plan	—	—	—	—	23,566	—	—	23,566
Unrealized loss on short-term investments	—	—	—	—	—	—	(21)	(21)
Net loss	—	—	—	—	—	(189,618)	—	(189,618)
Balance at December 31, 2014	124,915,658	$ 125	15,907,272	$ 16	$ 1,055,876	$ (967,446)	$ (19)	$ 88,552

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Consolidated Statements of Cash Flows

(In thousands)

	Years Ended December 31,		
	2014	2013	2012
Cash flows from operating activities:			
Net loss	$(189,618)	$(272,812)	$ (72,624)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	12,331	11,729	11,325
Loss on disposal of property and equipment	119	610	20
Share-based compensation expense	26,184	19,829	17,573
Write-down of inventory to net realizable value	20,292	—	—
Loss on facility subleases	2,573	—	—
Accretion of discount/ premium on investment securities	1,085	1,254	1,157
Non-cash interest expense	1,566	1,719	—
Changes in assets and liabilities:			
Accounts receivable and related party accounts receivable	(23,680)	(1,726)	(835)
Restricted cash	—	(500)	—
Prepaid expenses and other current assets	(3,947)	(52)	(5,127)
Inventory	(3,078)	(11,915)	(6,699)
Other assets	(2,876)	116	(145)
Accounts payable and accrued expenses	1,425	(11,724)	24,241
Accrued research and development costs	162	(2,252)	(1,346)
Deferred revenue	744	(4,915)	(36,016)
Deferred rent	1,811	(2,716)	(2,149)
Other liabilities	(661)	—	992
Net cash used in operating activities	(155,568)	(273,355)	(69,633)
Cash flows from investing activities:			
Purchases of available-for-sale securities	(253,995)	(287,943)	(96,709)
Sales and maturities of available-for-sale securities	200,964	196,102	140,757
Purchases of property and equipment	(3,538)	(9,592)	(13,979)
Proceeds from sale of property and equipment	—	—	9
Net cash (used in) provided by investing activities	(56,569)	(101,433)	30,078
Cash flows from financing activities:			
Proceeds from issuance of common stock	190,428	137,766	85,228
Proceeds from issuance of notes payable	—	175,000	—
Costs associated with issuance of notes payable	—	(7,717)	—
Proceeds from exercise of stock options, and shares issued under employee stock purchase plan	22,741	9,297	4,020
Payments on capital lease obligations	(1,062)	(768)	(275)
Principal payments on debt	(1,163)	—	—
Net cash provided by financing activities	210,944	313,578	88,973
Net (decrease) increase in cash and cash equivalents	(1,193)	(61,210)	49,418
Cash and cash equivalents, beginning of period	75,490	136,700	87,282
Cash and cash equivalents, end of period	$ 74,297	$ 75,490	$136,700
Supplemental cash flow disclosure:			
Cash paid for interest	$ 19,606	$ 18,428	$ 55
Non-cash investing activities:			
Purchases under capital leases	$ 766	$ 4,472	$ 247
Fixed assets in accounts payable and accrued expenses	$ 1,592	$ 261	$ 2,146

The accompanying notes are an integral part of these consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements

1. Nature of Business

Ironwood Pharmaceuticals, Inc. (the "Company") is an entrepreneurial pharmaceutical company focused on creating medicines that make a difference for patients, building value to earn the continued support of its fellow shareholders, and empowering its team to passionately pursue excellence. The Company's core strategy is to establish a leading gastrointestinal ("GI") therapeutics company, leveraging its development and commercial capabilities in addressing GI disorders as well as its pharmacologic expertise in guanylate cyclase ("GC") pathways.

The Company has one marketed product, linaclotide, which is available in the United States ("U.S.") and Mexico under the trademarked name LINZESS® and is available in certain European countries and Canada under the trademarked name CONSTELLA®. Linaclotide is also being developed and commercialized in other parts of the world by certain of the Company's partners.

In August 2012, the U.S. Food and Drug Administration ("FDA") approved LINZESS as a once-daily treatment for adult men and women suffering from irritable bowel syndrome with constipation ("IBS-C") or chronic idiopathic constipation ("CIC"). The Company and Forest Laboratories, Inc. ("Forest") began commercializing LINZESS in the U.S. in December 2012. In July 2014, Actavis plc ("Actavis") completed its acquisition of Forest. The collaboration between the companies for the development and commercialization of linaclotide in North America remains in effect.

In November 2012, the European Commission granted marketing authorization to CONSTELLA for the symptomatic treatment of moderate to severe IBS-C in adults. CONSTELLA is the first, and to date, only drug approved in the European Union ("E.U.") for IBS-C. The Company's European partner, Almirall, S.A. ("Almirall"), began commercializing CONSTELLA in Europe in the second quarter of 2013. Currently, CONSTELLA is commercially available in certain European countries, including the United Kingdom, Italy and Spain. In May 2014, Almirall suspended commercialization of CONSTELLA in Germany following an inability to reach agreement with the German National Association of Statutory Health Insurance Funds on a reimbursement price that reflects the innovation and value of CONSTELLA. Almirall is assessing all possibilities to facilitate continued access to CONSTELLA for appropriate patients in Germany.

In December 2013 and February 2014, linaclotide was approved in Canada and Mexico, respectively, as a treatment for adult women and men suffering from IBS-C or CIC. Actavis has exclusive rights to commercialize linaclotide in Canada as CONSTELLA and, through a sublicense from Actavis, Almirall has exclusive rights to commercialize linaclotide in Mexico as LINZESS. In May 2014, Actavis began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico.

Astellas Pharma Inc. ("Astellas"), the Company's partner in Japan, is developing linaclotide for the treatment of patients with IBS-C in its territory. In October 2014, Astellas initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. In October 2012, the Company entered into a collaboration agreement with AstraZeneca AB ("AstraZeneca") to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau, with AstraZeneca having primary responsibility for the local operational execution. In the third quarter of 2013, the Company and AstraZeneca initiated a double-blind, placebo-controlled Phase III clinical trial of linaclotide in adult patients with IBS-C. The Company continues to assess alternatives to bring linaclotide to IBS-C and CIC sufferers in the parts of the world outside of its partnered territories.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

1. Nature of Business (Continued)

The Company and Actavis are also exploring development opportunities to enhance the clinical profile of LINZESS by seeking to expand its utility in its indicated populations, as well as studying linaclotide in additional indications and populations and in new formulations to assess its potential to treat various GI conditions. In November 2014, as part of this strategy, the Company and Actavis initiated a Phase III clinical trial in the U.S. evaluating a 72 mcg dose of linaclotide in adult patients with CIC to provide a broader range of treatment options to physicians and adult CIC patients. In addition to linaclotide-based opportunities, the Company is advancing multiple GI development programs as well as further leveraging the pharmacological expertise in GC pathways that it established through the development of linaclotide, a guanylate cyclase type-C agonists, to advance a second GC program targeting soluble guanylate cyclase ("sGC"). sGC is a validated mechanism with the potential for broad therapeutic utility and multiple opportunities for product development in cardiovascular disease and other indications.

The Company was incorporated in Delaware on January 5, 1998 as Microbia, Inc. On April 7, 2008, the Company changed its name to Ironwood Pharmaceuticals, Inc. To date, the Company has dedicated substantially all of its activities to the research, development and commercialization of linaclotide, as well as to the research and development of its other product candidates. The Company has incurred significant operating losses since its inception in 1998. As of December 31, 2014, the Company had an accumulated deficit of approximately $967.5 million.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Ironwood Pharmaceuticals, Inc. and its wholly owned subsidiaries, Ironwood Pharmaceuticals Securities Corporation and Ironwood Pharmaceuticals GmbH. All intercompany transactions and balances are eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in accordance with U.S. generally accepted accounting principles requires the Company's management to make estimates and judgments that may affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company's management evaluates its estimates, including those related to revenue recognition, available-for-sale securities, inventory valuation and related reserves, impairment of long-lived assets, balance sheet classification of notes payable, income taxes including the valuation allowance for deferred tax assets, research and development expense, contingencies and share-based compensation. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

Cash and Cash Equivalents

The Company considers all highly liquid investment instruments with a remaining maturity when purchased of three months or less to be cash equivalents. Investments qualifying as cash equivalents

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

primarily consist of money market funds and U.S. government-sponsored securities. The carrying amount of cash equivalents approximates fair value. The amount of cash equivalents included in cash and cash equivalents was approximately $61.0 million and approximately $67.3 million at December 31, 2014 and 2013, respectively.

Restricted Cash

The Company is contingently liable under unused letters of credit with a bank, related to the Company's facility lease and automobile lease agreements and credit card arrangements, in the amount of approximately $8.1 million as of December 31, 2014 and 2013. As a result, the Company has restricted cash of approximately $8.1 million as of December 31, 2014 and 2013 securing these letters of credit. The cash will be restricted until the termination of the leases and credit card arrangements.

Available-for-Sale Securities

The Company classifies all short-term investments with a remaining maturity when purchased of greater than three months as available-for-sale. Available-for-sale securities are recorded at fair value, with the unrealized gains and losses reported in other comprehensive income (loss). The amortized cost of debt securities in this category is adjusted for the amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest and investment income. Realized gains and losses, interest, dividends, and declines in value judged to be other than temporary on available-for-sale securities are included in interest and investment income.

The cost of securities sold is based on the specific identification method for purposes of recording realized gains and losses. To determine whether an other-than-temporary impairment exists, the Company considers whether it has the ability and intent to hold the investment until a market price recovery, and whether evidence indicating the recoverability of the cost of the investment outweighs evidence to the contrary. There were no other-than-temporary impairments for the years ended December 31, 2014, 2013 and 2012.

Inventory

Inventory is stated at the lower of cost or market with cost determined under the first-in, first-out basis.

The Company evaluates inventory levels quarterly and any inventory that has a cost basis in excess of its expected net realizable value, inventory that becomes obsolete, inventory in excess of expected sales requirements or inventory that fails to meet commercial sale specifications is written down with a corresponding charge to cost of revenue in the period that the impairment is first identified. The Company performs quarterly reviews of its inventory for potential excess or obsolescence and relies on data from several sources to estimate its net realizable value, including partner forecasts of projected inventory purchases, the Company's internal forecasts and related process, historical sales by geographic region, and the status of and progress toward commercialization of linaclotide in partnered territories. During the year ended December 31, 2014, the Company wrote-down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

throughout Europe. This write-down is more fully described in Note 7, *Inventory* , to these consolidated financial statements.

The Company capitalizes inventories manufactured in preparation for initiating sales of a product candidate when the related product candidate is considered to have a high likelihood of regulatory approval and the related costs are expected to be recoverable through sales of the inventories. In determining whether or not to capitalize such inventories, the Company evaluates, among other factors, information regarding the product candidate's safety and efficacy, the status of regulatory submissions and communications with regulatory authorities and the outlook for commercial sales, including the existence of current or anticipated competitive drugs and the availability of reimbursement. In addition, the Company evaluates risks associated with manufacturing the product candidate, including the ability of the Company's third-party suppliers to complete the validation batches, and the remaining shelf life of the inventories.

Costs associated with developmental products prior to satisfying the inventory capitalization criteria are charged to research and development expense as incurred.

Concentrations of Suppliers

The Company relies on third-party manufacturers and its collaboration partners to manufacture the linaclotide active pharmaceutical ingredient ("API") and final linaclotide drug product. Currently, there are two third-party manufacturers approved for the production of the linaclotide API in three facilities. The Company's collaboration partners, except AstraZeneca in China, (Actavis, Almirall and Astellas) are responsible for drug product manufacturing of linaclotide into finished product for their respective territories. The Company also has an agreement with another independent third party to serve as a second source of drug product manufacturing of linaclotide for its partnered territories. If any of the Company's suppliers were to limit or terminate production or otherwise fail to meet the quality or delivery requirements needed to satisfy the supply commitments, the process of locating and qualifying alternate sources could require up to several months, during which time the Company's production could be delayed. Such delays could have a material adverse effect on the Company's business, financial position and results of operations.

Accounts Receivable and Related Valuation Account

The Company makes judgments as to its ability to collect outstanding receivables and provides an allowance for receivables when collection becomes doubtful. Provisions are made based upon a specific review of all significant outstanding invoices and the overall quality and age of those invoices not specifically reviewed. The Company's receivables primarily relate to amounts reimbursed under its collaboration and license agreements. The Company believes that credit risks associated with these collaborators are not significant. To date, the Company has not had any write-offs of bad debt, and as such, the Company did not have an allowance for doubtful accounts as of December 31, 2014 and 2013.

Concentrations of Credit Risk

Financial instruments that subject the Company to credit risk primarily consist of cash and cash equivalents, restricted cash, available-for-sale securities, and accounts receivable. The Company maintains its cash and cash equivalent balances with high-quality financial institutions and, consequently, the Company believes that such funds are subject to minimal credit risk. The Company's

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

available-for-sale investments primarily consist of U.S. Treasury securities and certain U.S. government sponsored securities and potentially subject the Company to concentrations of credit risk. The Company has adopted an investment policy which limits the amounts the Company may invest in any one type of investment, and requires all investments held by the Company to be at least A+ rated, thereby reducing credit risk exposure.

Accounts receivable, including related party accounts receivable, primarily consist of amounts due under the collaboration agreement with Actavis and the license agreement with Astellas (Note 4) for which the Company does not obtain collateral. Accounts receivable or payable to or from Actavis and Almirall are presented as related party transactions on the consolidated balance sheets as both entities own common stock of the Company.

The percentages of revenue recognized from significant customers of the Company in the years ended December 31, 2014, 2013 and 2012 as well as the account receivable balances, net of any payables due, at December 31, 2014 and 2013 are included in the following table:

	Accounts Receivable December 31,		Revenue Years Ended December 31,		
	2014	2013	2014	2013	2012
Collaborative Partner:					
Actavis	100%	84%	62%	13%	67%
Almirall	—%	—%	10%	57%	14%
Astellas	—%	16%	23%	25%	3%
AstraZeneca	—%	—%	5%	5%	16%

As of December 31, 2014 and 2013, the Company was in a net payable position with AstraZeneca; as such, there was no accounts receivable due from AstraZeneca as of December 31, 2014 or 2013. For the years ended December 31, 2014, 2013 and 2012, no additional customers accounted for more than 10% of the Company's revenue.

Revenue Recognition

The Company's revenue is generated primarily through collaborative research and development and licensing agreements. The terms of these agreements contain multiple deliverables which may include (i) licenses, (ii) research and development activities, including participation on joint steering committees, and (iii) the manufacture of finished drug product, API, or development materials for the collaborative partner which are reimbursed at a contractually determined rate. Non-refundable payments to the Company under these agreements may include (i) up-front license fees, (ii) payments for research and development activities, (iii) payments for the manufacture of finished drug product, API, or development materials, (iv) payments based upon the achievement of certain milestones, and (v) royalties on product sales. Additionally, the Company may receive its share of the net profits or bear its share of the net losses from the sale of linaclotide in the U.S. and China through its collaborations with Actavis and AstraZeneca, respectively.

At December 31, 2014, the Company had collaboration agreements with Actavis and AstraZeneca and license agreements with Almirall and Astellas. Refer to Note 4, "Collaboration and License Agreements," for additional discussion of these agreements.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

The Company recognizes revenue when there is persuasive evidence that an arrangement exists, services have been rendered or delivery has occurred, the price is fixed or determinable, and collection is reasonably assured.

For certain of our arrangements, particularly the license agreement with Almirall, it is required that taxes be withheld on payments to the Company. The Company has adopted a policy to recognize revenue net of these tax withholdings.

Agreements Entered into Prior to January 1, 2011

For arrangements that include multiple deliverables and were entered into prior to January 1, 2011, the Company follows the provisions of the Accounting Standards Codification ("ASC") Topic 605-25, *Revenue Recognition—Multiple-Element Arrangements* ("ASC 605-25"), in accounting for these agreements. Under ASC 605-25, the Company was required to identify the deliverables included within the agreement and evaluate which deliverables represent separate units of accounting. Collaborative research and development and licensing agreements that contained multiple deliverables were divided into separate units of accounting when the following criteria were met:

- Delivered element(s) had value to the collaborator on a standalone basis,
- There was objective and reliable evidence of the fair value of the undelivered obligation(s), and
- If the arrangement included a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) was considered probable and substantially within the Company's control.

The Company allocated arrangement consideration among the separate units of accounting either on the basis of each unit's respective fair value or using the residual method, and applied the applicable revenue recognition criteria to each of the separate units. If the separation criteria were not met, revenue of the combined unit of accounting was recorded based on the method appropriate for the last delivered item.

Up-Front License Fees

The Company recognizes revenue from nonrefundable, up-front license fees on a straight-line basis over the contracted or estimated period of performance, which is typically the period over which the research and development is expected to occur or manufacturing services are expected to be provided. Accordingly, the Company is required to make estimates regarding the drug development and commercialization timelines for drugs and drug candidates being developed pursuant to the applicable agreement. The determination of the length of the period over which to recognize the revenue is subject to judgment and estimation and can have an impact on the amount of revenue recognized in a given period. Quarterly, the Company reassesses its period of substantial involvement over which the Company amortizes its up-front license fees and makes adjustments as appropriate. The Company's estimates regarding the period of performance under its collaborative research and development and licensing agreements have changed in the past and may change in the future. In the event that a license were to be terminated, the Company would recognize as revenue any portion of the up-front fee that had not previously been recorded as revenue, but was classified as deferred revenue at the date of such termination. At December 31, 2014, only a portion of Astellas' up-front license fee remains deferred as

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

the period of performance under the Actavis and Almirall arrangements ended in the quarter ended September 30, 2012.

Agreements Entered into or Materially Modified on or after January 1, 2011

The Company evaluates revenue from new multiple element agreements entered into on or after January 1, 2011 under ASU No. 2009-13, *Multiple-Deliverable Revenue Arrangements* ("ASU 2009-13"). The Company also evaluates whether amendments to its multiple element arrangements are considered material modifications that are subject to the application of ASU 2009-13. This evaluation requires management to assess all relevant facts and circumstances and to make subjective determinations and judgments. As part of this assessment, the Company considers whether the modification results in a material change to the arrangement, including whether there is a change in total arrangement consideration that is more than insignificant, whether there are changes in the deliverables included in the arrangement, whether there is a change in the term of the arrangement and whether there is a significant modification to the delivery schedule for contracted deliverables.

When evaluating multiple element arrangements under ASU 2009-13, the Company considers whether the deliverables under the arrangement represent separate units of accounting. This evaluation requires subjective determinations and requires management to make judgments about the individual deliverables and whether such deliverables are separable from the other aspects of the contractual relationship. In determining the units of accounting, management evaluates certain criteria, including whether the deliverables have standalone value, based on the consideration of the relevant facts and circumstances for each arrangement. Factors considered in this determination include the research, manufacturing and commercialization capabilities of the partner and the availability of peptide research and manufacturing expertise in the general marketplace. In addition, the Company considers whether the collaborator can use the license or other deliverables for their intended purpose without the receipt of the remaining elements, and whether the value of the deliverable is dependent on the undelivered items and whether there are other vendors that can provide the undelivered items.

The consideration received is allocated among the separate units of accounting using the relative selling price method, and the applicable revenue recognition criteria are applied to each of the separate units.

The Company determines the estimated selling price for deliverables using vendor-specific objective evidence ("VSOE") of selling price, if available, third-party evidence ("TPE") of selling price if VSOE is not available, or best estimate of selling price ("BESP") if neither VSOE nor TPE is available. Determining the BESP for a deliverable requires significant judgment. The Company uses BESP to estimate the selling price for licenses to the Company's proprietary technology, since the Company often does not have VSOE or TPE of selling price for these deliverables. In those circumstances where the Company utilizes BESP to determine the estimated selling price of a license to the Company's proprietary technology, the Company considers market conditions as well as entity-specific factors, including those factors contemplated in negotiating the agreements as well as internally developed models that include assumptions related to the market opportunity, estimated development costs, probability of success and the time needed to commercialize a product candidate pursuant to the license. In validating the Company's BESP, the Company evaluates whether changes in the key assumptions used to determine the BESP will have a significant effect on the allocation of arrangement consideration between multiple deliverables.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

At December 31, 2014, the Company has one collaboration agreement with AstraZeneca that is being accounted for under ASU 2009-13.

Up-Front License Fees

When management believes the license to its intellectual property has stand-alone value, the Company generally recognizes revenue attributed to the license upon delivery. When management believes the license to its intellectual property does not have stand-alone value from the other deliverables to be provided in the arrangement, it is combined with other deliverables and the revenue of the combined unit of accounting is recorded based on the method appropriate for the last delivered item.

Milestones

At the inception of each arrangement that includes pre-commercial milestone payments, the Company evaluates whether each pre-commercial milestone is substantive, in accordance with ASU No. 2010-17, *Revenue Recognition—Milestone Method ("* ASU 2010-17"), adopted on January 1, 2011. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. The Company evaluates factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. At December 31, 2014, the Company had no pre-commercial milestones that were deemed substantive. If a substantive pre-commercial milestone is achieved and collection of the related receivable is reasonably assured, the Company recognizes revenue related to the milestone in its entirety in the period in which the milestone is achieved. If the Company were to achieve milestones that are considered substantive under any of the Company's collaborations, the Company may experience significant fluctuations in collaborative arrangements revenue from quarter to quarter and year to year depending on the timing of achieving such substantive milestones. In those circumstances where a pre-commercial milestone is not substantive, the Company recognizes as revenue on the date the milestone is achieved an amount equal to the applicable percentage of the performance period that had elapsed as of the date the milestone was achieved, with the balance being deferred and recognized over the remaining period of performance. Pre-commercial milestone payments received prior to the adoption of ASU 2010-17 continue to be recognized over the remaining period of performance.

Commercial milestones are accounted for as royalties and are recorded as revenue upon achievement of the milestone, assuming all other revenue recognition criteria are met.

Net Profit or Net Loss Sharing

In accordance with ASC 808 Topic, *Collaborative Arrangements* , and ASC 605-45, *Principal Agent Considerations* , the Company considers the nature and contractual terms of the arrangement and the nature of the Company's business operations to determine the classification of the transactions under

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

the Company's collaboration agreements. The Company records revenue transactions gross in the consolidated statements of operations if it is deemed the principal in the transaction, which includes being the primary obligor and having the risks and rewards of ownership.

The Company recognizes its share of the pre-tax commercial net profit or net loss generated from the sales of LINZESS in the U.S. in the period the product sales are reported by Actavis and related cost of goods sold and selling, general and administrative expenses are incurred by the Company and its collaboration partner. These amounts are partially determined based on amounts provided by Actavis and involve the use of estimates and judgments, such as product sales allowances and accruals related to prompt payment discounts, chargebacks, governmental and contractual rebates, wholesaler fees, product returns, and co-payment assistance costs, which could be adjusted based on actual results in the future. The Company is highly dependent on Actavis for timely and accurate information regarding any net revenues realized from sales of LINZESS and the costs incurred in selling it, in order to accurately report its results of operations. For the periods covered in the consolidated financial statements presented, there have been no material changes to prior period estimates of revenues, cost of goods sold or selling, general and administrative expenses associated with the sales of LINZESS in the U.S. However, if the Company does not receive timely and accurate information or incorrectly estimates activity levels associated with the collaboration at a given point in time, the Company could be required to record adjustments in future periods.

The Company records its share of the net profits or net losses from the sales of LINZESS in the U.S. on a net basis and presents the settlement payments to and from Actavis as collaboration expense or collaborative arrangements revenue, as applicable, as the Company is not the primary obligor and does not have the risks and rewards of ownership in the collaboration agreement with Actavis. The Company and Actavis settle the cost sharing quarterly, such that the Company's statement of operations reflects 50% of the pre-tax net profit or loss generated from sales of LINZESS in the U.S. Prior to the fourth quarter of 2012, selling, general and administrative cost-sharing payments were presented within selling, general and administrative expenses. The cost-sharing payments to Actavis for the nine months ended September 30, 2012 were reclassified to conform to the current period's presentation.

Royalties on Product Sales

The Company receives or expects to receive in the future royalty revenues under certain of the Company's license or collaboration agreements. If the Company does not have any future performance obligations under these license or collaborations agreements, the Company records these revenues as earned. To the extent the Company does not have access to the royalty reports from the Company's partners or the ability to accurately estimate the royalty revenue in the period earned, the Company records such royalty revenues one quarter in arrears.

Other

The Company produces finished drug product, API and development materials for certain of its collaborators. The Company recognizes revenue on finished drug product, API and development materials when the material has passed all quality testing required for collaborator acceptance, delivery has occurred, title and risk of loss have transferred to the collaborator, the price is fixed or determinable, and collection is reasonably assured. As it relates to development materials and API

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

produced for Almirall and Astellas, the Company is reimbursed at a contracted rate. Such reimbursements are considered as part of revenue generated pursuant to the Almirall and Astellas license agreements and are presented as collaborative arrangements revenue. Any finished drug product, API and development materials currently produced for Actavis or AstraZeneca are recognized in accordance with the cost-sharing provisions of the Actavis and AstraZeneca collaboration agreements, respectively.

Cost of Revenue

Cost of revenue is recognized upon shipment of linaclotide API to certain of the Company's licensing partners outside of the U.S. and consists of the internal and external costs of producing such API. The costs of API were primarily recorded as research and development expenses in the periods prior to July 1, 2012. In the third quarter of 2012, the Company began capitalizing inventory costs for linaclotide API manufactured in preparation for its launch of linaclotide in the U.S. and Europe based on its evaluation of, among other factors, the status of the LINZESS New Drug Applications ("NDAs") in the U.S., the Committee for Medicinal Products for Human Use positive recommendation to grant marketing approval for CONSTELLA in the E.U., and the ability of the Company's third-party suppliers to successfully manufacture commercial quantities of linaclotide API, which provided the Company with reasonable assurance that the net realizable value of the inventory would be recoverable. As of December 31, 2012, the previously expensed commercial API inventory was substantially utilized.

During the year ending December 31, 2014, the Company wrote-down approximately $20.3 million in inventory to an estimated net realizable value of approximately $5.0 million. This write-down was primarily attributable to Almirall's reduced inventory demand forecasts, mainly due to the suspension of commercialization of CONSTELLA in Germany and a challenging commercial environment throughout Europe. This write-down is more fully described in Note 7, *Inventory* , to these consolidated financial statements.

Research and Development Costs

The Company expenses research and development costs to operations as incurred. The Company defers and capitalizes nonrefundable advance payments made by the Company for research and development activities until the related goods are received or the related services are performed.

Research and development expenses are comprised of costs incurred in performing research and development activities, including salary, benefits and other employee-related expenses; share-based compensation expense; laboratory supplies and other direct expenses; facilities expenses; overhead expenses; third-party contractual costs relating to nonclinical studies and clinical trial activities and related contract manufacturing expenses, development of manufacturing processes and regulatory registration of third-party manufacturing facilities; costs associated with linaclotide API prior to the Company concluding that regulatory approval is probable and that its net realizable value is recoverable; licensing fees for our product candidates; and other outside expenses.

The Company has entered into collaboration agreements with Actavis and AstraZeneca pursuant to which it shares research and development expenses with the collaborators. The Company records expenses incurred under the collaboration arrangements for such work as research and development expense. Because the collaboration arrangements are cost-sharing arrangements, the Company concluded that when there is a period during the collaboration arrangements during which the

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Company receives payments from Actavis or AstraZeneca, the Company records the payments by Actavis or AstraZeneca for their share of the development effort as a reduction of research and development expense. Payments to Actavis or AstraZeneca are recorded as incremental research and development expense.

Selling, General and Administrative Expenses

The Company expenses selling, general and administrative costs to operations as incurred. Selling, general and administrative expense consists primarily of compensation, benefits and other employee-related expenses for personnel in our administrative, finance, legal, information technology, business development, commercial, sales, marketing, communications and human resource functions. Other costs include the legal costs of pursuing patent protection of the Company's intellectual property, general and administrative related facility costs and professional fees for accounting and legal services.

Under the Actavis and AstraZeneca collaboration agreements, the Company is reimbursed for certain selling, general and administrative expenses and it nets these reimbursements against selling, general and administrative expenses as incurred. Payments to Actavis or AstraZeneca are recorded as incremental selling, general and administrative expense.

Beginning in the fourth quarter of 2012, the Company includes Actavis' selling, general and administrative cost-sharing payments in the calculation of the net profits and net losses from the sale of LINZESS in the U.S. and presents the net payment to or from Actavis as collaboration expense or collaborative arrangements revenue, as applicable. The selling, general and administrative cost-sharing payments to Actavis for the nine months ended September 30, 2012 were reclassified to conform to the current presentation.

Share-Based Compensation

The Company's stock-based compensation programs grant awards which have included stock awards, restricted stock, and stock options. Share-based compensation is recognized as an expense in the financial statements based on the grant date fair value over the requisite service period. For awards that vest based on service conditions, the Company uses the straight-line method to allocate compensation expense to reporting periods. The grant date fair value of options granted is calculated using the Black-Scholes option-pricing model, which requires the use of subjective assumptions including volatility and expected term, among others.

The Company records the expense for stock option grants subject to performance-based milestone vesting using the accelerated attribution method over the remaining service period when management determines that achievement of the milestone is probable. Management evaluates when the achievement of a performance-based milestone is probable based on the relative satisfaction of the performance conditions as of the reporting date.

The Company records the expense of services rendered by non-employees based on the estimated fair value of the stock option using the Black-Scholes option-pricing model. The fair value of unvested non-employee awards is remeasured at each reporting period and expensed over the vesting term of the underlying stock options.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

During the quarter ended March 31, 2014, the Company transitioned from a "simplified method" to the use of its historical data when estimating the expected term of stock option grants for purposes of determining stock-based compensation expense. This change did not have a significant impact on the Company's financial position or results of operations for the year ended December 31, 2014.

Patent Costs

The Company incurred and recorded as operating expense legal and other fees related to patents of approximately $1.3 million, approximately $3.2 million, and approximately $3.5 million for the years ended December 31, 2014, 2013 and 2012, respectively. These costs were charged to selling, general and administrative expenses as incurred.

Net Income (Loss) Per Share

The Company calculates basic net income (loss) per common share and diluted net loss per common share by dividing the net income (loss) by the weighted average number of common shares outstanding during the period. Diluted net income per common share is computed by dividing net income by the diluted number of shares outstanding during the period. Except where the result would be antidilutive to net income, diluted net income per share is computed assuming the exercise of common stock options and the vesting of restricted stock (using the treasury stock method), as well as their related income tax effects. The Company allocates undistributed earnings between the classes on a one-to-one basis when computing net income (loss) per share. As a result, basic and diluted net income (loss) per Class A and Class B shares are equivalent.

Property and Equipment

Property and equipment, including leasehold improvements, are recorded at cost, and are depreciated when placed into service using the straight-line method based on their estimated useful lives as follows:

Asset Description	Estimated Useful Life (In Years)
Manufacturing equipment	10
Laboratory equipment	5
Computer and office equipment	3
Furniture and fixtures	7
Software	3

Included in property and equipment are certain costs of software obtained for internal use. Costs incurred during the preliminary project stage are expensed as incurred, while costs incurred during the application development stage are capitalized and amortized over the estimated useful life of the software. The Company also capitalizes costs related to specific upgrades and enhancements when it is probable the expenditures will result in additional functionality. Maintenance and training costs related to software obtained for internal use are expensed as incurred.

Leasehold improvements are amortized over the shorter of the estimated useful life of the asset or the lease term. Capital lease assets are amortized over the lease term. However, if ownership was

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

transferred by the end of the capital lease, or there was a bargain purchase option, such capital lease assets would be amortized over the useful life that would be assigned if such assets were owned.

Costs for capital assets not yet placed into service have been capitalized as construction in progress, and will be depreciated in accordance with the above guidelines once placed into service. Maintenance and repair costs are expensed as incurred.

Income Taxes

The Company provides for income taxes under the liability method. Deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates in effect when the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance to reflect the uncertainty associated with their ultimate realization.

The Company accounts for uncertain tax positions recognized in the consolidated financial statements by prescribing a more-likely-than-not threshold for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return.

Impairment of Long-Lived Assets

The Company regularly reviews the carrying amount of its long-lived assets to determine whether indicators of impairment may exist, which warrant adjustments to carrying values or estimated useful lives. If indications of impairment exist, projected future undiscounted cash flows associated with the asset are compared to the carrying amount to determine whether the asset's value is recoverable. If the carrying value of the asset exceeds such projected undiscounted cash flows, the asset will be written down to its estimated fair value. There were no significant impairments of long-lived assets for the years ended December 31, 2014, 2013 or 2012.

Comprehensive Income (Loss)

Comprehensive income (loss) is defined as the change in equity of a business enterprise during a period from transactions, and other events and circumstances from non-owner sources and currently consists of net loss and changes in unrealized gains and losses on available-for-sale securities.

Segment Information

Operating segments are components of an enterprise for which separate financial information is available and is evaluated regularly by the Company's chief operating decision-maker in deciding how to allocate resources and in assessing performance. The Company currently operates in one reportable business segment—human therapeutics.

Subsequent Events

The Company considers events or transactions that have occurred after the balance sheet date of December 31, 2014, but prior to the filing of the financial statements with the Securities and Exchange Commission to provide additional evidence relative to certain estimates or to identify matters that require additional recognition or disclosure. Subsequent events have been evaluated through the filing of the financial statements accompanying this Annual Report on Form 10-K.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

New Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board ("FASB") or other standard setting bodies that are adopted by the Company as of the specified effective date. The Company did not adopt any new accounting pronouncements during the year ended December 31, 2014 that had a material effect on its consolidated financial statements.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"), which supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, *Revenue Recognition* , and most industry-specific guidance. The new standard requires that an entity recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. The update also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016 and should be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying this update recognized at the date of initial application. The Company is currently evaluating the potential impact that ASU 2014-09 may have on its financial position and results of operations.

No other accounting standards known by the Company to be applicable to it that have been issued or proposed by the FASB or other standard-setting bodies and that do not require adoption until a future date are expected to have a material impact on the Company's consolidated financial statements upon adoption.

3. Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share (in thousands, except per share amounts):

	Years Ended December 31,		
	2014	2013	2012
Numerator:			
Net loss	$ (189,618)	$ (272,812)	$ (72,624)
Denominator:			
Weighted average number of common shares used in net loss per share—basic and diluted	136,811	115,852	106,403
Net loss per share—basic and diluted	$ (1.39)	$ (2.35)	$ (0.68)

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

3. Net Loss Per Share (Continued)

The following potentially dilutive securities have been excluded from the computation of diluted weighted average shares outstanding as they would be anti-dilutive (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Options to purchase common stock	19,958	20,928	19,540
Shares subject to repurchase	99	—	80
	20,057	20,928	19,620

The number of shares issuable under the Company's employee stock purchase plan that were excluded from the calculation of diluted weighted average shares outstanding because their effects would be anti-dilutive was insignificant.

4. Collaboration and License Agreements

At December 31, 2014, the Company had collaboration agreements with Actavis and AstraZeneca, and license agreements with Almirall and Astellas. The following table provides amounts by year included in our consolidated statements of operations as Collaborative arrangements revenue attributable to transactions from these collaborative and license arrangements (in thousands):

	Collaborative Arrangements Revenue Year Ended December 31,		
	2014	2013	2012
Actavis plc	$ 47,682	$ 2,957	$ 100,442
AstraZeneca AB	3,417	1,044	24,710
Almirall, S.A.	7,587	13,103	21,205
Astellas Pharma Inc.	17,750	5,777	3,888
Total collaborative arrangements revenue	$ 76,436	$ 22,881	$ 150,245

Actavis plc

In September 2007, the Company entered into a collaboration agreement with Forest to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in North America. In July 2014, Actavis completed its acquisition of Forest. The collaboration between the companies for the development and commercialization of linaclotide in North America remains in effect. Under the terms of this collaboration agreement, the Company shares equally with Actavis all development costs as well as net profits or losses from the development and sale of linaclotide in the U.S. The Company receives royalties in the mid-teens percent based on net sales in Canada and Mexico. Actavis is solely responsible for the further development, regulatory approval and commercialization of linaclotide in those countries and funding any costs. In September 2012, Actavis sublicensed its commercialization rights in Mexico to Almirall. Actavis made non-refundable, up-front payments totaling $70.0 million to the Company in order to obtain rights to linaclotide in North America. Because the license to jointly develop and commercialize linaclotide did not have a standalone value without research and development activities provided by the Company, the Company

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

recorded the up-front license fee as collaborative arrangements revenue on a straight-line basis through September 30, 2012, the period over which linaclotide was jointly developed under the collaboration. The collaboration agreement also includes contingent milestone payments, as well as a contingent equity investment, based on the achievement of specific development and commercial milestones. At December 31, 2014, $205.0 million in license fees and development milestone payments had been received by the Company, as well as a $25.0 million equity investment in the Company's capital stock. The Company can also achieve up to $100.0 million in a sales related milestone if certain conditions are met.

The collaboration agreement included a contingent equity investment, in the form of a forward purchase contract, which required Actavis to purchase shares of the Company's convertible preferred stock upon achievement of a specific development milestone. At the inception of the arrangement, the Company valued the contingent equity investment and recorded an approximately $9.0 million asset and incremental deferred revenue. The $9.0 million of incremental deferred revenue was recognized as collaborative arrangements revenue on a straight-line basis over the period of the Company's continuing involvement through September 30, 2012. In July 2009, the Company achieved the development milestone triggering the equity investment and reclassified the forward purchase contract as a reduction to convertible preferred stock. On September 1, 2009, the Company issued 2,083,333 shares of convertible preferred stock to Actavis (Note 16).

The Company achieved all six development milestones under this agreement. In September 2008 and July 2009, the Company achieved development milestones which triggered $10.0 million and $20.0 million milestone payments, respectively. These development milestones were recognized as collaborative arrangements revenue through September 2012. In October 2011, the Company achieved two development milestones upon the FDA's acceptance of the linaclotide NDA for both IBS-C and CIC in adults and received milestone payments totaling $20.0 million from Actavis. In August 2012, the Company achieved two additional development milestones upon the FDA's approval of the linaclotide NDAs for both IBS-C and CIC in adults and received milestone payments totaling $85.0 million from Actavis in September 2012, accordingly. In accordance with ASU 2010-17, these four development milestones were recognized as collaborative arrangements revenue in their entirety upon achievement. The remaining milestone payment that could be received from Actavis upon the achievement of sales targets will be recognized as collaborative arrangements revenue as earned.

As a result of the research and development cost-sharing provisions of the collaboration, the Company offset approximately $4.3 million against research and development costs during the year ended December 31, 2014. The Company recognized approximately $2.2 million and approximately $2.1 million in incremental research and development costs during the years ended December 31, 2013 and 2012, respectively, to reflect its obligation under the collaboration to bear half of the development costs incurred by both parties.

The Company receives 50% of the net profits and bears 50% of the net losses from the commercial sale of LINZESS in the U.S.; provided, however, that if either party provides fewer calls on physicians in a particular year than it is contractually required to provide, such party's share of the net profits will be adjusted as stipulated by the collaboration agreement. Net profits or net losses consist of net sales to third-party customers and sublicense income in the U.S. less cost of goods sold as well as selling, general and administrative expenses. Net sales are calculated and recorded by Actavis and may include gross sales net of discounts, rebates, allowances, sales taxes, freight and insurance charges, and

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

other applicable deductions. The Company records its share of the net profits or net losses from the sale of LINZESS on a net basis and presents the settlement payments to and from Actavis as collaboration expense or collaborative arrangements revenue, as applicable. The Company and Actavis began commercializing LINZESS in the U.S. in December 2012.

The Company recognized collaborative arrangements revenue from the Actavis collaboration agreement during the years ended December 31, 2014, 2013 and 2012 as follows (in thousands):

	Year Ended December 31,		
	2014	2013	2012
Collaborative arrangements revenue related to sales of LINZESS [1][2]	$ 47,618	$ 2,914	$ —
Royalty revenue	64	—	—
Pre-commercial collaborative arrangements revenue	—	—	100,442
Sale of API	—	43	—
Total collaborative arrangements revenue	$ 47,682	$ 2,957	$ 100,442

The collaborative arrangements revenue recognized in the years ended December 31, 2014 and 2013 primarily represents the Company's share of the net profits and net losses on the sale of LINZESS in the U.S. The collaborative arrangements revenue recognized in the year ended December 31, 2012 is related to the pre-commercial milestones earned.

The following table presents the amounts recorded by the Company for commercial efforts related to LINZESS in the years ended December 31, 2014, 2013 and 2012 (in thousands):

	Year Ended December 31,		
	2014	2013	2012
Collaborative arrangements revenue [1][2]	$ 47,618	$ 2,914	$ —
Collaboration expense	—	(42,074)	(16,030)
Selling, general and administrative costs incurred by the Company [1]	(31,646)	(33,839)	(5,092)
The Company's share of net profit (loss)	$ 15,972	$ (72,999)	$ (21,122)

(1) Includes only collaborative arrangement revenue or selling, general and administrative costs attributable to the cost-sharing arrangement with Actavis.

(2) Includes net profit share adjustments of approximately $1.7 million recorded during the year ended December 31, 2014, as described above.

In May 2014, Actavis began commercializing CONSTELLA in Canada and in June 2014, Almirall began commercializing LINZESS in Mexico. The Company records royalties on sales of CONSTELLA in Canada and LINZESS in Mexico one quarter in arrears as it does not have access to the royalty reports from its partners or the ability to estimate the royalty revenue in the period earned. The Company recognized approximately $0.1 million of royalty revenues in Canada and Mexico during the year ended December 31, 2014.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

Almirall, S.A.

In April 2009, the Company entered into a license agreement with Almirall to develop and commercialize linaclotide in Europe (including the Commonwealth of Independent States and Turkey) for the treatment of IBS-C, CIC and other GI conditions. Under the terms of the license agreement, Almirall is responsible for the expenses associated with the development and commercialization of linaclotide in the European territory and the Company is required to participate on a joint development committee over linaclotide's development period and a joint commercialization committee while the product is being commercialized.

In May 2009, the Company received an approximately $38.0 million payment from Almirall representing a $40.0 million non-refundable up-front payment net of foreign withholding taxes. The Company elected to record the non-refundable up-front payment net of taxes withheld. The Company recognized the up-front license fee as collaborative arrangements revenue on a straight-line basis through September 30, 2012, the period over which linaclotide was developed under the license agreement.

The license agreement also included a $15.0 million contingent equity investment, in the form of a forward purchase contract, which required Almirall to purchase shares of the Company's convertible preferred stock upon achievement of a specific development milestone. At the inception of the arrangement, the Company valued the contingent equity investment and recorded an approximately $6.0 million asset and incremental deferred revenue. The $6.0 million of incremental deferred revenue was recognized as collaborative arrangements revenue through September 2012. In November 2009, the Company achieved the development milestone triggering the equity investment and reclassified the forward purchase contract as a reduction to convertible preferred stock. On November 13, 2009, the Company received $15.0 million from Almirall for the purchase of 681,819 shares of convertible preferred stock (Note 16).

The original license agreement also included contingent milestone payments that could total up to $40.0 million upon achievement of specific development and commercial launch milestones. In November 2010, the Company achieved a development milestone, which resulted in an approximately $19.0 million payment, representing a $20.0 million milestone, net of foreign withholding taxes. This development milestone was recognized as collaborative arrangements revenue through September 2012. Commercial milestone payments under the original license agreement consisted of $4.0 million due upon the first commercial launch in each of the five major E.U. countries set forth in the agreement.

In June 2013 and February 2014, the Company and Almirall amended the original license agreement. Pursuant to the terms of the amendments, (i) the commercial launch milestones were reduced to $17.0 million; (ii) new sales-based milestone payments were added to the agreement; and (iii) the escalating royalties based on sales of linaclotide were modified such that they begin in the low-twenties percent and escalate to the mid-forties percent through April 2017, and thereafter begin in the mid-twenties percent and escalate to the mid-forties percent at lower sales thresholds. In each case, these royalty payments are reduced by the transfer price paid for the API included in the product actually sold in the Almirall territory and other contractual deductions. The Company concluded that the amendments were a material modification under Accounting Standard Update No. 2009-13, *Multiple-Deliverable Revenue Arrangements* ("ASU No. 2009-13"), but the modification did not have a material impact on the Company's consolidated financial statements. The commercial launch and sales-based milestones are recognized as revenue as earned. The Company records royalties on sales of

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

CONSTELLA one quarter in arrears as it does not have access to the royalty reports from Almirall or the ability to estimate the royalty revenue in the period earned.

During the second quarter of 2013, the Company achieved two milestones under the amended Almirall license agreement, which resulted in payments of approximately $1.9 million from Almirall to the Company related to the commercial launches in two of the five major E.U. countries, the United Kingdom and Germany. The approximately $1.9 million payment represented the two $1.0 million milestones, net of foreign tax withholdings. During the first and second quarters of 2014, the Company achieved two milestones under the amended Almirall license agreement triggering payments of approximately $1.0 million each related to the commercial launches in two additional major E.U. countries, Italy and Spain. Each approximately $1.0 million payment represents the $1.0 million milestone, net of foreign tax withholdings.

The Company recognized approximately $7.6 million in total collaborative arrangements revenue from the Almirall license agreement during the year ended December 31, 2014, including approximately $5.1 million from the sale of API to Almirall, approximately $1.9 million in commercial launch milestones, and approximately $0.6 million in royalty revenue. The Company recognized approximately $13.1 million in total collaborative arrangements revenue from the Almirall license agreement during the year ended December 31, 2013, including approximately $11.1 million from the sale of API to Almirall, approximately $0.2 million in royalty revenue and approximately $1.9 million in commercial launch milestones. The Company recognized approximately $21.2 million in total collaborative arrangements revenue from the Almirall license agreement during the year ended December 31, 2012, including approximately $3.5 million from the sale of API to Almirall, and approximately $17.7 million related to the recognition of the up-front payment, equity investment and a development milestone, each as described above.

Astellas Pharma Inc.

In November 2009, the Company entered into a license agreement with Astellas to develop and commercialize linaclotide for the treatment of IBS-C, CIC and other GI conditions in Japan, South Korea, Taiwan, Thailand, the Philippines and Indonesia. As a result of an amendment executed in March 2013, the Company regained rights to linaclotide in South Korea, Taiwan, Thailand, the Philippines and Indonesia. The Company concluded that the amendment was not a material modification of the license agreement. Astellas continues to be responsible for all activities relating to development, regulatory approval and commercialization in Japan as well as funding any costs and the Company is required to participate on a joint development committee over linaclotide's development period.

In 2009, Astellas paid the Company a non-refundable, up-front licensing fee of $30.0 million, which is being recognized as collaborative arrangements revenue on a straight-line basis over the Company's estimate of the period over which linaclotide will be developed under the license agreement. In March 2013, the Company revised its estimate of the development period from 115 months to 85 months based on the Company's assessment of regulatory approval timelines for Japan. This resulted in the recognition of an additional approximately $1.9 million and approximately $1.5 million of revenue in the years ended December 31, 2014 and 2013, respectively.

The agreement also includes three additional development milestone payments that could total up to $45.0 million, none of which the Company considers substantive. The first milestone payment

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

consists of $15.0 million upon enrollment of the first study subject in a Phase III study for linaclotide in Japan, which was achieved in November 2014 and for which $10.2 million was recognized as revenue during the quarter ended December 31, 2014. The remaining $4.8 million of this milestone payment will be recognized over the remaining development period. The two additional milestone payments consist of $15.0 million upon filing of the Japanese equivalent of an NDA with the relevant regulatory authority in Japan and $15.0 million upon approval of such equivalent by the relevant regulatory authority. In addition, the Company will receive royalties which escalate based on sales volume, beginning in the low-twenties percent, less the transfer price paid for the API included in the product actually sold and other contractual deductions.

At December 31, 2014, approximately $11.4 million of the up-front license fee remains deferred. During the years ended December 31, 2014, 2013 and 2012, the Company recognized approximately $17.7 million, approximately $5.8 million and approximately $3.9 million, respectively, in collaborative arrangements revenue from the Astellas license agreement, including approximately $2.4 million, approximately $1.2 million, and approximately $0.8 million, respectively, from the sale of API to Astellas.

AstraZeneca AB

In October 2012, the Company entered into a collaboration agreement with AstraZeneca (the "AstraZeneca Collaboration Agreement") to co-develop and co-commercialize linaclotide in China, Hong Kong and Macau (the "License Territory"). The collaboration provides AstraZeneca with an exclusive nontransferable license to exploit the underlying technology in the License Territory. The parties share responsibility for continued development and commercialization of linaclotide under a joint development plan and a joint commercialization plan, respectively, with AstraZeneca having primary responsibility for the local operational execution.

The parties agreed to an Initial Development Plan ("IDP") which includes the planned development of linaclotide in China, including the lead responsibility for each activity and the related internal and external costs. The IDP indicates that AstraZeneca is responsible for a multinational Phase III clinical trial (the "Phase III Trial"), the Company is responsible for nonclinical development and supplying clinical trial material and both parties are responsible for the regulatory submission process. The IDP indicates that the party specifically designated as being responsible for a particular development activity under the IDP shall implement and conduct such activities. The activities are governed by a Joint Development Committee ("JDC"), with equal representation from each party. The JDC is responsible for approving, by unanimous consent, the joint development plan and development budget, as well as approving protocols for clinical studies, reviewing and commenting on regulatory submissions, and providing an exchange of data and information.

The AstraZeneca Collaboration Agreement will continue until there is no longer a development plan or commercialization plan in place, however, it can be terminated by AstraZeneca at any time upon 180 days' prior written notice. Under certain circumstances, either party may terminate the AstraZeneca Collaboration Agreement in the event of bankruptcy or an uncured material breach of the other party. Upon certain change in control scenarios of AstraZeneca, the Company may elect to terminate the AstraZeneca Collaboration Agreement and may re-acquire its product rights in a lump sum payment equal to the fair market value of such product rights.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

In connection with the AstraZeneca Collaboration Agreement, the Company and AstraZeneca also executed a co-promotion agreement (the "Co-Promotion Agreement"), pursuant to which the Company utilized its existing sales force to co-promote NEXIUM® (esomeprazole magnesium), one of AstraZeneca's products, in the U.S. The Co-Promotion Agreement expired in May 2014.

There are no refund provisions in the AstraZeneca Collaboration Agreement and the Co-Promotion Agreement (together, the "AstraZeneca Agreements").

Under the terms of the AstraZeneca Collaboration Agreement, the Company received a $25.0 million non-refundable upfront payment upon execution. The Company is also eligible for $125.0 million in additional commercial milestone payments contingent on the achievement of certain sales targets. The parties will also share in the net profits and losses associated with the development and commercialization of linaclotide in the License Territory, with AstraZeneca receiving 55% of the net profits or incurring 55% of the net losses until a certain specified commercial milestone is achieved, at which time profits and losses will be shared equally thereafter.

Activities under the AstraZeneca Agreements were evaluated in accordance with the Accounting Standards Codification ("ASC") Topic 605-25, *Revenue Recognition—Multiple-Element Arrangements* ("ASC 605-25"), to determine if they represented a multiple element revenue arrangement. The Company identified the following deliverables in the AstraZeneca Agreements:

- an exclusive license to develop and commercialize linaclotide in the License Territory (the "License Deliverable"),
- research, development and regulatory services pursuant to the IDP, as modified from time to time (the "R&D Services"),
- JDC services,
- obligation to supply clinical trial material, and
- co-promotion services for AstraZeneca's product (the "Co-Promotion Deliverable").

The License Deliverable is nontransferable and has certain sublicense restrictions. The Company determined that the License Deliverable had standalone value as a result of AstraZeneca's internal product development and commercialization capabilities, which would enable it to use the License Deliverable for its intended purposes without the involvement of the Company. The remaining deliverables were deemed to have standalone value based on their nature and all deliverables met the criteria to be accounted for as separate units of accounting under ASC 605-25. Factors considered in this determination included, among other things, whether any other vendors sell the items separately and if the customer could use the delivered item for its intended purpose without the receipt of the remaining deliverables.

The Company identified the supply of linaclotide drug product for commercial requirements and commercialization services as contingent deliverables because these services are contingent upon the receipt of regulatory approval to commercialize linaclotide in the License Territory, and there were no binding commitments or firm purchase orders pending for commercial supply. As these deliverables are contingent, and are not at an incremental discount, they are not evaluated as deliverables at the inception of the arrangement. These contingent deliverables will be evaluated and accounted for

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

separately as each related contingency is resolved. As of December 31, 2014, no contingent deliverables were provided by the Company under the AstraZeneca Agreements.

In August 2014, the Company and AstraZeneca, through the JDC, modified the IDP and development budget to include approximately $14.0 million in additional activities over the remaining development period, to be shared by the Company and AstraZeneca under the terms of the AstraZeneca Collaboration Agreement. These additional activities serve to support the continued development of linaclotide in the Licensed Territory, including the Phase III Trial. Pursuant to the terms of the modified IDP and development budget, certain of the Company's deliverables were modified, specifically the R&D Services and the obligation to supply clinical trial material. The Company determined that the 2014 modification to the IDP and development budget was a material modification under ASU No. 2009-13 to the AstraZeneca Collaboration Agreement. However, this modification did not have a material impact on the Company's consolidated financial statements as there was an insignificant amount of deferred revenue associated with the AstraZeneca Collaboration Agreement as of the date of the modification. In accordance with ASU No. 2009-13, the Company reallocated the arrangement consideration to all of the identified deliverables in the arrangement (both delivered and undelivered) based on the information available as of the date of the modification.

The total amount of the non-contingent consideration allocable to the AstraZeneca Agreements of approximately $34.0 million ("Arrangement Consideration") includes the $25.0 million non-refundable upfront payment and 55% of the costs for clinical trial material supply services and research, development and regulatory activities allocated to the Company in the IDP or as approved by the JDC in subsequent periods, or approximately $9.0 million.

The Company allocated the Arrangement Consideration of approximately $34.0 million to the non-contingent deliverables based on management's BESP of each deliverable using the relative selling price method as the Company did not have VSOE or TPE of selling price for such deliverables. The Company estimated the BESP for the License Deliverable using a multi-period excess-earnings method under the income approach which utilized cash flow projections, the key assumptions of which included the following market conditions and entity-specific factors: (a) the specific rights provided under the license to develop and commercialize linaclotide; (b) the potential indications for linaclotide pursuant to the license; (c) the likelihood linaclotide will be developed for more than one indication; (d) the stage of development of linaclotide for IBS-C and CIC and the projected timeline for regulatory approval; (e) the development risk by indication; (f) the market size by indication; (g) the expected product life of linaclotide assuming commercialization; (h) the competitive environment, and (i) the estimated development and commercialization costs of linaclotide in the License Territory. The Company utilized a discount rate of 11.5% in its analysis, representing the weighted average cost of capital derived from returns on equity for comparable companies. The Company determined its BESP for the remaining deliverables based on the nature of the services to be performed and estimates of the associated effort and cost of the services adjusted for a reasonable profit margin such that they represented estimated market rates for similar services sold on a standalone basis. The Company concluded that a change in key assumptions used to determine BESP for each deliverable would not have a significant effect on the allocation of the Arrangement Consideration, as the estimated selling price of the License Deliverable significantly exceeds the other deliverables.

Of the approximately $34.0 million of Arrangement Consideration, approximately $29.7 million was allocated to the License Deliverable, approximately $1.8 million to the R&D Services, approximately

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

$0.1 million to the JDC services, approximately $0.3 million to the clinical trial material supply services, and approximately $2.1 million to the Co-Promotion Deliverable in the relative selling price model, at the time of the material modification.

Because the Company shares development costs with AstraZeneca, payments from AstraZeneca with respect to both research and development and selling, general and administrative costs incurred by the Company prior to the commercialization of linaclotide in the License Territory are recorded as a reduction in expense, in accordance with the Company's policy, which is consistent with the nature of the cost reimbursement. Development costs incurred by the Company that pertain to the joint development plan and subsequent amendments to the joint development plan, as approved by the JDC, are recorded as research and development expense as incurred. Payments to AstraZeneca are recorded as incremental research and development expense.

The Company completed its obligations related to the License Deliverable upon execution of the AstraZeneca Agreements; however, the revenue recognized in the statement of operations was limited to the non-contingent portion of the License Deliverable consideration in accordance with ASC 605-25. During the year ended December 31, 2014, and in connection with the modification to the IDP and development budget in August 2014, the Company recognized $2.5 million as collaborative arrangements revenue related to this deliverable as this portion of the Arrangement Consideration was no longer contingent. During the year ended December 31, 2013, the Company did not recognize any amounts in collaborative arrangements revenue related to the License Deliverable. During the year ended December 31, 2012, the Company recognized collaborative arrangements revenue of $24.7 million related to the License Deliverable.

The Company also performs R&D Services and JDC services, and supplies clinical trial materials during the estimated development period. All Arrangement Consideration allocated to such services is being recognized as a reduction of research and development costs, using the proportional performance method, by which the amounts are recognized in proportion to the costs incurred. As a result of the cost-sharing arrangements under the collaboration, the Company recognized approximately $2.4 million in incremental research and development costs during the year ended December 31, 2014, and approximately $1.9 million in incremental research and development costs during the year ended December 31, 2013. Research and development costs incurred during the year ended December 31, 2012 were not significant.

The amount allocated to the Co-Promotion Deliverable was recognized as collaborative arrangements revenue using the proportional performance method, which approximates recognition on a straight-line basis beginning on the date that the Company began to co-promote AstraZeneca's product, through December 31, 2013 (the earliest cancellation date). As of December 31, 2013, the Company completed its obligation related to the Co-Promotion Deliverable; however, the revenue recognized in the statement of operations was limited to the non-contingent consideration in accordance with ASC 605-25. During the year ended December 31, 2014, the Company recognized $0.9 million as collaborative arrangements revenue related to this deliverable as this portion of the Arrangement Consideration was no longer contingent. During the year ended December 31, 2013, the Company recognized approximately $1.0 million in collaborative arrangements revenue related to this deliverable. During the year ended December 31, 2012, the collaborative arrangements revenue related to the Co-Promotion Deliverable was not significant.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

4. Collaboration and License Agreements (Continued)

The Company reassesses the periods of performance for each deliverable at the end of each reporting period.

Milestone payments received from AstraZeneca upon the achievement of sales targets will be recognized as earned.

Other Collaboration and License Agreements

The Company has other collaboration and license agreements that are not individually significant to its business. In connection with entering into these agreements, the Company made aggregate up-front payments of approximately $5.8 million, which were expensed as research and development expense. Pursuant to the terms of one agreement, the Company may be required to pay $7.5 million for development milestones, of which, approximately $2.5 million had been paid as of December 31, 2014, and $18.0 million for regulatory milestones, none of which had been paid as of December 31, 2014. In addition, pursuant to the terms of another agreement, the contingent milestones could total up to $114.5 million per product to one of the Company's collaboration partners, including $21.5 million for development milestones, $58.0 million for regulatory milestones and $35.0 million for sales-based milestones. Further, under such agreements, the Company is also required to fund certain research activities and, if any product related to these collaborations is approved for marketing, to pay significant royalties on future sales. During the years ended December 31, 2014, 2013 and 2012, the Company incurred approximately $1.0 million, approximately $3.6 million and approximately $8.2 million, respectively, in research and development expense associated with the Company's other collaboration and license agreements.

5. Fair Value of Financial Instruments

The tables below present information about the Company's assets that are measured at fair value on a recurring basis as of December 31, 2014 and 2013 and indicate the fair value hierarchy of the valuation techniques the Company utilized to determine such fair value. In general, fair values determined by Level 1 inputs utilize observable inputs such as quoted prices in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs utilize data points that are either directly or indirectly observable, such as quoted prices, interest rates and yield curves. Fair values determined by Level 3 inputs utilize unobservable data points in which there is little or no market data, which require the Company to develop its own assumptions for the asset or liability.

The Company's investment portfolio includes many fixed income securities that do not always trade on a daily basis. As a result, the pricing services used by the Company apply other available information as applicable through processes such as benchmark yields, benchmarking of like securities, sector groupings and matrix pricing to prepare valuations. In addition, model processes were used to assess interest rate impact and develop prepayment scenarios. These models take into consideration relevant credit information, perceived market movements, sector news and economic events. The inputs into these models may include benchmark yields, reported trades, broker-dealer quotes, issuer spreads and other relevant data.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

5. Fair Value of Financial Instruments (Continued)

The following tables present the assets the Company has measured at fair value on a recurring basis (in thousands):

Description	December 31, 2014	Fair Value Measurements at Reporting Date Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents:				
Money market funds	$ 60,966	$ 60,966	$ —	$ —
Available-for-sale securities:				
U.S. Treasury securities	24,005	24,005	—	—
U.S. government-sponsored securities	150,032	—	150,032	—
Total	$ 235,003	$ 84,971	$ 150,032	$ —

Description	December 31, 2013	Fair Value Measurements at Reporting Date Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents:				
Money market funds	$ 59,747	$ 59,747	$ —	$ —
U.S. government-sponsored securities	7,505	—	7,505	—
Available-for-sale securities:				
U.S. Treasury securities	7,253	7,253	—	—
U.S. government-sponsored securities	114,859	—	114,859	—
Total	$ 189,364	$ 67,000	$ 122,364	$ —

There were no transfers between Level 1 and Level 2 of the fair value hierarchy during the years ended December 31, 2014 or 2013.

Cash equivalents, accounts receivable, including related party accounts receivable, prepaid expenses and other current assets, accounts payable, related party accounts payable, accrued expenses and the current portion of capital lease obligations at December 31, 2014 and 2013 are carried at amounts that approximate fair value due to their short-term maturities.

The non-current portion of the capital lease obligations at December 31, 2014 and 2013 approximates fair value as it bears interest at a rate approximating a market interest rate.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

6. Available-for-Sale Securities

The following tables summarize the available-for-sale securities held at December 31, 2014 and 2013 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2014:				
U.S. government-sponsored securities	$ 150,055	$ 2	$ (25)	$ 150,032
U.S. Treasury securities	24,001	4	—	24,005
Total	$ 174,056	$ 6	$ (25)	$ 174,037

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2013:				
U.S. government-sponsored securities	$ 114,857	$ 6	$ (4)	$ 114,859
U.S. Treasury securities	7,253	—	—	7,253
Total	$ 122,110	$ 6	$ (4)	$ 122,112

The contractual maturities of all securities held at December 31, 2014 are one year or less. There were 27 and 12 available-for-sale securities in an unrealized loss position at December 31, 2014 and 2013, respectively, none of which had been in an unrealized loss position for more than twelve months. The aggregate fair value of these securities at December 31, 2014 and 2013 was approximately $101.9 million and approximately $38.7 million, respectively. The Company reviews its investments for other-than-temporary impairment whenever the fair value of an investment is less than amortized cost and evidence indicates that an investment's carrying amount is not recoverable within a reasonable period of time. To determine whether an impairment is other-than-temporary, the Company considers whether it has the ability and intent to hold the investment until a market price recovery and considers whether evidence indicating the cost of the investment is recoverable outweighs evidence to the contrary. The Company does not intend to sell the investments and it is not more likely than not that the Company will be required to sell the investments before recovery of their amortized cost bases, which may be maturity. The Company did not hold any securities with other-than-temporary impairment at December 31, 2014.

There were no sales of available-for-sale securities during the years ended December 31, 2014 and 2013. The proceeds from maturities and sales of available-for-sale securities were approximately $89.8 million and approximately $51.0 million for the year ended December 31, 2012, respectively. Gross realized gains and losses on the sales of available-for-sale securities that have been included in other (expense) income, net unrealized holding gains or losses for the period that have been included in accumulated other comprehensive income as well as gains and losses reclassified out of accumulated other comprehensive income into other (expense) income were not material to the Company's consolidated results of operations. The cost of securities sold or the amount reclassified out of the accumulated other comprehensive income into other (expense) income is based on the specific identification method for purposes of recording realized gains and losses.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

7. Inventory

Inventory consisted of the following (in thousands):

	December 31,	
	2014	2013
Raw materials	$ 4,954	$ 22,145

Inventory at December 31, 2014 and 2013 represents API that is available for commercial sale. The Company writes down the value of its inventory for excess, obsolescence or other net realizable value adjustments to cost of revenue. During the year ended December 31, 2014, $20.3 million was charged to cost of revenue. Leading up to and early in the launch of CONSTELLA throughout Europe, the Company expanded its supply chain for API in order to reduce its reliance on any single supplier in this component of the supply chain. As a result, in connection with this expansion of the supply chain and to avoid shortages of API and possible patient impact, the Company agreed to purchase certain volumes based on higher potential demand levels projected with its European partner, Almirall. During the second quarter of 2014, Almirall reduced its inventory demand forecast, mainly due to the suspension of the commercialization of CONSTELLA in Germany, which led the Company to write down approximately $8.9 million of inventory to net realizable value. During the fourth quarter of 2014, Almirall lowered its inventory demand forecast due to increased commercial challenges throughout Europe, including Germany. Due to this further forecast reduction, and the fact that the Company has better insight into the launch trajectories outside of the U.S. than it did at launch, in the fourth quarter of 2014, the Company began placing additional emphasis on historical sales and its internal long range forecasts to evaluate inventory for potential excess or obsolescence, rather than on other data points such as Almirall's inventory demand forecasts, which were used in prior periods. This change in emphasis, in combination with Almirall lowering its inventory demand forecast during the quarter ended December 31, 2014, resulted in a write down of approximately $11.4 million of inventory to an estimated net realizable value of approximately $5.0 million.

8. Property and Equipment

Property and equipment, net consisted of the following (in thousands):

	December 31,	
	2014	2013
Manufacturing equipment	$ 3,623	$ 2,812
Laboratory equipment	15,126	14,039
Computer and office equipment	5,185	5,202
Furniture and fixtures	2,093	2,365
Software	13,921	12,352
Construction in process	1,457	996
Leased vehicles	4,472	4,472
Leasehold improvements	36,928	36,827
	82,805	79,065
Less accumulated depreciation and amortization	(52,979)	(41,689)
	$ 29,826	$ 37,376

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

8. Property and Equipment (Continued)

As of December 31, 2014 and 2013, substantially all of the Company's manufacturing equipment was located in the United Kingdom at one of the Company's contract manufacturers. All other property and equipment were located in the U.S. for the periods presented.

The Company has entered into capital leases for certain computer, vehicles and office equipment (Note 11). As of December 31, 2014 and 2013, the Company had approximately $5.5 million of assets under capital leases with accumulated amortization balances of approximately $2.0 million and approximately $1.2 million, respectively.

Depreciation and amortization expense of property and equipment, including equipment recorded under capital leases, was approximately $12.3 million for the year ended December 31, 2014. In addition, the Company wrote-down approximately $0.5 million of leasehold improvement assets not utilized by the Company under the terms of its subleases. Depreciation and amortization expense of property and equipment, including equipment recorded under capital leases, was approximately $11.7 million and approximately $11.3 million for the years ended December 31, 2013 and 2012, respectively.

In October 2012, the Company entered into an amendment to its Cambridge, Massachusetts building lease, pursuant to which the term of the lease was extended by 24 months. As a result of this amendment, the Company extended on a prospective basis the period over which it amortizes its leasehold improvements.

9. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	December 31,	
	2014	2013
Salaries and benefits	$ 16,582	$ 13,784
Professional fees	574	531
Accrued interest	850	856
Other	4,606	3,267
	$ 22,612	$ 18,438

10. Notes Payable

On January 4, 2013, the Company closed a private placement of $175.0 million in aggregate principal amount of notes due on or before June 15, 2024. The notes bear an annual interest rate of 11%, with interest payable March 15, June 15, September 15 and December 15 of each year (each a "Payment Date") beginning June 15, 2013. On March 15, 2014, the Company began making quarterly payments on the notes equal to the greater of (i) 7.5% of net sales of LINZESS in the U.S. for the preceding quarter (the "Synthetic Royalty Amount") and (ii) accrued and unpaid interest on the notes (the "Required Interest Amount"). Principal on the notes will be repaid in an amount equal to the Synthetic Royalty Amount minus the Required Interest Amount, when this is a positive number, until the principal has been paid in full. Given the principal payments on the notes are based on the Synthetic Royalty Amount, which will vary from quarter to quarter, the notes may be repaid prior to June 15, 2024, the final legal maturity date. The Company made principal payments of approximately

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

$1.2 million through December 31, 2014, and expects to pay approximately $11.3 million of the principal within twelve months following December 31, 2014.

The notes are secured solely by a security interest in a segregated bank account established to receive the required quarterly payments. Up to the amount of the required quarterly payments under the notes, Actavis will deposit its quarterly profit (loss) sharing payments due to the Company under the collaboration agreement, if any, into the segregated bank account. If the funds deposited by Actavis into the segregated bank account are insufficient to make a required payment of interest or principal on a particular Payment Date, the Company is obligated to deposit such shortfall out of the Company's general funds into the segregated bank account.

The notes may be redeemed at any time prior to maturity, in whole or in part, at the option of the Company. The Company will pay a redemption price equal to the percentage of outstanding principal balance of the notes being redeemed specified below for the period in which the redemption occurs (plus the accrued and unpaid interest to the redemption date on the notes being redeemed):

Payment Dates	Redemption Percentage
From and including January 1, 2014 to and including December 31, 2014	112.00%
From and including January 1, 2015 to and including December 31, 2015	105.50%
From and including January 1, 2016 to and including December 31, 2016	102.75%
From and including January 1, 2017 and thereafter	100.00%

The notes contain certain covenants related to the Company's obligations with respect to the commercialization of LINZESS and the related collaboration agreement with Actavis, as well as certain customary covenants, including covenants that limit or restrict the Company's ability to incur certain liens, merge or consolidate or make dispositions of assets. The notes also specify a number of events of default (some of which are subject to applicable cure periods), including, among other things, covenant defaults, other non-payment defaults, and bankruptcy and insolvency defaults. Upon the occurrence of an event of default, subject to cure periods in certain circumstances, all amounts outstanding may become immediately due and payable.

The upfront cash proceeds of $175.0 million, less a discount of approximately $0.4 million for payment of legal fees incurred on behalf of the noteholders, were recorded as notes payable at issuance. The Company also capitalized approximately $7.3 million of debt issuance costs, which are included in prepaid expenses and other current assets and in other assets on the Company's consolidated balance sheet. The debt issuance costs and discount are being amortized over the estimated term of the obligation using the effective interest method. The repayment provisions represent embedded derivatives that are clearly and closely related to the notes and as such do not require separate accounting treatment.

The accounting for the notes requires the Company to make certain estimates and assumptions about the future net sales of LINZESS in the U.S. LINZESS has been marketed since December 2012 and the estimates of the magnitude and timing of LINZESS net sales are subject to significant variability due to the recent product launch and the extended time period associated with the financing transaction, and thus subject to significant uncertainty. Therefore, these estimates and assumptions are likely to change as the Company gains additional experience marketing LINZESS, which may result in future adjustments to the portion of the debt that is classified as a current liability, the amortization of

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

10. Notes Payable (Continued)

debt issuance costs and discounts as well as the accretion of the interest expense. Any such adjustments could be material to the Company's consolidated financial statements.

The fair value of the notes was estimated to be approximately $182.5 million and $183.8 million as of December 31, 2014 and 2013, respectively, and was determined using Level 3 inputs, including a quoted rate.

11. Commitments and Contingencies

Lease Commitments

The Company leases its facility, offsite data storage location, vehicles and various equipment under leases that expire at varying dates through 2018. Certain of these leases contain renewal options, and require the Company to pay operating costs, including property taxes, insurance, maintenance and other operating expenses.

As of December 31, 2014, the Company rents office and laboratory space at its corporate headquarters in Cambridge, Massachusetts under a non-cancelable operating lease, entered into in January 2007, as amended ("2007 Lease Agreement"). The 2007 Lease Agreement contains various provisions for renewal at the Company's option and, in certain cases, free rent periods and rent escalation tied to the Consumer Price Index. The rent expense, inclusive of the escalating rent payments and free rent periods, is recognized on a straight-line basis over the lease term through January 2018. The Company maintains a letter of credit securing its obligations under the lease agreement of approximately $7.6 million, which is recorded as restricted cash. In addition to rents due under this lease, the Company is obligated to pay facilities charges, including utilities and taxes. In connection with the 2007 Lease Agreement, the Company was provided allowances totaling approximately $22.9 million as reimbursement for financing capital improvements to the facility. The reimbursement amount is recorded as deferred rent on the consolidated balance sheets and is being amortized as a reduction to rent expense over the lease term, as applicable.

In the third quarter of 2014, the Company entered into arrangements, with the landlord's consent, to sublease a portion of its Cambridge, Massachusetts corporate headquarters as it does not intend to use the space for its operations. Under the first sublease, the Company's operating lease obligations through 2018 are partially offset by future sublease payments to it of $16.1 million and under the second sublease, the Company's operating lease obligations through 2016 are partially offset by future sublease payments to it of $1.9 million. During the year ended December 31, 2014, the Company recorded aggregate charges of $2.6 million, which represent its obligations to the landlord associated with the sublet space, net of sublease income due to the Company under the subleases, and a partial write-down of leasehold improvement assets not utilized by the Company under the terms of the subleases.

In 2013, the Company entered into 36-month capital leases for the vehicle fleet for its field-based sales force and medical science liaisons. The capital leases expire at various times through September 2016. At December 31, 2014, the weighted average interest rate on the outstanding capital lease obligations was approximately 7.7%. In accordance with the terms of these arrangements, the Company maintains a letter of credit securing its obligations under the lease agreements of $0.5 million, which is recorded as restricted cash.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

The Company has also entered into capital leases for certain computer and office equipment. These capital leases expire in April 2018. At December 31, 2014, the weighted average interest rate on the outstanding capital lease obligations was approximately 14.5%.

At December 31, 2014, future minimum lease payments under all non-cancelable lease arrangements were as follows (in thousands):

	Operating Lease Payments	Lease Payments to be Received from Subleases	Net Operating Lease Payments	Capital Lease Payments
2015	$ 14,342	$ (4,365)	$ 9,976	$ 1,434
2016	15,617	(5,740)	9,878	2,410
2017	16,170	(5,665)	10,505	253
2018	635	(476)	159	85
Total future minimum lease payments	$ 46,764	$ (16,246)	$ 30,518	$ 4,182
Less: amounts representing interest				(459)
Capital lease obligations at December 31, 2014				3,723
Less: current portion of capital lease obligations				(1,152)
Capital lease obligations, net of current portion				$ 2,571

Rental expense, net of sublease income of $2.6 million, under the operating leases amounted to approximately $10.2 million for the year ended December 31, 2014. Rental expense amounted to approximately $8.8 million and approximately $7.2 million for the years ended December 31, 2013 and 2012, respectively.

Commercial Supply Commitments

The Company has entered into multiple commercial supply agreements for the purchase of linaclotide finished drug product and API. Certain of the agreements contain minimum purchase commitments, the earliest of which commenced in 2012. As of December 31, 2014, the Company's minimum purchase requirements and other firm commitments related to the supply contracts associated with the territories not covered by the collaboration with Actavis were approximately $5.0 million, approximately $6.9 million, approximately $7.0 million, approximately $2.5 million, approximately $2.5 million and approximately $2.5 million for the years ending December 31, 2015, 2016, 2017, 2018, 2019 and thereafter, respectively. In addition, the Company and Actavis are jointly obligated to make minimum purchases of linaclotide API for the territories covered by the Company's collaboration with Actavis. Currently, Actavis fulfills all such minimum purchase commitments and, as a result, they are excluded from the amounts above.

Commitments Related to the Collaboration and License Agreements

Under the collaborative agreements with Actavis and AstraZeneca, the Company shares with Actavis and AstraZeneca all development and commercialization costs related to linaclotide in the U.S. and China, respectively. The actual amounts that the Company pays its partners or that partners pay to the Company will depend on numerous factors outside of the Company's control, including the success of certain clinical development efforts with respect to linaclotide, the content and timing of decisions

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

made by the regulators, the reimbursement and competitive landscape around linaclotide and our other product candidates, and other factors.

In addition, the Company has commitments to make potential future milestone payments to third parties under certain of its license and collaboration arrangements. These milestones primarily include the commencement and results of clinical trials, obtaining regulatory approval in various jurisdictions and the future commercial success of development programs, the outcome and timing of which are difficult to predict and subject to significant uncertainty. In addition to the milestones discussed above, the Company is obligated to pay royalties on future sales, which are contingent on generating levels of sales of future products that have not been achieved and may never be achieved.

See Note 4, "Collaboration and License Agreements," for additional information regarding the license and collaboration arrangements.

Other Funding Commitments

As of December 31, 2014, the Company has several on-going studies in various clinical trial stages. The Company's most significant clinical trial expenditures are to contract research organizations ("CRO"). The contracts with CROs generally are cancellable, with notice, at the Company's option and do not have any significant cancellation penalties.

Guarantees

As permitted under Delaware law, the Company indemnifies its officers and directors for certain events or occurrences while the officer or director is, or was, serving at the Company's request in such capacity. The maximum potential amount of future payments the Company could be required to make is unlimited; however, the Company has directors' and officers' insurance coverage that is intended to limit its exposure and enable it to recover a portion of any future amounts paid.

The Company enters into certain agreements with other parties in the ordinary course of business that contain indemnification provisions. These typically include agreements with directors and officers, business partners, contractors, landlords, clinical sites and customers. Under these provisions, the Company generally indemnifies and holds harmless the indemnified party for losses suffered or incurred by the indemnified party as a result of the Company's activities. These indemnification provisions generally survive termination of the underlying agreement. The maximum potential amount of future payments the Company could be required to make under these indemnification provisions is unlimited. However, to date the Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. As a result, the estimated fair value of these obligations is minimal. Accordingly, the Company had no liabilities recorded for these obligations as of December 31, 2014 and 2013.

Litigation

From time to time, the Company is involved in various legal proceedings and claims, either asserted or unasserted, which arise in the ordinary course of business. While the outcome of these other claims cannot be predicted with certainty, management does not believe that the outcome of any of these ongoing legal matters, individually and in aggregate, will have a material adverse effect on the Company's consolidated financial statements.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Stockholders' Equity

Preferred Stock

The Company's preferred stock may be issued from time to time in one or more series, with each such series to consist of such number of shares and to have such terms as adopted by the board of directors. Authority is given to the board of directors to determine and fix such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitation or restrictions thereof, including without limitation, dividend rights, conversion rights, redemption privileges and liquidation preferences.

Common Stock

The Company has designated two series of common stock, Series A Common Stock, which is referred to as "Class A Common Stock," and Series B Common Stock, which is referred to as "Class B Common Stock." All shares of common stock that were outstanding immediately prior to August 2008 were converted into shares of Class B Common Stock. The holders of Class A Common Stock and Class B Common Stock vote together as a single class. Class A Common Stock is entitled to one vote per share. Class B Common Stock is also entitled to one vote per share with the following exceptions: (1) after the completion of an initial public offering ("IPO") of the Company's stock, the holders of the Class B Common Stock are entitled to ten votes per share if the matter is an adoption of an agreement of merger or consolidation, an adoption of a resolution with respect to the sale, lease, or exchange of the Company's assets or an adoption of dissolution or liquidation of the Company, and (2) Class B common stockholders are entitled to ten votes per share on any matter if any individual, entity, or group seeks to obtain or has obtained beneficial ownership of 30% or more of the Company's outstanding shares of common stock. Class B Common Stock can be sold at any time and irrevocably converts to Class A Common Stock, on a one-for-one basis, upon sale or transfer. The Class B Common Stock is also entitled to a separate class vote for the issuance of additional shares of Class B Common Stock (except pursuant to dividends, splits or convertible securities), or any amendment, alteration or repeal of any provision of the Company's charter. All Class B Common Stock will automatically convert into Class A Common Stock upon the earliest of:

- the later of (1) the first date on which the number of shares of Class B Common Stock then outstanding is less than 19,561,556 which represents 25% of the number of shares of Class B Common Stock outstanding immediately following the completion of the Company's IPO or (2) December 31, 2018;
- December 31, 2038; or
- a date agreed to in writing by a majority of the holders of the Class B Common Stock.

The Company has reserved such number of shares of Class A Common Stock as there are outstanding shares of Class B Common Stock solely for the purpose of effecting the conversion of the Class B Common Stock.

The holders of shares of Class A Common Stock and Class B Common Stock are entitled to dividends if and when declared by the board of directors. In the event that dividends are paid in the form of common stock or rights to acquire common stock, the holders of shares of Class A Common Stock shall receive Class A Common Stock or rights to acquire Class A Common Stock and the holders of shares of Class B Common Stock shall receive Class B Common Stock or rights to acquire Class B Common Stock, as applicable.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

12. Stockholders' Equity (Continued)

In the event of a voluntary or involuntary liquidation, dissolution, distribution of assets, or winding up of the Company, the holders of shares of Class A Common Stock and the holders of shares of Class B Common Stock are entitled to share equally, on a per share basis, in all assets of the Company of whatever kind available for distribution to the holders of common stock.

In February 2012, the Company sold 6,037,500 shares of its Class A common stock through a firm commitment, underwritten public offering at a price to the public of $15.09 per share. As a result of the offering, the Company received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $85.2 million.

During the second quarter of 2013, the Company sold 11,204,948 shares of its Class A common stock through a firm commitment, underwritten public offering at a price to the public of $13.00 per share. As a result of this offering, the Company received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $137.8 million.

In February 2014, the Company sold 15,784,325 shares of its Class A common stock through a firm commitment, underwritten public offering at a price to the public of $12.75 per share. As a result of this offering, the Company received aggregate net proceeds, after underwriting discounts and commissions and other offering expenses, of approximately $190.4 million.

13. Stock Benefit Plans

The following table summarizes the expense recognized for share-based compensation arrangements in the consolidated statements of operations (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Employee stock options	$ 19,373	$ 17,981	$ 16,582
Restricted stock awards	2,671	552	429
Non-employee stock options	2,618	271	60
Employee stock purchase plan	941	995	472
Workforce reduction	551	—	—
Stock award	30	30	30
	$ 26,184	$ 19,829	$ 17,573

Share-based compensation is reflected in the consolidated statements of operations as follows for the years ended December 31, 2014, 2013 and 2012 (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Research and development	$ 9,482	$ 9,178	$ 9,080
Selling, general and administrative	16,702	10,651	8,493
	$ 26,184	$ 19,829	$ 17,573

On November 4, 2014, the Company agreed to accelerate the vesting of all of a former executive officer's outstanding unvested stock options on the executive officer's departure date of December 31,

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

2014, and to allow the exercise of vested stock options for up to two years subsequent to the departure date, or until their expiration, whichever is earlier. These equity modifications resulted in an incremental charge of approximately $2.3 million, which was recorded within selling, general and administrative expenses during the quarter ended December 31, 2014.

Stock Benefit Plans

The Company has two share-based compensation plans pursuant to which awards are currently being made: the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan ("2010 Equity Plan") and the Amended and Restated 2010 Employee Stock Purchase Plan ("2010 Purchase Plan"). The Company also has two share-based compensation plans under which there are outstanding awards, but from which no further awards will be made: the Amended and Restated 2005 Stock Incentive Plan ("2005 Equity Plan") and the Amended and Restated 2002 Stock Incentive Plan ("2002 Equity Plan"). At December 31, 2014, there were 10,811,998 shares available for future grant under all such plans.

2010 Equity Plan

During 2010, the Company's stockholders approved the 2010 Equity Plan under which stock options, restricted stock, restricted stock units, and other stock-based awards may be granted to employees, officers, directors, or consultants of the Company. There were 6,000,000 shares of common stock initially reserved for issuance under the 2010 Equity Plan. The number of shares available for future grant may be increased on the first day of each fiscal year by an amount equal to the lesser of: (i) 6,600,000; (ii) 4% of the number of outstanding shares of common stock on the first day of each fiscal year; and (iii) an amount determined by the board of directors. Awards that are returned to the Company's other equity plans as a result of their expiration, cancellation, termination or repurchase are automatically made available for issuance under the 2010 Equity Plan. At December 31, 2014, there were 9,446,061 shares available for future grant under the 2010 Equity Plan.

2010 Purchase Plan

During 2010, the Company's stockholders approved the 2010 Purchase Plan, which gives eligible employees the right to purchase shares of common stock at the lower of 85% of the fair market value on the first or last day of an offering period. Each offering period is six months. There were 400,000 shares of common stock initially reserved for issuance pursuant to the 2010 Purchase Plan. The number of shares available for future grant under the 2010 Purchase Plan may be increased on the first day of each fiscal year by an amount equal to the lesser of: (i) 1,000,000 shares, (ii) 1% of the Class A shares of common stock outstanding on the last day of the immediately preceding fiscal year, or (iii) such lesser number of shares as is determined by the board of directors. At December 31, 2014, there were 1,335,084 shares available for future grant under the 2010 Purchase Plan.

2005 Equity Plan and 2002 Equity Plan

The 2005 Equity Plan and 2002 Equity Plan provided for the granting of stock options, restricted stock, restricted stock units, and other share-based awards to employees, officers, directors, consultants, or advisors of the Company. At December 31, 2014, there were 30,853 shares available for future grant under the 2005 Equity Plan and no shares available for future grant under the 2002 Equity Plan.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

Restricted Stock

In 2014, the Company granted an aggregate of 288,606 shares of common stock to independent members of the board of directors under restricted stock agreements in accordance with the terms of the 2010 Equity Plan and the Company's director compensation plan, effective in January 2014. These shares of restricted stock vest ratably over the period of service from January 2014 through the Company's 2015 annual meeting of stockholders, provided the individual continues to serve on the Company's board of directors through each vest date. A summary of the unvested shares of restricted stock as of December 31, 2014 is presented below:

	Shares	Weighted-Average Grant Date Fair Value
Unvested at December 31, 2013	—	$ 0.00
Granted	288,606	$ 13.29
Vested	(189,716)	$ 13.04
Forfeited	—	$ 0.00
Unvested at December 31, 2014	98,890	$ 13.77

Stock Options

Stock options granted under the Company's equity plans generally have a ten-year term and vest over a period of four years, provided the individual continues to serve at the Company through the vesting dates. Options granted under all equity plans are exercisable at a price per share not less than the fair market value of the underlying common stock on the date of grant. The estimated fair value of options, including the effect of estimated forfeitures, is recognized over the requisite service period, which is typically the vesting period of each option.

The weighted average assumptions used to estimate the fair value of the stock options using the Black-Scholes option pricing model were as follows for the years ended December 31, 2014, 2013 and 2012:

	Years Ended December 31,		
	2014	2013	2012
Fair value of common stock	$ 13.82	$ 12.57	$ 13.44
Expected volatility	46.84%	46.3%	49.2%
Expected term (in years)	6.10	6.5	6.5
Risk-free interest rate	1.84%	1.6%	1.2%
Expected dividend yield	—%	—%	—%

Prior to February 3, 2010, the Company was not publicly traded and therefore had no trading history. Therefore, the Company has been using a blended volatility rate that blends its own historical volatility with that of comparable public companies. For purposes of identifying comparable companies, the Company selected publicly-traded companies that are in the biopharmaceutical industry, have products or product candidates in similar therapeutic areas and stages of nonclinical and clinical development, have sufficient trading history to derive a historic volatility rate and have similar vesting terms as the Company's options. During the quarter ended March 31, 2014, the Company transitioned

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

from a "simplified method" to the use of its historical data when estimating the expected term of stock option grants for purposes of determining stock-based compensation expense. This change did not have a significant impact on the Company's financial position or results of operations for the year ended December 31, 2014. The risk-free interest rate used for each grant is based on a zero-coupon U.S. Treasury instrument with a remaining term similar to the expected term of the share-based award. The Company has not paid and does not anticipate paying cash dividends on its shares of common stock in the foreseeable future; therefore, the expected dividend yield is assumed to be zero.

The Company's Class B Common Stock is issuable upon exercise of options granted prior to the closing of the Company's IPO under the 2002 Equity Plan and the 2005 Equity Plan, and Class A Common Stock is issuable upon exercise of all options granted after the closing of the Company's IPO under the Company's equity plans. At December 31, 2014, options exercisable into 5,889,160 shares of Class B Common Stock and 14,068,613 shares of Class A Common Stock were outstanding.

Subject to approval by the board of directors, option grantees under the 2002 Equity Plan and the 2005 Equity Plan may have the right to exercise an option prior to vesting. The exercise of these shares is not substantive and as a result, the cash paid for the exercise prices is considered a deposit or prepayment of the exercise price and is recorded as a liability. Amounts received upon the exercise of these shares were not material to the consolidated financial statements at December 31, 2014 and 2013.

The Company, from time to time, issues certain time-accelerated stock options to certain employees. The vesting of these options accelerates upon the achievement of certain performance-based milestones. If these criteria are not met, such options will vest between six and ten years after the date of grant. During the year ended December 31, 2014, 170,000 shares vested as a result of milestone or service period achievements. At December 31, 2014 and 2013, there were 400,000 and 570,000 shares, respectively, issuable under unvested time-accelerated options. When achievement of the milestone is not deemed probable, the Company recognizes compensation expense associated with time-accelerated stock options initially over the vesting period of the respective stock option. When deemed probable of achievement, the Company expenses the remaining unrecognized compensation over the implicit service period. The Company recorded share-based compensation related to these time-accelerated options of $1.2 million, less than $0.1 million and approximately $0.5 million during the years ended December 31, 2014, 2013 and 2012, respectively. At December 31, 2014, the Company had approximately $0.2 million in unrecognized share-based compensation, net of estimated forfeitures, related to these options.

The Company also grants to certain employees performance-based options to purchase shares of common stock. These options are subject to performance-based milestone vesting. During the year ended December 31, 2014, 40,000 shares vested as a result of performance milestone achievements. The Company recorded share-based compensation related to these performance-based options of approximately $0.5 million, approximately $0.1 million and approximately $1.0 million, respectively, during the years ended December 31, 2014, 2013 and 2012. At December 31, 2014, the unrecognized share-based compensation related to these performance-based options was approximately $3.5 million.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

13. Stock Benefit Plans (Continued)

The following table summarizes stock option activity under the Company's share-based compensation plans, including performance-based options:

	Shares of Common Stock Attributable to Options	Weighted-Average Exercise Price	Weighted-Average Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2013	20,927,874	$ 8.87	6.14	$ 71,616
Granted	4,502,800	$ 13.85		
Exercised	(3,343,058)	$ 6.17		
Cancelled	(2,129,843)	$ 12.35		
Outstanding at December 31, 2014	19,957,773	$ 10.07	6.00	$ 104,897
Vested or expected to vest at December 31, 2014	18,610,656	$ 9.99	5.87	$ 99,345
Exercisable at December 31, 2014 (1)	11,570,658	$ 8.57	4.59	$ 78,226

(1) All stock options granted under the 2002 Equity Plan and the 2005 Equity Plan contain provisions allowing for the early exercise of such options into restricted stock. The exercisable shares disclosed above represent those that were vested as of December 31, 2014.

The weighted-average grant date fair value per share of options granted during the years ended December 31, 2014, 2013 and 2012 was $6.47, $5.96 and $6.62, respectively. The total intrinsic value of options exercised during the years ended December 31, 2014, 2013 and 2012 was approximately $26.9 million, $19.7 million, and approximately $8.6 million, respectively. The intrinsic value was calculated as the difference between the fair value of the Company's common stock and the exercise price of the option issued.

As of December 31, 2014, there was approximately $33.7 million of unrecognized share-based compensation, net of estimated forfeitures, related to stock option grants with time-based vesting, which is expected to be recognized over a weighted average period of approximately 2.4 years. As of December 31, 2014, there was approximately $1.0 million of unrecognized share-based compensation, net of estimated forfeitures, related to restricted stock awards, which is expected to be recognized over a weighted average of period of approximately 0.4 years. The total unrecognized share-based compensation cost will be adjusted for future changes in estimated forfeitures.

14. Income Taxes

In general, the Company has not recorded a provision for federal or state income taxes as it has had cumulative net operating losses since inception.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

14. Income Taxes (Continued)

A reconciliation of income taxes computed using the U.S. federal statutory rate to that reflected in operations follows (in thousands):

	Years Ended December 31,		
	2014	2013	2012
Income tax benefit using U.S. federal statutory rate	$ (64,470)	$ (92,756)	$ (24,692)
Permanent differences	1,916	1,413	288
State income taxes, net of federal benefit	(5,632)	(13,684)	(3,835)
Stock-based compensation	3,584	3,830	3,531
Tax credits	(2,652)	(5,089)	(10,420)
Expiring net operating losses and tax credits	3,590	—	564
Effect of change in state tax rate on deferred tax assets and deferred tax liabilities	5,490	1,057	—
Change in the valuation allowance	58,185	105,186	34,577
Other	(11)	43	(13)
	$ —	$ —	$ —

Components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	December 31,	
	2014	2013
Deferred tax assets:		
Net operating loss carryforwards	$ 279,123	$ 231,660
Tax credit carryforwards	32,186	29,533
Capitalized research and development	6,826	11,939
Deferred revenue	4,220	6,433
Other	45,135	29,223
Total deferred tax assets	367,490	308,788
Valuation allowance	(367,490)	(308,788)
Net deferred tax asset	$ —	$ —

Management of the Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. Management has considered the Company's history of operating losses and concluded, in accordance with the applicable accounting standards, that it is more likely than not that the Company may not realize the benefit of its deferred tax assets. Accordingly, the deferred tax assets have been fully reserved at December 31, 2014 and 2013. Management reevaluates the positive and negative evidence on a quarterly basis.

The valuation allowance increased approximately $58.7 million during the year ended December 31, 2014, due primarily to the increase in the net operating loss carryforwards and tax credits. The valuation allowance increased approximately $105.8 million during the year ended December 31, 2013, due primarily to the increase in the net operating loss carryforwards and tax credits.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

14. Income Taxes (Continued)

Subject to the limitations described below, at December 31, 2014 and 2013, the Company has net operating loss carryforwards of approximately $745.6 million and approximately $600.9 million, respectively, to offset future federal taxable income, which expire beginning in 2018 continuing through 2034. The federal net operating loss carryforwards exclude approximately $53.1 million of deductions related to the exercise of stock options. This amount represents an excess tax benefit and has not been included in the gross deferred tax asset reflected for net operating losses. This amount will be recorded as an increase in additional paid in capital on the consolidated balance sheet once the excess benefits are "realized" in accordance with ASC 718, *Compensation—Stock Compensation* ("ASC 718"). As of December 31, 2014 and 2013, the Company had state net operating loss carryforwards of approximately $517.4 million and approximately $545.3 million, respectively, to offset future state taxable income, which have begun to expire and will continue to expire through 2034. The Company also had tax credit carryforwards of approximately $35.1 million and approximately $32.1 million as of December 31, 2014 and 2013, respectively, to offset future federal and state income taxes, which expire at various times through 2034.

Utilization of net operating loss carryforwards and research and development credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that have occurred previously or that could occur in the future in accordance with Section 382 of the Internal Revenue Code of 1986 ("IRC Section 382") and with Section 383 of the Internal Revenue Code of 1986, as well as similar state provisions. These ownership changes may limit the amount of net operating loss carryforwards and research and development credit carryforwards that can be utilized annually to offset future taxable income and taxes, respectively. In general, an ownership change, as defined by IRC Section 382, results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50 percentage points over a three-year period. The Company has completed several financings since its inception which may have resulted in a change in control as defined by IRC Section 382, or could result in a change in control in the future.

The Company applies ASC 740, *Income Taxes* ("ASC 740"). ASC 740 provides guidance on the accounting for uncertainty in income taxes recognized in financial statements and requires the impact of a tax position to be recognized in the financial statements if that position is more likely than not of being sustained by the taxing authority. As a result of the implementation of this guidance, the Company recognized no material adjustment for unrecognized income tax benefits. At December 31, 2014 and 2013, the Company had no unrecognized tax benefits.

The Company will recognize interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2014, 2013 and 2012, the Company had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in the Company's consolidated statements of operations.

The statute of limitations for assessment by the Internal Revenue Service ("IRS") and state tax authorities is open for tax years ended December 31, 2013, 2012 and 2011, although carryforward attributes that were generated prior to tax year 2011 may still be adjusted upon examination by the IRS or state tax authorities if they either have been, or will be, used in a future period. There are currently no federal or state income tax audits in progress.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

15. Defined Contribution Plan

The Ironwood Pharmaceuticals, Inc. 401(k) Savings Plan is a defined contribution plan in the form of a qualified 401(k) plan in which substantially all employees are eligible to participate upon employment. Subject to certain IRS limits, eligible employees may elect to contribute from 1% to 100% of their compensation. Company contributions to the plan are at the sole discretion of the Company's board of directors. Currently, the Company provides a matching contribution of 75% of the employee's contributions, up to $6,000 annually. During the years ended December 31, 2014, 2013 and 2012, the Company recorded approximately $2.6 million, approximately $2.8 million and approximately $1.9 million of expense related to its 401(k) company match, respectively.

16. Related Party Transactions

The Company has and currently obtains legal services from a law firm that is an investor in the Company. The Company paid approximately $0.1 million, approximately $0.1 million and approximately $0.2 million in legal fees to this investor during the years ended December 31, 2014, 2013 and 2012, respectively. At both December 31, 2014 and 2013, the Company had less than $0.1 million of accounts payable due to this related party.

In September 2009, Forest became a related party when the Company sold to Forest 2,083,333 shares of the Company's convertible preferred stock. On July 1, 2014, Actavis became a related party when it completed its acquisition of Forest. In November 2009, Almirall became a related party when the Company sold to Almirall 681,819 shares of the Company's convertible preferred stock (Note 4). These shares of preferred stock converted to the Company's Class B common stock on a 1:1 basis upon the completion of the Company's IPO in February 2010. Amounts due to and due from Actavis and Almirall are reflected as related party accounts payable and related party accounts receivable, respectively. These balances are reported net of any balances due to or from the related party. At December 31, 2014, the Company did not have any related party accounts receivable associated with Almirall and approximately $25.8 million in related party accounts receivable, net of related party accounts payable, associated with Actavis. At December 31, 2013, the Company had less than $0.1 million in related party accounts receivable associated with Almirall and approximately $2.7 million in related party accounts receivable, net of related party accounts payable, associated with Actavis.

17. State Grants

In the years ended December 31, 2012 and 2011, the Company was awarded an approximately $1.7 million and approximately $0.9 million tax incentive, respectively, associated with the Life Sciences Tax Incentive Program from the Massachusetts Life Sciences Center. The program was established in 2008 in order to incentivize life sciences companies to create new sustained jobs in Massachusetts. Jobs must be maintained for at least five years, during which time the grant proceeds can be recovered by the Massachusetts Department of Revenue ("DOR") if the Company does not meet and maintain its job creation commitments. The award received in 2011 was recognized as other income in the consolidated statement of operations in the third quarter of 2011, as the Company believed it had satisfied its job creation commitments. For the approximately $1.7 million in funds received in 2012, the Company believed it had satisfied its job creation commitments for the years 2012 and 2013 and recognized approximately $0.7 million as other income in the consolidated statement of operations for the year ended December 31, 2014. The remaining approximately $1.0 million is recorded as other current liabilities and is expected to be returned to the DOR, as the Company believes it did not satisfy the job creation commitments under the award.

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

18. Workforce Reduction

On January 8, 2014, the Company announced a headcount reduction of approximately 10% to align its workforce with its strategy to grow a leading GI therapeutics company. The field-based sales force and medical science liaison team were excluded from the workforce reduction.

During the three months ended March 31, 2014, the Company substantially completed the implementation of this reduction in workforce and, in accordance with ASC 420, *Exit or Disposal Cost Obligations*, recorded approximately $4.3 million of costs, including employee severance, benefits and related costs. These costs were adjusted to reduce expense by $0.1 million during the three months ended December 31, 2014, and are reflected in the Consolidated Statement of Operations as approximately $3.0 million in research and development expenses and approximately $1.2 million in selling, general and administrative expenses. The Company did not record any additional charges associated with this workforce reduction during the year ended December 31, 2014. All payments related to this reduction in workforce were made by the end of 2014.

The following table summarizes the charges related to the reduction in workforce for the year ended December 31, 2014 (in thousands):

	Charges	Adjustments	Amounts Paid	Non-cash Expense	Amounts Accrued at December 31, 2014
Employee severance, benefits and related costs	$ 4,334	$ (135)	$ (3,648)	$ (551)	$ —
Total	$ 4,334	$ (135)	$ (3,648)	$ (551)	$ —

19. Selected Quarterly Financial Data (Unaudited)

The following table contains quarterly financial information for the years ended December 31, 2014 and 2013. The Company believes that the following information reflects all normal recurring adjustments necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share data)				
2014					
Collaborative arrangements revenue	$ 14,605	$ 6,840	$ 16,918	$ 38,073	$ 76,436
Total cost and expenses	58,992	61,959	53,657	71,198	245,806
Other (expense) income, net	(5,239)	(5,238)	(5,249)	(4,522)	(20,248)
Net loss	(49,626)	(60,357)	(41,988)	(37,647)	(189,618)
Net loss per share—basic and diluted	$ (0.38)	$ (0.44)	$ (0.30)	$ (0.27)	$ (1.39)

Ironwood Pharmaceuticals, Inc.

Notes to Consolidated Financial Statements (Continued)

19. Selected Quarterly Financial Data (Unaudited) (Continued)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share data)				
2013					
Collaborative arrangements revenue	$ 3,255	$ 9,663	$ 4,932	$ 5,031	$ 22,881
Total cost and expenses	92,088	69,543	61,483	51,769	274,883
Other (expense) income, net	(5,069)	(5,269)	(5,224)	(5,248)	(20,810)
Net loss	(93,902)	(65,149)	(61,775)	(51,986)	(272,812)
Net loss per share—basic and diluted	$ (0.87)	$ (0.57)	$ (0.51)	$ (0.43)	$ (2.35)

Exhibit Index

Number	Description	Incorporated by reference herein	
		Form	Date
3.1	Eleventh Amended and Restated Certificate of Incorporation	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
3.2	Fifth Amended and Restated Bylaws	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
4.1	Specimen Class A common stock certificate	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 20, 2010
4.2	Eighth Amended and Restated Investors' Rights Agreement, dated as of September 1, 2009, by and among Ironwood Pharmaceuticals, Inc., the Founders and the Investors named therein	Registration Statement on Form S-1, as amended (File No. 333-163275)	November 20, 2009
4.3	Indenture, dated as of January 4, 2013, by and between Ironwood Pharmaceuticals, Inc., as issuer of the Notes, and U.S. Bank National Association, as initial trustee of the Notes and as Operating Bank	Form 8-K (File No. 001-34620)	January 8, 2013
10.1#	Amended and Restated 2002 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.2#	Amended and Restated 2005 Stock Incentive Plan and form agreements thereunder	Registration Statement on Form S-1, as amended (File No. 333-163275)	January 29, 2010
10.3#	Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan	Registration Statement on Form S-8, as amended (File No. 333-184396)	October 12, 2012
10.3.1#*	Form of Stock Option Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		
10.3.2#*	Form of Non-employee Director Restricted Stock Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		

Number	Description	Incorporated by reference herein	
		Form	Date
10.3.3#*	Form of Restricted Stock Unit Agreement under the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan		
10.4#	Amended and Restated 2010 Employee Stock Purchase Plan	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.5#	Change of Control Severance Benefit Plan, as amended and restated	Quarterly Report on Form 10-Q (File No. 001-34620)	April 29, 2014
10.6#*	Form of Executive Severance Agreement		
10.7#	Director Compensation Plan effective January 1, 2014	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.8#	Form of Indemnification Agreement with Directors and Officers	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.9#*	Consulting Agreement, dated as of December 16, 2014, by and between Christopher Walsh and Ironwood Pharmaceuticals, Inc.		
10.10+	Collaboration Agreement, dated as of September 12, 2007, as amended on November 3, 2009, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.10.1	Amendment No. 2 to the Collaboration Agreement, dated as of January 8, 2013, by and between Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.11+	License Agreement, dated as of April 30, 2009, by and between Almirall, S.A. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010
10.11.1+	Amendment No. 1 to License Agreement, dated as of June 11, 2013, by and between Almirall, S.A. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 8, 2013
10.12+	License Agreement, dated as of November 10, 2009, by and among Astellas Pharma Inc. and Ironwood Pharmaceuticals, Inc.	Registration Statement on Form S-1, as amended (File No. 333-163275)	February 2, 2010

Number	Description	Incorporated by reference herein	
		Form	Date
10.13+	Collaboration Agreement, dated as of October 23, 2012, by and between AstraZeneca AB and Ironwood Pharmaceuticals, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.14+	Commercial Supply Agreement, dated as of June 23, 2010, by and among PolyPeptide Laboratories, Inc. and Polypeptide Laboratories (SWEDEN) AB, Forest Laboratories, Inc. and Ironwood Pharmaceuticals, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	August 10, 2010
10.15+	Commercial Supply Agreement, dated as of March 28, 2011, by and among Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Quarterly Report on Form 10-Q (File No. 001-34620)	May 13, 2011
10.15.1+	Amendment No. 3 to Commercial Supply Agreement, dated as of November 26, 2013, by and between Corden Pharma Colorado, Inc. (f/k/a Roche Colorado Corporation), Ironwood Pharmaceuticals, Inc. and Forest Laboratories, Inc.	Annual Report on Form 10-K (File No. 001-34620)	February 7, 2014
10.16	Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 12, 2007, as amended on April 9, 2009, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Registration Statement on Form S-1, as amended (File No. 333-163275)	December 23, 2009
10.16.1	Second Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 9, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2010
10.16.2	Third Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 1, 2010, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011

Number	Description	Incorporated by reference herein	
		Form	Date
10.16.3	Fourth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of February 3, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	March 30, 2011
10.16.4	Fifth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 18, 2011, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 29, 2012
10.16.5	Sixth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 19, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16.6	Seventh Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 30, 2012, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC	Annual Report on Form 10-K (File No. 001-34620)	February 21, 2013
10.16.7*	Eighth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of July 8, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
10.16.8*	Ninth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of October 27, 2014, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
10.16.9*	Tenth Amendment to Lease for facilities at 301 Binney St., Cambridge, MA, dated as of January 21, 2015, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		

Number	Description	Incorporated by reference herein	
		Form	Date
10.16.10*	Sublease, dated as of July 1, 2014, by and between Biogen Idec MA Inc. and Ironwood Pharmaceuticals, Inc. to Lease for facilities at 301 Binney St., Cambridge, MA, as amended, by and between Ironwood Pharmaceuticals, Inc. and BMR-Rogers Street LLC		
21.1*	Subsidiaries of Ironwood Pharmaceuticals, Inc.		
23.1*	Consent of Independent Registered Public Accounting Firm		
31.1*	Certification of Chief Executive Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
31.2*	Certification of Chief Financial Officer pursuant to Rules 13a-14 or 15d-14 of the Exchange Act		
32.1‡	Certification of Chief Executive Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
32.2‡	Certification of Chief Financial Officer pursuant to Rules 13a-14(b) or 15d-14(b) of the Exchange Act and 18 U.S.C. Section 1350		
101.INS*	XBRL Instance Document		
101.SCH*	XBRL Taxonomy Extension Schema Document		
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document		
101.LAB*	XBRL Taxonomy Extension Label Linkbase Database		
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document		
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document		

* Filed herewith.

‡ Furnished herewith.

+ Confidential treatment granted under 17 C.F.R. §§200.80(b)(4) and 230.406. The confidential portions of this exhibit have been omitted and are marked accordingly. The confidential portions have been provided separately to the SEC pursuant to the confidential treatment request.

Management contract or compensatory plan, contract, or arrangement.

EXHIBIT 10.3.1

IRONWOOD PHARMACEUTICALS, INC.

Stock Option Grant Notice

Stock Option Grant under the
Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan

Name and Address of Participant:
Grant Number:
Plan: 2010 Plan

Ironwood Pharmaceuticals, Inc. (the "Company") hereby grants to the above-named Participant an option to purchase shares of Class A Common Stock of the Company, subject to the additional terms and conditions in the Stock Option Agreement and the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan (the "2010 Plan") which are delivered concurrently herewith and incorporated by reference, as follows:

Date of Grant:
Type of Option:
Total Number of Shares for which this Option is exercisable (the "Shares"):
Exercise Price Per Share:
Vesting Commencement Date:
Option Expiration Date:

Vesting Schedule: This option will become exercisable, or "vest", as follows, provided the Participant is an employee, director or Consultant of the Company or of an Affiliate on the applicable vesting date:

If your option is intended to qualify to the extent possible as an "incentive stock option", or ISO, under the Internal Revenue Code (the "Code") and the Company determines on the grant date, that some, but not all, of your option shares qualify as such because the aggregate fair market value (as determined on the grant date) of your option shares that are exercisable during any calendar year exceeds the $100,000 limit set forth in the Code, your option will be divided and documented as two separate option grants with the same grant date: an ISO for the qualifying shares and a nonqualified stock option for the remainder of the shares. In the event that you have two such related options, for purposes of the vesting schedule set forth above, the word "Shares" means the sum of your ISO shares and the corresponding nonqualified shares. The number of shares exercisable under each option is displayed in your E*Trade stock plan account.

By your acceptance of this Stock Option Grant, you acknowledge receipt of this Stock Option Grant Notice, the Stock Option Agreement, the 2010 Plan (collectively, the "Grant Documents") and the prospectus for the 2010 Plan, and you further agree to be bound by all of the terms and conditions of the Grant Documents.

IRONWOOD PHARMACEUTICALS, INC.

By: _____
Name: _____
Title: _____

IRONWOOD PHARMACEUTICALS, INC.

STOCK OPTION AGREEMENT - INCORPORATED TERMS AND CONDITIONS

AGREEMENT made as of the date of grant set forth in the Stock Option Grant Notice between Ironwood Pharmaceuticals, Inc. (the "Company"), a Delaware corporation, and the individual whose name appears on the Stock Option Grant Notice (the "Participant").

WHEREAS, the Company desires to grant to the Participant an Option to purchase shares of its Class A Common Stock, $0.001 par value per share (the "Shares"), under and for the purposes set forth in the Company's Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan (the "Plan");

WHEREAS, the Company and the Participant understand and agree that any terms used and not defined herein have the same meanings as in the Plan; and

WHEREAS, the Company and the Participant each intend that the Option granted herein shall be of the type set forth in the Stock Option Grant Notice.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and for other good and valuable consideration, the parties hereto agree as follows:

1. GRANT OF OPTION .

The Company hereby grants to the Participant the right and option to purchase all or any part of an aggregate of the number of Shares set forth in the Stock Option Grant Notice, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Participant acknowledges receipt of a copy of the Plan.

2. EXERCISE PRICE .

The exercise price of the Shares covered by the Option shall be the amount per Share set forth in the Stock Option Grant Notice, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares after the date hereof (the "Exercise Price"). Payment shall be made in accordance with Paragraph 9 of the Plan.

3. EXERCISABILITY OF OPTION .

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable as set forth in the Stock Option Grant Notice and is subject to the other terms and conditions of this Agreement and the Plan.

4. TERM OF OPTION .

This Option shall terminate ten years from the date of this Agreement or, if this Option is designated in the Stock Option Grant Notice as an ISO and the Participant owns as of the date hereof more than 10% of the total combined voting power of all classes of capital stock of the Company or an Affiliate, five years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Participant ceases to be an employee, director or Consultant of the Company or of an Affiliate for any reason other than the death or Disability of the Participant, or termination of the Participant for Cause , the Option may be exercised, if it has not previously terminated, within three months after the date the Participant ceases to provide service to the Company or an Affiliate, or within the originally prescribed term of the Option, whichever is earlier, but may not be exercised thereafter except as set forth below. In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of service .

If this Option is designated in the Stock Option Grant Notice as an ISO and the Participant ceases to be an employee of the Company or of an Affiliate but continues after termination of employment to provide service to the Company or an Affiliate as a director or Consultant, this Option shall continue to vest in accordance with Section 3 above as if this Option had not terminated until the Participant is no longer providing services to the Company. In such case, this Option shall automatically convert and be deemed a Non-Qualified Option as of the date that is three months from termination of the Participant's employment and this Option shall continue on the same terms and conditions set forth herein until such Participant is no longer providing service to the Company or an Affiliate.

Notwithstanding the foregoing, in the event of the Participant's Disability or death within three months after the termination of service, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

In the event the Participant's service is terminated by the Company or an Affiliate for Cause, the Participant's right to exercise any unexercised portion of this Option shall cease immediately as of the time the Participant is notified his or her service is terminated for Cause, and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Participant's termination, but prior to the exercise of the Option, the Administrator determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute Cause, then the Participant shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Participant, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Participant's termination of service or, if earlier, within the term originally prescribed by the Option. In such event, the

Option shall be exercisable to the extent that the Option has become exercisable but has not been exercised as of the date of Disability.

In the event of the death of the Participant while an employee, director or Consultant of the Company or of an Affiliate, the Option shall be exercisable by the Participant's Survivors within one year after the date of death of the Participant or, if earlier, within the originally prescribed term of the Option. In such event, the Option will accelerate and vest in full, and shall be exercisable to the extent that the Option has become exercisable but has not been exercised as of the date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of Exhibit A attached hereto (or in such other form acceptable to the Company, which may include electronic notice). Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option (which signature may be provided electronically in a form acceptable to the Company). Payment of the Exercise Price for such Shares shall be made in accordance with Paragraph 9 of the Plan. The Company shall deliver such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Participant and if the Participant shall so request in the notice exercising the Option, shall be registered in the Company's share register in the name of the Participant and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Participant, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE .

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY .

The Option shall not be transferable by the Participant otherwise than by will or by the laws of descent and distribution. If this Option is a Non-Qualified Option then it may also be transferred pursuant to a qualified domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder. Except as provided above in this paragraph, the Option shall be exercisable, during the Participant's lifetime, only by

the Participant (or, in the event of legal incapacity or incompetency, by the Participant's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE .

The Participant shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Participant. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS .

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

10. TAXES .

The Participant acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Participant's responsibility. The Participant acknowledges and agrees that (i) the Participant was free to use professional advisors of his or her choice in connection with this Agreement, has received advice from his or her professional advisors in connection with this Agreement, understands its meaning and import, and is entering into this Agreement freely and without coercion or duress; (ii) the Participant has not received and is not relying upon any advice, representations or assurances made by or on behalf of the Company or any Affiliate or any employee of or counsel to the Company or any Affiliate regarding any tax or other effects or implications of the Option, the Shares or other matters contemplated by this Agreement and (iii) neither the Administrator, the Company, its Affiliates, nor any of its officers or directors, shall be held liable for any applicable costs, taxes, or penalties associated with the Option if, in fact, the Internal Revenue Service were to determine that the Option constitutes deferred compensation under Section 409A of the Code.

If this Option is designated in the Stock Option Grant Notice as an ISO and there is a Disqualifying Disposition (as defined in Section 15 below) or if the Option is converted into a Non-Qualified Option and such Non-Qualified Option is exercised, the Participant agrees that the Company may withhold from the Participant's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's

discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Participant on exercise of the Option. The Participant further agrees that, if the Company does not withhold an amount from the Participant's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Participant will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT .

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless the Company has determined that such exercise and issuance would be exempt from the registration requirements of the 1933 Act and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person (s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon any certificate(s) evidencing the Shares issued pursuant to such exercise:

"The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES .

12.1 The Participant agrees that in the event the Company proposes to offer for sale to the public any of its equity securities and such Participant is requested by the Company and any underwriter engaged by the Company in connection with such offering to sign an agreement

restricting the sale or other transfer of Shares, then it will promptly sign such agreement and will not transfer, whether in privately negotiated transactions or to the public in open market transactions or otherwise, any Shares or other securities of the Company held by him or her during such period as is determined by the Company and the underwriters, not to exceed 180 days following the closing of the offering, plus such additional period of time as may be required to comply with Marketplace Rule 2711 of the Financial Industry Regulatory Authority, Inc. or similar rules thereto (such period, the "Lock-Up Period"). Such agreement shall be in writing and in form and substance reasonably satisfactory to the Company and such underwriter and pursuant to customary and prevailing terms and conditions. Notwithstanding whether the Participant has signed such an agreement, the Company may impose stop-transfer instructions with respect to the Shares or other securities of the Company subject to the foregoing restrictions until the end of the Lock-Up Period.

12.2 The Participant acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Participant any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the service of the Participant by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

13. NO OBLIGATION TO MAINTAIN RELATIONSHIP .

The Company is not by the Plan or this Option obligated to continue the Participant as an employee, director or Consultant of the Company or an Affiliate. The Participant acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Participant's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation which is outside the scope of the Participant's employment or consulting contract, if any; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. IF OPTION IS INTENDED TO BE AN ISO .

If this Option is designated in the Stock Option Grant Notice as an ISO so that the Participant (or the Participant's Survivors) may qualify for the favorable tax treatment provided to holders of Options that meet the standards of Section 422 of the Code then any provision of this Agreement or the Plan which conflicts with the Code so that this Option would not be deemed an ISO is null and void and any ambiguities shall be resolved so that the Option qualifies as an ISO. The Participant should consult with the Participant's own tax advisors regarding the

tax effects of the Option and the requirements necessary to obtain favorable tax treatment under Section 422 of the Code, including, but not limited to, holding period requirements.

Notwithstanding the foregoing, to the extent that the Option is designated in the Stock Option Grant Notice as an ISO and is not deemed to be an ISO pursuant to Section 422(d) of the Code because the aggregate fair market value (determined as of the date hereof) of any of the Shares with respect to which this ISO is granted becomes exercisable for the first time during any calendar year in excess of $100,000, the portion of the Option representing such excess value shall be treated as a Non-Qualified Option and the Participant shall be deemed to have taxable income measured by the difference between the then fair market value of the Shares received upon exercise and the price paid for such Shares pursuant to this Agreement.

Neither the Company nor any Affiliate shall have any liability to the Participant, or any other party, if the Option (or any part thereof) that is intended to be an ISO is not an ISO or for any action taken by the Administrator, including without limitation the conversion of an ISO to a Non-Qualified Option.

15. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION OF AN ISO .

If this Option is designated in the Stock Option Grant Notice as an ISO then the Participant agrees to notify the Company in writing immediately after the Participant makes a Disqualifying Disposition of any of the Shares acquired pursuant to the exercise of the ISO. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale) of such Shares before the later of (a) two years after the date the Participant was granted the ISO or (b) one year after the date the Participant acquired Shares by exercising the ISO, except as otherwise provided in Section 424(c) of the Code. If the Participant has died before the Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

16. NOTICES .

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Ironwood Pharmaceuticals, Inc.
301 Binney Street
Cambridge, MA 02142
Attention: General Counsel

If to the Participant at the address set forth on the Stock Option Grant Notice

or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one

business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

17. GOVERNING LAW .

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in Massachusetts and agree that such litigation shall be conducted in the state courts of Middlesex County, Massachusetts or the federal courts of the United States for the District of Massachusetts.

18. BENEFIT OF AGREEMENT .

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

19. ENTIRE AGREEMENT .

This Agreement, together with the Stock Option Grant Notice and Plan, embody the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict, the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

20. MODIFICATIONS AND AMENDMENTS .

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

21. WAIVERS AND CONSENTS .

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

22. DATA PRIVACY .

By entering into this Agreement, the Participant: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company and each Affiliate to store and transmit such information in electronic form.

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Exhibit A

NOTICE OF EXERCISE OF STOCK OPTION
under
Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan

[Form for Shares registered in the United States]

To: Ironwood Pharmaceuticals, Inc.

IMPORTANT NOTICE: This form of Notice of Exercise may only be used at such time as the Company has filed a Registration Statement with the Securities and Exchange Commission under which the issuance of the Shares for which this exercise is being made is registered and such Registration Statement remains effective.

Ladies and Gentlemen:

I hereby exercise my Stock Option to purchase shares (the "Shares") of the Class A Common Stock, $0.001 par value, of Ironwood Pharmaceuticals, Inc. (the "Company"), at the exercise price of $ per share, pursuant to and subject to the terms of that Stock Option Grant Notice dated , 20 .

I understand the nature of the investment I am making and the financial risks thereof. I am aware that it is my responsibility to have consulted with competent tax and legal advisors about the relevant national, state and local income tax and securities laws affecting the exercise of the Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

_____

Please issue the Shares (check one):

☐ to me; or

☐ to me and , as joint tenants with right of survivorship,

at the following address:

_____
_____
_____

My mailing address for shareholder communications, if different from the address listed above, is:

_____

_____

_____

Very truly yours,

_____

Participant (signature)

_____

Print Name

_____

Date

_____

Social Security Number

EXHIBIT 10.3.2

RESTRICTED STOCK AGREEMENT

IRONWOOD PHARMACEUTICALS, INC.

AGREEMENT made as of the [•] day of [•] (the "Grant Date"), between Ironwood Pharmaceuticals, Inc. (the "Company"), a Delaware corporation, and [•] (the "Participant").

WHEREAS, the Company has adopted the Ironwood Pharmaceuticals, Inc. Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan (the "Plan") to promote the interests of the Company by providing an incentive for employees, directors and consultants of the Company;

WHEREAS, the Company has adopted the Director Compensation Plan (the "Director Compensation Plan"), effective January 1, 2014, to provide for annual grants to the Company's non-employee directors of restricted shares of the Company's Class A Common Stock, $.001 par value per share ("Common Stock");

WHEREAS, pursuant to the provisions of the Plan and the Director Compensation Plan, the Company desires to offer to the Participant restricted shares of Common Stock in accordance with the provisions of the Plan, all on the terms and conditions hereinafter set forth;

WHEREAS, Participant wishes to accept said offer; and

WHEREAS, the parties hereto understand and agree that any terms used and not defined herein have the meanings ascribed to such terms in the Plan and except where the context otherwise requires, the term "Company" shall have the meaning set forth in the Plan.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Terms of Grant . The Participant hereby accepts the offer of the Company to issue to the Participant, in accordance with the terms of the Plan and this Agreement, [•] ([•]) restricted shares of Common Stock (such shares, subject to adjustment pursuant to Section 20 of the Plan and Subsection 2.1(e) hereof, the "Granted Shares"), receipt of which is hereby acknowledged by the Participant and which will be reported as income on the Participant's Form 1099 for the applicable calendar year in accordance with the provisions of Section 6 hereof.

2.1. Forfeiture Provisions .

(a) Lapsing Forfeiture Right . In the event that for any reason the Participant is no longer a director of the Company (such cessation of service, a "Termination") prior to the day immediately preceding the first annual meeting of the Company's stockholders after the Grant Date (the "Final Vesting Date"), the Participant (or the Participant's Survivor) shall, on the date of Termination, immediately forfeit to the Company (or its designee) all of the Granted Shares which have not yet lapsed in accordance with the schedule set forth below (the "Lapsing Forfeiture Right").

The Company's Lapsing Forfeiture Right is as follows:

(i) If the Participant's Termination is prior to the three-month anniversary of the Grant Date, all of the Granted Shares shall be forfeited to the Company.

(ii) If the Participant's Termination is on or after the three-month anniversary of the Grant Date but prior to the six-month anniversary of the Grant Date, twenty-five percent (25%) of the Granted Shares shall no longer be subject to the Lapsing Forfeiture Right.

(iii) If the Participant's Termination is on or after the six-month anniversary of the Grant Date but prior to the nine-month anniversary of the Grant Date, fifty percent (50%) of the Granted Shares shall no longer be subject to the Lapsing Forfeiture Right.

(iv) If the Participant's Termination is on or after the nine-month anniversary of the Grant Date but prior to the Final Vesting Date, seventy-five percent (75%) of the Granted Shares shall no longer be subject to the Lapsing Forfeiture Right.

(v) If the Participant's Termination is on or after the Final Vesting Date, none of the Granted Shares shall remain subject to the Lapsing Forfeiture Right.

Notwithstanding the foregoing provisions of this Subsection 2.1(a), the Compensation and HR Committee of the Board shall have the authority, in its sole discretion, to accelerate the vesting of all or any portion of the Granted Shares subject to the Lapsing Forfeiture Right upon the Participant's Termination at any time prior to the Final Vesting Date in accordance with Section 3 of the Director Compensation Plan.

(b) Escrow. The certificates representing all Granted Shares issued to the Participant hereunder which from time to time are subject to the Lapsing Forfeiture Right shall be delivered to the Company and the Company shall hold such Granted Shares in escrow as provided in this Subsection 2.1(b). The Company shall promptly release from escrow and deliver to the Participant a certificate for the whole number of Granted Shares, if any, as to which the Company's Lapsing Forfeiture Right has lapsed. In the event of forfeiture to the Company of Granted Shares subject to the Lapsing Forfeiture Right, the Company shall release from escrow and cancel a certificate for the number of Granted Shares so forfeited. Any securities distributed in respect of the Granted Shares held in escrow, including, without limitation, shares issued as a result of stock splits, stock dividends or other recapitalizations, shall also be held in escrow in the same manner as the Granted Shares. Notwithstanding any of the foregoing, the Company may, in its sole discretion, elect to evidence any Granted Shares issued to the Participant in book-entry or other electronic form in lieu of the delivery of certificates.

(c) Prohibition on Transfer. The Participant recognizes and agrees that all Granted Shares, while subject to the Lapsing Forfeiture Right, may not be sold, transferred, assigned, hypothecated, pledged, encumbered or otherwise disposed of, whether voluntarily or by operation of law, other than to the Company (or its designee) or as set forth under Subsection 2.2(b) below. The Company shall not be required to transfer any Granted Shares on its books which shall have been sold, assigned or otherwise transferred in violation of this Subsection 2.1(c), or to treat as the owner of such Granted Shares, or to accord the right to vote as such owner or to pay dividends to, any person or organization to which any such Granted Shares shall have been so sold, assigned or otherwise transferred, in violation of this Subsection 2.1(c).

(d) Failure to Deliver Granted Shares to be Forfeited. In the event that the Granted Shares to be forfeited to the Company under this Agreement are not in the Company's possession pursuant to Subsection 2.1(b) above or otherwise and the Participant or the Participant's Survivor fails to deliver such

Granted Shares to the Company (or its designee), the Company may immediately take such action as is appropriate to transfer record title of such Granted Shares from the Participant to the Company (or its designee) and treat the Participant and such Granted Shares in all respects as if delivery of such Granted Shares had been made as required by this Agreement. The Participant hereby irrevocably grants the Company a power of attorney which shall be coupled with an interest for the purpose of effectuating the preceding sentence.

(e) Adjustments. The Plan contains provisions covering the treatment of Common Stock in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to the Granted Shares and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

2.2 General Restrictions on Transfer of Granted Shares.

(a) The Participant agrees that in the event the Company proposes to offer for sale to the public any of its equity securities and such Participant is requested by the Company and any underwriter engaged by the Company in connection with such offering to sign an agreement restricting the sale or other transfer of Common Stock, then he or she will promptly sign such agreement and will not transfer, whether in privately negotiated transactions or to the public in open market transactions or otherwise, any Common Stock or other securities of the Company held by him or her during such period as is determined by the Company and the underwriters (such period, the "Lock-Up Period"). Such agreement shall be in writing and in form and substance reasonably satisfactory to the Company and such underwriter and pursuant to customary and prevailing terms and conditions. Notwithstanding whether the Participant has signed such an agreement, the Company may impose stop-transfer instructions with respect to Common Stock or other securities of the Company subject to the foregoing restrictions until the end of the Lock-Up Period.

(b) Notwithstanding anything to the contrary contained in this Agreement, the Participant shall not sell, assign, transfer, pledge, hypothecate or otherwise dispose of, by operation of law or otherwise (collectively "transfer") any of the Granted Shares, or any interest therein, even when such shares are no longer subject to the Lapsing Forfeiture Right until such time as the Participant is no longer a director of the Company, except that the Participant may transfer (i) Granted Shares to or for the benefit of any spouse, children, parents, uncles, aunts, siblings, grandchildren and any other relatives approved by the Board of Directors (collectively, "Approved Relatives") or to a trust established solely for the benefit of the Participant and/or Approved Relatives; (ii) subject to the Company's approval, Granted Shares to an employer of the Participant, or to any partnership, limited liability company or other entity that the Participant is a member, partner, shareholder or other owner of, in each case, if made for no value and pursuant to the requirements of the employment, partnership or other agreement between the entity and the Participant (as applicable); (iii) Granted Shares no longer subject to the Lapsing Forfeiture Right in an amount approved by the Company to be required with respect to the Participant's estimated total federal, state and local tax obligations associated with the termination of the Lapsing Forfeiture Right; (iv) Granted Shares as part of the sale of all or substantially all of the shares of capital stock of the Company (including pursuant to a merger or consolidation); or (v) Granted Shares as otherwise approved by the Board or Compensation and HR Committee of the Board, provided that, in the case of Subsections 2.2(b)(i), (ii) and (v), such Granted Shares shall remain subject to this Agreement (including without limitation the restrictions on transfer set forth in this Subsection 2.2(b)) and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument confirming that such transferee shall be bound by all of the terms and conditions of this Agreement.

(c) The Company shall not be required (a) to transfer on its books any of the Granted Shares which shall have been sold or transferred in violation of any of the provisions set forth herein or in the

Plan, or (b) to treat as owner of such Granted Shares or to pay dividends to any transferee to whom any such Granted Shares shall have been sold or transferred.

3. Rights as a Stockholder. The Participant shall have all the rights of a stockholder with respect to the Granted Shares, including voting and dividend rights, subject to the transfer and other restrictions set forth herein and in the Plan.

4. Legend. In addition to any legend required pursuant to the Plan, all certificates representing the Granted Shares to be issued to the Participant pursuant to this Agreement shall have endorsed thereon a legend substantially as follows:

> "The shares represented by this certificate are subject to restrictions set forth in a Restricted Stock Agreement dated as of [•] [•], 2014 with this Company and this Company's Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan, copies of which are available for inspection at the offices of this Company or will be made available upon request."

5. Incorporation of the Plan. The Participant specifically understands and agrees that the Granted Shares issued under the Plan are being granted to the Participant pursuant to the Plan, a copy of which Plan the Participant acknowledges he or she has read and understands and by which Plan he or she agrees to be bound. The provisions of the Plan are incorporated herein by reference.

6. Tax Liability of the Participant and Payment of Taxes.

(a) The Participant acknowledges and agrees that any income or other taxes due from the Participant with respect to the Granted Shares including, without limitation, the Lapsing Forfeiture Right, shall be the Participant's responsibility to satisfy and pay. The Company shall have no liability or obligation relating to the foregoing.

(b) Within thirty (30) days of the date of this Agreement, the Participant may file an election under Section 83(b) of the Internal Revenue Code of 1986, as amended (the "Code"), in substantially the form attached as Exhibit A (the "Election Form"). The Participant acknowledges that if he or she does not file such an election, as the Granted Shares are released from the Lapsing Forfeiture Right or otherwise in accordance with this Agreement and the Plan, as applicable, the Participant will have income for tax purposes equal to the fair market value of the Granted Shares at such date. The Participant has been given the opportunity to obtain the advice of his or her tax advisors with respect to the tax consequences of the award of the Granted Shares, the Lapsing Forfeiture Right and the other provisions of this Agreement and the Plan, and the desirability of making an election under Section 83(b) of the Code. The Participant acknowledges and agrees that, if he or she files an election under Section 83(b) of the Code, he or she will deliver to the Company a copy of the executed Election Form, and the original executed Election Form shall be filed by the Participant with the appropriate Internal Revenue Service office not later than thirty (30) days after the date of this Agreement.

7. Equitable Relief. The Participant specifically acknowledges and agrees that in the event of a breach or threatened breach of the provisions of this Agreement or the Plan, including the attempted transfer of the Granted Shares by the Participant in violation of this Agreement, monetary damages may not be adequate to compensate the Company, and, therefore, in the event of such a breach or threatened breach, in addition to any right to damages, the Company shall be entitled to equitable relief in any court having competent jurisdiction. Nothing herein shall be construed as prohibiting the Company from pursuing any other remedies available to it for any such breach or threatened breach.

8. No Obligation to Maintain Relationship . The Company is not by the Plan or this Agreement obligated to continue the Participant as director of the Company. The Participant acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; and (ii) that this award of Granted Shares is a one-time benefit which does not create any contractual or other right to receive future grants of Common Stock, or benefits in lieu of Common Stock.

9. Notices . Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Ironwood Pharmaceuticals, Inc.
301 Binney Street
Cambridge, MA 02142
Attn: Chief Legal Officer
Fax: (617) 494-0480

If to the Participant:

[•]

or to such other address as either party may designate in writing to the other. Any such notice shall be deemed to have been given on the earliest of receipt, one business day following delivery by the sender to a recognized courier service, or three business days following mailing by registered or certified mail.

10. Benefit of Agreement . Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

11. Governing Law . This Agreement shall be construed and enforced in accordance with the laws of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, whether at law or in equity, the parties hereby consent to exclusive jurisdiction in Massachusetts and agree that such litigation shall be conducted in the state courts of Middlesex County or the federal courts of the United States for the District of Massachusetts.

12. Severability . If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, then such provision or provisions shall be modified to the extent necessary to make such provision valid and enforceable, and to the extent that this is impossible, then such provision shall be deemed to be excised from this Agreement, and the validity, legality and enforceability of the rest of this Agreement shall not be affected thereby.

13. Entire Agreement . This Agreement, together with the Plan, constitutes the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict the express terms and provisions of this Agreement provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

14. Modifications and Amendments; Waivers and Consents . The terms and provisions of this Agreement may be modified or amended as provided in the Plan. Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

15. Consent of Spouse/Domestic Partner . If the Participant has a spouse or domestic partner as of the date of this Agreement, the Participant's spouse or domestic partner shall execute a Consent of Spouse/Domestic Partner in the form of Exhibit B hereto, effective as of the date hereof. Such consent shall not be deemed to confer or convey to the spouse or domestic partner any rights in the Granted Shares that do not otherwise exist by operation of law or the agreement of the parties. If the Participant subsequent to the date hereof, marries, remarries or establishes a domestic partner relationship, the Participant shall, not later than 60 days thereafter, obtain his or her new spouse/domestic partner's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by having such spouse/domestic partner execute and deliver a Consent of Spouse/Domestic Partner in the form of Exhibit B .

16. Counterparts . This Agreement may be executed in one or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

17. Data Privacy . By entering into this Agreement, the Participant: (i) authorizes the Company, and any agent of the Company administering the Plan or providing Plan record keeping services, to disclose to the Company such information and data as the Company shall request in order to facilitate the grant of the Granted Shares and the administration of this Agreement and the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company to store and transmit such information in electronic form.

[THE NEXT PAGE IS THE SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

IRONWOOD PHARMACEUTICALS, INC.

By: _____
Name:
Title:

Participant:

_____
[•]

EXHIBIT A

Election to Include Gross Income in Year
of Transfer Pursuant to Section 83(b)
of the Internal Revenue Code of 1986, as amended

In accordance with Section 83(b) of the Internal Revenue Code of 1986, as amended (the "Code"), the undersigned hereby elects to include in his or her gross income as compensation for services the fair market value of the property (described below) at the time of transfer.

The following sets forth the information required in accordance with the Code and the regulations promulgated thereunder:

1. The name, address and social security number of the undersigned are:

   Name: [•]

   Address: [•]

   Social Security No.: [•]

2. The description of the property with respect to which the election is being made is as follows:

   [•] ([•]) shares (the "Shares") of Class A Common Stock, $.001 par value per share, of Ironwood Pharmaceuticals, Inc., a Delaware corporation (the "Company").

3. This election is made for the calendar year 2014, with respect to the transfer of the property to the Taxpayer on [•] [•], 2014 (the "Grant Date").

4. Description of restrictions: The property is subject to the following restrictions:

   In the event taxpayer's service as a director of the Company is terminated, the taxpayer shall forfeit the Shares as set forth below:

   A. If the termination takes place prior to the three-month anniversary of the Grant Date, all of the Shares will be forfeited.

   B. If the termination takes place on or after the three-month anniversary of the Grant Date but prior to the six-month anniversary of the Grant Date, seventy-five percent (75%) of the Shares will be forfeited.

   C. If the termination takes place on or after the six-month anniversary of the Grant Date but prior to the nine-month anniversary of the Grant Date, fifty percent (50%) of the Shares will be forfeited.

   D. If the termination takes place on or after the nine-month anniversary of the Grant Date but prior to the day immediately preceding the first annual meeting of the Company's stockholders after the Grant Date (the "Final Vesting Date"), twenty-five percent (25%) of the Shares will be forfeited.

E. If the termination takes place on or after the Final Vesting Date, none of the Shares will be forfeited.

5. The fair market value at time of transfer (determined without regard to any restrictions other than restrictions which by their terms will never lapse) of the property with respect to which this election is being made was not more than $[•] per Share.

6. A copy of this statement has been furnished to the Company.

Signed this day of , .

[•]

EXHIBIT B

CONSENT OF SPOUSE/DOMESTIC PARTNER

I, , spouse or domestic partner of [•], Ph.D. acknowledge that I have read the RESTRICTED STOCK AGREEMENT dated as of [•] [•], 2014 (the "Agreement") to which this Consent is attached as Exhibit B and that I know its contents. Capitalized terms used and not defined herein shall have the meanings assigned to such terms in the Agreement. I am aware that by its provisions the Granted Shares granted to my spouse/domestic partner pursuant to the Agreement are subject to a Lapsing Forfeiture Right and certain other restrictions in favor of Ironwood Pharmaceuticals, Inc. (the "Company") and that, accordingly, I may be required to forfeit to the Company any or all of the Granted Shares of which I may become possessed as a result of a gift from my spouse/domestic partner or a court decree and/or any property settlement in any domestic litigation.

I hereby agree that my interest, if any, in the Granted Shares subject to the Agreement shall be irrevocably bound by the Agreement and the Plan and further understand and agree that any community property interest I may have in the Granted Shares shall be similarly bound by the Agreement and the Plan.

I agree to the Lapsing Forfeiture Right and the other terms of the Agreement and I hereby consent to the forfeiture of the Granted Shares to the Company by my spouse/domestic partner or my spouse/domestic partner's legal representative in accordance with the provisions of the Agreement. Further, as part of the consideration for the Agreement, I agree that at my death, if I have not disposed of any interest of mine in the Granted Shares by an outright bequest of the Granted Shares to my spouse or domestic partner, then the Company shall have the same rights against my legal representative to exercise its rights to the Granted Shares with respect to any interest of mine in the Granted Shares as it would have had pursuant to the Agreement if I had acquired the Granted Shares pursuant to a court decree in domestic litigation.

I AM AWARE THAT THE LEGAL, FINANCIAL AND RELATED MATTERS CONTAINED IN THE AGREEMENT AND THE PLAN ARE COMPLEX AND THAT I AM FREE TO SEEK INDEPENDENT PROFESSIONAL GUIDANCE OR COUNSEL WITH RESPECT TO THIS CONSENT. I HAVE EITHER SOUGHT SUCH GUIDANCE OR COUNSEL OR DETERMINED AFTER REVIEWING THE AGREEMENT AND THE PLAN CAREFULLY THAT I WILL WAIVE SUCH RIGHT.

Dated as of the day of , .

Signature

EXHIBIT 10.3.3

IRONWOOD PHARMACEUTICALS, INC.

Restricted Stock Unit Award Notice

Restricted Stock Unit Award under the
Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan

Name and Address of Participant:
Award Number:
Plan: 2010 Plan

Ironwood Pharmaceuticals, Inc. (the "Company") hereby grants to the above-named Participant an award of restricted units of Class A Common Stock of the Company (the "Award"), subject to the additional terms and conditions in the Restricted Stock Unit Agreement and the Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan (the "2010 Plan") which are delivered concurrently herewith and incorporated by reference, as follows:

Grant Date:
Total Number of Restricted Stock Units Subject to this Award (the "Restricted Stock Units):
Vest Dates:

Vesting Schedule: Unless earlier terminated, forfeited, relinquished or expired, the Award shall vest as follows, provided in each case that the Participant has remained in continuous service as an Employee, director or Consultant of the Company or of an Affiliate from the Grant Date through the applicable Vest Date:

By your acceptance of this Award, you acknowledge receipt of this Restricted Stock Unit Award Notice, the Restricted Stock Unit Agreement, the 2010 Plan (collectively, the "Award Documents") and the prospectus for the 2010 Plan, and you further agree to be bound by all of the terms and conditions of the Award Documents.

IRONWOOD PHARMACEUTICALS, INC.

By: _____
Name: _____
Title: _____

RESTRICTED STOCK UNIT AGREEMENT

IRONWOOD PHARMACEUTICALS, INC.

AGREEMENT (together with the Restricted Stock Unit Award Notice, the " Agreement ") made as of the date of grant set forth in the attached Restricted Stock Unit Award Notice (the " Grant Date "), between Ironwood Pharmaceuticals, Inc. (the " Company "), a Delaware corporation, and the individual whose name appears on the attached Restricted Stock Unit Award Notice (the " Participant ") pursuant to and subject to the terms of the Ironwood Pharmaceuticals, Inc. Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan (as amended from time to time, the " Plan ").

WHEREAS, the Company has adopted the Plan to promote the interests of the Company by providing an incentive for Employees, directors and Consultants of the Company;

WHEREAS, pursuant to the provisions of the Plan, the Company desires to offer to the Participant restricted units of Common Stock (" Restricted Stock Units ") in accordance with the provisions of the Plan, all on the terms and conditions hereinafter set forth;

WHEREAS, the Participant wishes to accept said offer; and

WHEREAS, the parties hereto understand and agree that any terms used and not defined herein have the meanings ascribed to such terms in the Plan.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Grant of Restricted Stock Units . The Company hereby grants to the Participant on the Grant Date an award for the number of Restricted Stock Units indicated on the attached Restricted Stock Unit Award Notice (the " Award ") consisting of the right to receive, on the terms provided herein and in the Plan, one share of Common Stock with respect to each Restricted Stock Unit forming part of the Award, in each case, subject to adjustment pursuant to Section 20 of the Plan in respect of transactions occurring after the date hereof.

2. Vesting . The term "vest" as used herein with respect to any Restricted Stock Unit means the lapsing of the forfeiture rights described herein with respect to such Restricted Stock Unit. Unless earlier terminated, forfeited, relinquished or expired, the Award shall vest as indicated on the attached Restricted Stock Unit Award Notice, provided in each case that the Participant has remained in continuous service as an Employee, director or Consultant of the Company or of an Affiliate from the Grant Date through the applicable vesting date.

3. Forfeiture Rights . If the Participant's service as an Employee, director, or Consultant of the Company or of an Affiliate ceases for any reason other than the death of the Participant, any then outstanding and unvested Restricted Stock Units acquired by the Participant hereunder shall be automatically and immediately forfeited. In the event of the death of the Participant while an Employee, director or Consultant of the Company or of an Affiliate, the outstanding and unvested Restricted Stock Units acquired by the Participant hereunder will accelerate and vest in full upon the Participant's death. No later than the date thirty (30) days prior to the first vesting date set forth on the attached Restricted

Stock Unit Award Notice, the Participant must activate his/her Company stock plan account with Agent (as defined below). If the Participant fails to activate such account in accordance with the foregoing sentence, the Participant hereby acknowledges and agrees that the Company may, in its sole discretion and without notice, terminate and cancel the Restricted Stock Units and the Award in their entirety, such cancellation to be deemed a forfeiture of the Restricted Stock Units and the Award by the Participant.

4. Delivery of Common Stock . The Company shall deliver to the Participant as soon as practicable upon the vesting of the Award (or any portion thereof), but in all events no later than thirty (30) days following the date on which Restricted Stock Units vest (or no later than seventy-five (75) days following the date on which such Restricted Stock Units vest in the event of the Participant's death), one share of Common Stock with respect to each such fully vested Restricted Stock Unit, subject to the terms of the Plan and this Agreement. No fractional shares shall be issued.

5. Dividends, etc . The Participant shall have the rights of a shareholder with respect to a share of Common Stock subject to the Award only at such time, if any, as such share is actually delivered under the Award. Without limiting the generality of the foregoing and for the avoidance of doubt, the Participant shall not be entitled to vote any share of Common Stock subject to the Award or to receive or be credited with any dividend or other distribution declared and payable on any such share unless such share has been actually delivered hereunder and is held by the Participant on the record date for such vote or dividend (or other distribution), as the case may be.

6. Nontransferability, etc . Except as set forth in Section 13 of the Plan, neither the Award nor the Restricted Stock Units may be transferred, assigned, pledged or hypothecated in any way. In the event the Award or the Restricted Stock Units are transferred, or in the event a spouse or domestic partner has or is deemed to have any community property rights with respect to the Award or the Restricted Stock Units, the transferee, spouse, or domestic partner, as applicable, will be subject to and bound by all terms and conditions of this Agreement and the Plan.

7. Certain Tax Matters; Sell to Cover .

(a) The Participant expressly acknowledges and agrees that the Participant's rights hereunder, including the right to be issued shares of Common Stock upon the vesting of the Award (or any portion thereof), are subject to the Participant's promptly paying, or in respect of any later requirement of withholding being liable promptly to pay at such time as such withholdings are due, to the Company in cash (or by such other means as may be acceptable to the Administrator in its discretion) all taxes required to be withheld, if any, relating to the Award (the " Withholding Obligation ").

(b) By accepting this Award, the Participant hereby acknowledges and agrees that he or she elects to sell shares of Common Stock issued in respect of the Award and to allow the Agent to remit the cash proceeds of such sale to the Company (" Sell to Cover ") to satisfy the Withholding Obligation, to the extent that the Company chooses to satisfy the Withholding Obligation by such means.

(c) If the Withholding Obligation is satisfied through a Sell to Cover, the Participant hereby irrevocably appoints E*Trade, or such other registered broker-dealer that is a member of the Financial Industry Regulatory Authority as the Company may select, as the Participant's agent (the " Agent "), and the Participant authorizes and directs the Agent to: (i) sell on the open market at the then prevailing market price(s), on the Participant's behalf, as soon as practicable on or after the date on which the shares of Common Stock

are delivered to the Participant pursuant to Section 4 hereof in connection with the vesting of the Restricted Stock Units, the number (rounded up to the next whole number) of shares of Common Stock sufficient to generate proceeds to cover (A) the satisfaction of the Withholding Obligation arising from the vesting of the Restricted Stock Units and the related issuance and delivery of shares of Common Stock to the Participant and (B) all applicable fees and commissions due to, or required to be collected by, the Agent with respect thereto; (ii) remit directly to the Company the proceeds from the sale of the shares of Common Stock referred to in clause (i) above necessary to satisfy the Withholding Obligation; (iii) retain the amount required to cover all applicable fees and commissions due to, or required to be collected by, the Agent, relating directly to the sale of the shares of Common Stock referred to in clause (i) above; and (iv) maintain any remaining funds from the sale of the shares of Common Stock referred to in clause (i) above in the Participant's account with the Agent. The Participant hereby authorizes the Company and the Agent to cooperate and communicate with one another to determine the number of shares of Common Stock that must be sold to satisfy the Participant's obligations hereunder and to otherwise effect the purpose and intent of this Agreement and satisfy the rights and obligations hereunder.

(d) The Participant acknowledges that the Agent is under no obligation to arrange for the sale of Common Stock at any particular price under a Sell to Cover and that the Agent may affect sales under any Sell to Cover in one or more sales and that the average price for executions resulting from bunched orders may be assigned to the Participant's account. The Participant further acknowledges that he or she will be responsible for all brokerage fees and other costs of sale associated with any Sell to Cover or transaction contemplated by this Section 7 and agrees to indemnify and hold the Company harmless from any losses, costs, damages, or expenses relating to any such sale. In addition, the Participant acknowledges that it may not be possible to sell shares of Common Stock as provided for in this Section 7 due to various circumstances. If it is not possible to sell shares of Common Stock in a Sell to Cover, the Company will assist the Participant in determining additional alternatives available to the Participant. In the event of the Agent's inability to sell shares of Common Stock, the Participant will continue to be responsible for the timely payment to the Company of all federal, state, local and foreign taxes that are required by applicable laws and regulations to be paid or withheld with respect to the Restricted Stock Units or the Award. In such event, or in the event that the Company determines that the cash proceeds from a Sell to Cover are insufficient to meet the Withholding Obligation, the Participant authorizes the Company and its subsidiaries to withhold such amounts from any amounts otherwise owed to the Participant, but nothing in this sentence shall be construed as relieving the Participant of any liability for satisfying his or her obligations under the preceding provisions of this Section.

(e) The Participant hereby agrees to execute and deliver to the Agent or the Company any other agreements or documents as the Agent or the Company reasonably deem necessary or appropriate to carry out the purposes and intent of this Agreement, including without limitation, any agreement intended to ensure the Sell to Cover and the corresponding authorization and instruction to the Agent set forth in this Section 7 to sell Common Stock to satisfy the Withholding Obligation comply with the requirements of Rule 10b5-1(c) under the Exchange Act. The Agent is a third-party beneficiary of this Section 7.

(f) The Participant's election to Sell to Cover to satisfy the Withholding Obligation is irrevocable. Upon acceptance of the Award, the Participant has elected to Sell to Cover

to satisfy the Withholding Obligation, and the Participant acknowledges that he or she may not change this election at any time in the future.

(g) The Participant expressly acknowledges that because the Award consists of an unfunded and unsecured promise by the Company to deliver Common Stock in the future, subject to the terms hereof, it is not possible to make a so-called "83 (b) election" with respect to the Award.

8. Plan; Form S-8 Prospectus . The Participant acknowledges having received and reviewed a copy of the Plan and the prospectus required by Part I of Form S-8 relating to shares of Common Stock that may be issued under the Plan.

9. Section 409A of the Code . This Agreement shall be interpreted and administered in such a manner that all provisions relating to the grant and settlement of the Award are exempt from the requirements of Section 409A of the Code.

10. No Obligation to Maintain Relationship . The Company is not by the Plan or this Award obligated to continue the Participant as an Employee, director or Consultant of the Company or an Affiliate. The Participant acknowledges: (a) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (b) that the grant of the Restricted Stock Units is a one-time benefit which does not create any contractual or other right to receive future grants of restricted stock units, or benefits in lieu of restricted stock units; (c) that all determinations with respect to any such future grants, including, but not limited to, the times when restricted stock units shall be granted, the number of shares subject to restricted stock unit award, and the vesting terms, will be at the sole discretion of the Company; (d) that the Participant's participation in the Plan is voluntary; (e) that the value of the Restricted Stock Units is an extraordinary item of compensation which is outside the scope of the Participant's employment or consulting contract, if any; and (f) that the Restricted Stock Units are not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

11. Notices . Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Participant at the address on file with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

12. Benefit of Agreement . Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

13. Governing Law . This Agreement shall be construed and enforced in accordance with the laws of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, whether at law or in equity, the parties hereby consent to exclusive jurisdiction in Massachusetts and agree that such litigation shall be conducted in the state courts of Middlesex County or the federal courts of the United States for the District of Massachusetts.

14. Severability . If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, then such provision or provisions shall be modified to the extent necessary to make such provision valid and enforceable, and to the extent that this is impossible, then

such provision shall be deemed to be excised from this Agreement, and the validity, legality and enforceability of the rest of this Agreement shall not be affected thereby.

15. Entire Agreement . The Plan is incorporated herein by reference. This Agreement, together with the Plan, constitutes the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict the express terms and provisions of this Agreement; provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

16. Modifications and Amendments; Waivers and Consents . The terms and provisions of this Agreement may be modified or amended as provided in the Plan. Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

17. Counterparts . This Agreement may be executed in one or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

18. Data Privacy . By entering into this Agreement, the Participant: (a) authorizes the Company, and any agent of the Company administering the Plan or providing Plan record keeping services, to disclose to the Company such information and data as the Company shall request in order to facilitate the grant of the Award and the administration of this Agreement and the Plan, (b) waives any data privacy rights he or she may have with respect to such information, and (c) authorizes the Company to store and transmit such information in electronic form.

19. Acknowledgments . The Participant hereby consents to receive Plan documentation by electronic delivery and to participate in the Plan through an online system designated by the Company. By accepting the Award through electronic means, the Participant agrees to be bound by, and agrees that the Award is, and the Restricted Stock Units are, subject in all respects to, the terms of this Agreement and the Plan. The Participant further acknowledges and agrees that (a) the signature to this Agreement on behalf of the Company is an electronic signature that will be treated as an original signature for all purposes hereunder, and (b) such electronic signature will be binding against the Company and will create a legally binding agreement when this Agreement is accepted by the Participant. The Participant further acknowledges and agrees that unless the Participant notifies the Company in writing that he or she does not accept his or her Award before the first vesting date, he or she will be deemed to have accepted the Award as of the Grant Date, and to be bound by, and have the Award and Restricted Stock Units be subject in all respects to, the terms of this Agreement and the Plan.

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EXHIBIT 10.6

IRONWOOD PHARMACEUTICALS, INC.

EXECUTIVE SEVERANCE AGREEMENT

This Severance Agreement (this " Agreement ") is made as of the day of , (the " Effective Date ") by and between Ironwood Pharmaceuticals, Inc., a Delaware corporation (the " Company "), and (the " Executive ").

WHEREAS the Executive currently serves as an executive officer of the Company; and

WHEREAS the Company desires to provide for severance benefits for the Executive in specified circumstances that may arise on or after the Effective Date;

NOW, THEREFORE, in consideration of the premises and the mutual promises hereinafter set forth, the Company and the Executive agree as follows:

1. Severance Benefits .

(a) If the Executive's employment terminates by reason of an Involuntary Termination or Constructive Termination, (i) the Company will pay the Executive an amount equal to twelve (12) months of his or her base salary, at the rate in effect immediately prior to the Involuntary Termination or Constructive Termination, as applicable (the " Salary Payment "), (ii) if the termination occurs prior to the payment of an annual cash incentive award from the prior completed year, the Company will pay the Executive such unpaid award to the extent the Executive would have received such award should he or she have been employed on the date such awards are paid to the rest of the Company (the " Prior Year Bonus Payment "), (ii) the Company will pay the Executive a pro rata amount of the Executive's annual cash incentive award target for the current year (pro-rated based on the percentage of the year worked prior to the termination) (the " Current Year Bonus Payment "), (iii) the Company will pay the Executive an additional amount equal to the Executive's full annual cash incentive award target for the current year (the " Additional Bonus Payment ") (collectively, the Prior Year Bonus Payment, if any, the Current Year Bonus Payment, and the Additional Bonus Payment are referred to as the " Aggregate Bonus Payment "), (iv) provided that the Executive timely elects continued medical coverage pursuant to Part 6 of Subtitle B of Title I of the Employee Retirement Income Security Act of 1974, as amended, the Company will permit the Executive to continue to participate in its group medical plan for twelve (12) months following the date of the termination of the Executive's employment (the " Termination Date ") at the same rate that the Executive would be required to contribute toward such coverage if he or she were actively employed (the " COBRA Coverage "), and (v) the Executive will be eligible for outplacement assistance, consistent with industry standards for similarly situated executive officers in the pharmaceutical industry, as determined by the Compensation Committee in its discretion (the " Outplacement Assistance ", collectively with the Salary Payment, the Aggregate Bonus Payment, and the COBRA Coverage, the " Severance Benefits ").

(b) Notwithstanding the foregoing, any obligation of the Company to provide the Severance Benefits is conditioned on the Executive's (i) continuing through the Termination Date to perform his or her job duties satisfactorily and otherwise complying with the Company's rules and policies, (ii) subject to Section 2 below, signing a separation agreement on terms and conditions satisfactory to the Company, which separation agreement will contain among other terms a general release of claims (the " Release of Claims ") and that will incorporate and affirm the Executive's compliance with his or her obligations under the Proprietary Information and Inventions and Noncompetition Agreement between the Executive and the Company (the " Restrictive Covenants Agreement "), and (iii) continuing to comply with his or her obligations to the Company and its affiliates that survive termination the Executive's employment, including without limitation pursuant to the Restrictive Covenants Agreement. The Executive's timely execution and non-revocation of the Release of Claims (other than as provided in Section 2 below) is a condition precedent to the Executive's right to receive the Severance Benefits. The Release of Claims will create legally binding obligations on the part of the Executive, and the Company therefore advises the Executive to seek the advice of an attorney before signing the Release of Claims. The Executive's compliance with the Restrictive Covenants Agreement is a condition precedent to the Executive's right to retain the Severance Benefits, and the Executive will be required to disgorge any Severance Benefits received if he or she breaches the Restrictive Covenants Agreement.

(c) In the event that, in the determination of the Company, the Company's provision of the COBRA Coverage as described in Section 1(a)(iii) above in could reasonably be expected to subject the Company to any tax or penalty under the Patient Protection and Affordable Care Act (as amended from time to time, the " ACA ") or could reasonably be expected to subject any highly compensated individual employed or formerly employed by the Company to adverse tax consequences under Section 105(h) of the Internal Revenue Code of 1986, as amended (the " Code "), or applicable regulations or guidance issued under the ACA or Section 105(h) of the Code, the Company and the Executive will work together in good faith, consistent with the requirements for compliance with, or exemption from, Section 409A of the Code (" Section 409A "), to restructure such benefit in a manner intended to result in a benefit that is or remains exempt from Section 409A.

(d) Subject to Sections 2 and 7 below, any Salary Payment and Aggregate Bonus Payment to which the Executive is entitled hereunder will be paid in a lump sum on the first regular payroll date of the Company following the sixtieth (60th) calendar day following the Termination Date. In no event will any Outplacement Assistance provided to the Executive hereunder extend beyond the December 31 of the second year following the calendar year in which the Termination Date occurs, and any reimbursement by the Company of Outplacement Assistance expenses paid by the Executive will be paid no later than December 31 of the third year following the calendar year in which the Termination Date occurs.

2. Change of Control Severance Benefit Plan . In the event that an Involuntary Termination or a Constructive Termination would, but for this Section 2, entitle the Executive to both the Severance Benefits and severance payments and benefits under the Company's Change of Control Severance Benefit Plan, as amended and restated on April 26, 2014, and as may be further amended from time to time (the " Severance Plan ", and the " Severance Plan Benefits "), the Executive will be entitled to receive the greater of the Severance Benefits and the Severance

Plan Benefits, determined on a payment-by-payment or benefit-by-benefit basis; provided, however, that

(a) an amount equal to the Salary Payment and the Aggregate Bonus Payment will be paid in accordance with the timing set forth in Section 1(d) above,

(b) any severance amounts determined by reference to the Executive's base salary or annual cash incentive award to which the Executive is entitled in excess of the Salary Payment and the Aggregate Bonus Payment will be paid in accordance with the timing set forth in Section 2.1 of the Severance Plan (and the Executive hereby waives any right or entitlement to payment under the Severance Plan of any portion of any such Severance Plan severance amounts other than such excess),

(c) the COBRA Payments and Outplacement Assistance and any similar amounts under the Severance Plan shall be paid or provided without duplication,

(d) none of the Severance Benefits will be conditioned upon the Release of Claims if the Termination Date occurs (i) after a Change of Control (as defined in the Severance Plan), or (ii) in the period commencing thirty (30) days prior to the earlier of (x) the date that the Company first publicly announces it is conducting negotiations leading to a Change of Control, and (y) the date that the Company enters into a definitive agreement that would result in a Change of Control (even though still subject to approval by the Company's stockholders and other conditions and contingencies), and

(e) payments hereunder and under the Severance Plan shall in all event be paid in a manner calculated to preserve their exemption under Section 409A, as determined by the Company.

3. Withholding . All payments made by the Company hereunder shall be reduced by any tax or other amounts required to be withheld by the Company under applicable law.

4. Effect on Employment . Nothing contained herein limits the Company's right to terminate the Executive's employment at any time.

5. Governing Law . This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the Commonwealth of Massachusetts, without giving effect to the conflict of law principles thereof. Any action brought by any party to this Agreement shall be brought and maintained in a court of competent jurisdiction in Middlesex or Suffolk Counties in the Commonwealth of Massachusetts, and each party hereby consents to the exclusive jurisdiction of such courts.

6. Assignment . Neither the Company nor the Executive may make any assignment of this Agreement or any interest herein, by operation of law or otherwise, without the prior written consent of the other; provided, however, that (a) the Executive's economic rights hereunder will automatically be assigned by the Executive to his or her estate or beneficiaries upon the death of the Executive and (b) the Company will assign its rights and obligations under

this Agreement without the consent of the Executive in the event that the Company is a party to a reorganization, consolidation, merger, or sale of all or substantially all of its stock, and (c) the Company will cause an acquirer of all or substantially all of its assets to assume this Agreement. This Agreement shall inure to the benefit of and be binding upon the Company and the Executive, and their respective successors, executors, administrators, heirs and permitted assigns.

7. Section 409A .

(a) Notwithstanding anything to the contrary in this Agreement, if at the time of the termination of the Executive's employment, the Executive is a "specified employee," as defined below, any and all amounts, if any, payable under this Agreement on account of such termination of employment that constitute deferred compensation and would (but for this provision) be payable within six (6) months following the date of termination, shall instead be paid, without interest, on the next business day following the expiration of such six (6) month period or, if earlier, upon the Executive's death.

(b) For purposes of this Agreement, all references to "termination of employment" and correlative phrases shall be construed to require a "separation from service" (as defined in Section 1.409A-1(h) of the Treasury regulations after giving effect to the presumptions contained therein), and the term "specified employee" means an individual determined by the Company to be a specified employee under Treasury regulation Section 1.409A-1(i).

(c) Each payment made under this Agreement shall be treated as a separate payment and the right to a series of installment payments, if any, under this Agreement is to be treated as a right to a series of separate payments.

(d) The parties agree that their intent is that payments and benefits under this Agreement be exempt from Section 409A to the greatest extent applicable. This Agreement shall be interpreted accordingly to be exempt from Section 409A, and all provisions of this Agreement shall be construed in a manner consistent with this intention. In the event that any payments or benefits under this Agreement are subject to Section 409A, this Agreement shall be construed in a manner consistent with the requirements for compliance with Section 409A and for avoiding taxes or penalties under Section 409A. Notwithstanding the foregoing, neither the Executive nor any beneficiary shall have any claim or right against the Company or any of its directors, officers, employees, advisers or agents by reason of any failure or asserted failure of this Agreement, in form or as administered, to comply with or qualify for exemption from Section 409A.

8. Amendment . This Agreement may be amended, modified or supplemented, and any obligation hereunder may be waived, only by a written instrument executed by the parties hereto; *provided* , that nothing herein shall be construed as limiting the Company's ability to amend the Severance Plan. The waiver by any party hereto of a breach of any provision of this Agreement shall not operate as a waiver of any subsequent breach. No failure on the part of any party to exercise, and no delay in exercising, any right or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or remedy by such party preclude any other or further exercise thereof or the exercise of any other right or remedy. All

rights and remedies hereunder are cumulative, and are in addition to all other rights and remedies provided by law, agreement or otherwise.

9. Definitions .

(a) " Cause " has the same definition as is set forth in the Company's Amended and Restated 2010 Employee, Director and Consultant Equity Incentive Plan, as in effect at the time of the Executive's employment termination; if such plan is no longer in effect at the time of such termination, Cause shall have the same definition as is set forth in the last version of such plan in effect prior to such termination.

(b) " Change of Control " has the same definition as is set forth in the Severance Plan.

(c) " Constructive Termination " means a termination of employment by the Executive for Good Reason.

(d) " Good Reason " means the occurrence of any of the following conditions without the Executive's express consent: (i) a material diminution in the Executive's authority, duties or responsibilities, (ii) a material diminution in the Executive's total target cash compensation unless such material diminution is in connection with a proportional reduction in compensation for all or substantially all of the Company's executive officers, or (iii) the relocation of the Executive's work place for the Company to a location more than sixty (60) miles from the location of the work place prior to the Constructive Termination. The Executive may terminate his or her employment hereunder for Good Reason by (A) providing notice to the Company, specifying in reasonable detail the condition giving rise to the Good Reason, no later than the sixtieth (60th) day following the date that the Executive knew or should have known (after reasonable inquiry) of the occurrence of that condition, (B) providing the Company a period of sixty (60) days to remedy the condition so specified in the notice, and (C) terminating his or her employment for Good Reason within thirty (30) days following the expiration of the period to remedy if the Company fails to remedy the condition.

(e) " Involuntary Termination " means a termination of the Executive's employment by the Company without Cause other than in connection with the sale of some or all of the assets of the Company, including the sale of a facility, division, or subsidiary of the Company, pursuant to which the purchaser offers the Executive substantially equivalent employment, the terms of which would not give rise to Good Reason.

10. Entire Agreement . This Agreement constitutes the entire agreement between the parties, and terminates and supersedes any and all prior agreements and understandings (whether written or oral) between the parties with respect to the subject matter of this Agreement other than the Restrictive Covenants Agreement, which shall continue in effect in accordance with its terms. The Executive acknowledges and agrees that neither the Company nor anyone acting on

its behalf has made, and in executing this Agreement the Executive has not relied upon, any representations, promises or inducements except to the extent the same is expressly set forth herein.

IRONWOOD PHARMACEUTICALS, INC.

By: _____

Title: _____

ACKNOWLEDGED AND ACCEPTED:

Signature: _____
[Name of Executive]

HEALTHCARE PROVIDER CONSULTING AGREEMENT
Ironwood Contract #HIP-541

THIS HEALTHCARE PROVIDER CONSULTING AGREEMENT (together with its Business Terms Exhibit, the "Agreement") made as of December 16, 2014 (the "Effective Date") is between **Ironwood Pharmaceuticals, Inc.** , a Delaware corporation having an address at 301 Binney Street, Cambridge, MA 02142 ("Ironwood"), **Christopher Walsh, PhD** and having an address at 241 Perkins Street, Unit B 601, Boston, MA 02130 ("Consultant"). Ironwood desires to have the benefit of Consultant's knowledge and experience, and Consultant desires to provide Consulting Services (defined below) to Ironwood, all as provided in this Agreement.

1 . **Consulting Services** . Ironwood retains Consultant and Consultant agrees to provide Consulting Services to Ironwood (the "Consulting Services") as it may from time to time reasonably request and as specified in any business terms exhibit that shall reference this Agreement ("Business Terms Exhibit"). The terms and conditions of this Agreement shall apply to any Business Terms Exhibit and shall supersede in the case of any conflict. Any changes to the Consulting Services (and any related compensation adjustments) must be agreed upon in writing between Consultant and Ironwood prior to commencement of the changes.

1.1 **Performance** . Consultant agrees to render the Consulting Services to Ironwood, or to its designee, (a) at such reasonably convenient times and places as Ironwood may direct, (b) under the general supervision of Ironwood, and (c) on a best efforts basis. Consultant will comply with all rules, procedures and standards promulgated from time to time by Ironwood with regard to Consultant's access to and use of Ironwood's property, information, equipment and facilities, as well as those related to standards of conduct while performing services on behalf of Ironwood. Consultant agrees to furnish Ironwood with written reports with respect to the Consulting Services if and when requested by Ironwood.

1.2 **Third Party Confidential Information** . Consultant agrees not to use any trade secrets or other confidential information of any other person, firm, corporation, institution or other entity in connection with any of the Consulting Services. Consultant shall ensure that the performance of Consulting Services does not and will not breach any agreement which obligates Consultant to keep in confidence any confidential or proprietary information or intellectual property of any third party or to refrain from competing, directly or indirectly, with the business of any third party, and Consultant shall not disclose to Ironwood any such confidential or proprietary information.

1.3 **No Conflicts** . Consultant is under no contractual or other obligation or restriction which is inconsistent with Consultant's execution of this Agreement or the performance of the Consulting Services. During the Term (defined below), Consultant will not enter into any agreement, either written or oral, in conflict with Consultant's obligations under this Agreement. Consultant will arrange to provide the Consulting Services in such manner and at such times that the Consulting Services will not conflict with Consultant's responsibilities under any other agreement, arrangement or understanding or pursuant to any employment relationship Consultant has at any time with any third party. If Consultant is a member of, affiliated with, or an employee of an educational or not-for-profit institution and is required by such institution to disclose any proposed agreements for Consulting Services as contemplated herein, he or she has made such disclosure in

accordance with the policies and procedures of such institution and obtained the prior written approval of this Agreement by such institution, if required.

1.4 **Absence of Debarment** . Consultant represents and warrants that neither Consultant nor any person employed by Consultant has been (a) debarred, convicted, or is subject to a pending debarment or conviction, pursuant to section 306 of the United States Food Drug and Cosmetic Act, 21 U.S.C. § 335a; (b) listed by any government or regulatory agencies as (i) ineligible to participate in any government healthcare programs or government procurement or non-procurement programs (as that term is defined in 42 U.S.C. 1320a-7b(f)), or excluded, debarred, suspended or otherwise made ineligible to participate in any such program, or (ii) disqualified, restricted, or recommended by such government or regulatory agency to be disqualified or restricted from receiving investigational products pursuant to the government or regulatory agency's regulations; or (c) convicted of a criminal offense related to the provision of healthcare items or services, or is subject to any such pending action. Consultant agrees to inform Ironwood in writing promptly if Consultant or any person employed by Consultant is subject to the foregoing, or if any action, suit, claim, investigation, or proceeding relating to the foregoing is pending, or to the best of Consultant's knowledge, is threatened.

1.5 **Non-solicitation and Non-compete.** During the Term and for a period of one (1) year thereafter, Consultant shall not (i) solicit any person who is employed by or a consultant to Ironwood or any affiliate or subsidiary of Ironwood, to terminate such person's employment by or consultancy to Ironwood, such affiliate or subsidiary, or (ii) hire such employee or consultant. As used herein, the term "solicit" shall include, without limitation, requesting, encouraging, assisting or causing, directly or indirectly, any such employee or consultant to terminate such person's employment by or consultancy to Ironwood or its affiliate or subsidiary.

Consultant is under no obligation to solicit, refer, or solicit the referral of patients for any Ironwood business. Consultant will receive no benefit of any kind from Ironwood for such referrals, nor suffer any detriment for not making such referrals.

During the Term and for a period of one (1) year following the expiration of the Term or termination of this Agreement, Consultant shall not, without Ironwood's' prior written approval, provide any consulting or other services to any entity or individual that is engaged in the development or commercialization of a peptide that is an agonist of guanylate cyclase type-C (GC-C).

1.6 **FCPA** . In performing the Consulting Services, Consultant will comply with all applicable laws and regulations applicable to its operations, including, but not limited to, the U.S. Foreign Corrupt Practices Act. Consultant agrees not to pay, offer or promise to pay, or authorize the payment directly or indirectly of any monies or anything of value to any government official or employee, or any political party or candidate for political office, for the purpose of influencing any act or decision of the government in connection with the activities of Consultant under the Business Terms Exhibit. Consultant warrants that no officer, director, partner, owner, principal, employee or agent of Consultant is an official or employee of a governmental agency or instrumentality or a government owned company in a position to influence action or a decision regarding the activities of Consultant contemplated in the Business Terms Exhibit.

1.7 **Disclosure.** Ironwood will have the right in its discretion (a) to display and disclose, as may be required under state or federal law or as is otherwise desired by Ironwood, information relating to the nature of Consulting Services performed pursuant to this Agreement, any and all payments, reimbursement for expenses, or other transfer of value made in other than dollar form relating to this Agreement, personal identifying information concerning or any other information relating to this Agreement and (b) to display such information, including but not limited to, on Ironwood's websites or (c) to report such information to government agencies in accordance with applicable laws and that these payments and identifying information may be posted on a governmental website.

2 . **Compensation** . In consideration of the Consulting Services described in the Business Terms Exhibit, Ironwood will pay Consultant the fees as described in the Business Terms Exhibit, or Ironwood will pay a third-party vendor ("Payer") (a consultant retained by Ironwood to provide logistical coordination for the consulting services) the fees as described in the Business Terms Exhibit, as specified in such the Business Terms Exhibit. If Ironwood pays the Payer, Consultant acknowledges that Ironwood's payment obligation in respect of such Services shall be discharged in full upon payment of the foregoing amounts to Payer, and that Ironwood, as the case may be, owes no payment directly to Consultant.

Payment is contingent on participation and completion of any written work product or other deliverable as described in the Business Terms Exhibit.

Consistent with industry guidance, Ironwood has established, individually and independently, caps on the total amount of annual compensation Ironwood will pay to an individual healthcare professional in conjunction with certain Consulting or other fee-for-service arrangements. Accordingly, fees payable hereunder may not exceed such cap without prior written approval.

Unless otherwise specified in the Business Terms Exhibit, undisputed payments will be made by Ironwood within forty-five (45) days from Ironwood's receipt of Consultant's invoice. Invoices will contain such detail as Ironwood may reasonably require, including Ironwood's contract number, and will be quoted in and payable in U.S. Dollars. Ironwood will reimburse Consultant for reasonable business expenses incurred by Consultant in the performance of the Consulting Services as specified in the Business Terms Exhibit.

Consultant agrees to keep records regarding all payments made, and costs, expenditures and expenses incurred, in connection with the Consulting Services performed pursuant to this Agreement, and shall provide Ironwood with information regarding these payments, costs, expenditures and expenses that Ironwood determines it may be required to disclose under state or federal law or otherwise desires to disclose. Such information shall be provided to Ironwood no less than thirty (30) days after receipt of such request.

3. Materials and Developments.

3.1 **Materials** . All documentation, information, and biological, chemical and other materials controlled by Ironwood and furnished to Consultant by or on behalf of Ironwood ("Materials") and all associated intellectual property rights will remain the exclusive property of Ironwood. Consultant will use Materials provided by Ironwood only as necessary to perform the Consulting Services and will treat them in accordance with the requirements of this Section 3.1. Consultant agrees that it will not use or evaluate those Materials or any portions thereof for any other purpose except as directed or permitted in

writing by Ironwood. Without Ironwood's prior express written consent, Consultant agrees that it will not analyze the Materials, or transfer or make the Materials available to third parties.

3.2 **Deliverables** . Consultant assigns and agrees to assign to Ironwood all rights in the United States and throughout the world to inventions, discoveries, improvements, ideas, designs, processes, formulations, products, computer programs, works of authorship, databases, mask works, trade secrets, know-how, information, data, documentation, reports, research, creations and other products arising from or made in the performance of the Consulting Services (whether or not patentable or subject to copyright or trade secret protection) (collectively, "Deliverables"). For purposes of the copyright laws of the United States, Deliverables will constitute "works made for hire," except to the extent such deliverables cannot by law be "works made for hire." Ironwood will have the right to use Deliverables for any and all purposes. During and after the term of this Agreement, Consultant will cooperate fully in obtaining patent and other proprietary protection for any patentable Deliverables, all in the name of Ironwood and at Ironwood's cost and expense. Such cooperation will include, without limitation, executing and delivering all requested applications, assignments and other documents, and taking such other measures as Ironwood may reasonably request in order to perfect and enforce Ironwood's rights in the Deliverables. Consultant appoints Ironwood its attorney-in-fact to execute and deliver any such documents on behalf of Consultant if Consultant fails to do so. Consultant will, however, retain full ownership rights in and to all templates, programs and other materials developed by Consultant or obtained or licensed from third parties by Consultant ("Consultant Property") prior to or independent of the Consulting Services, regardless of whether such Consultant Property is used in the performance of the Consulting Services. Consultant hereby grants to Ironwood a perpetual, non-exclusive, fully paid-up worldwide license to use Consultant Property solely to the extent required for Ironwood's use of the Deliverables.

3.3 **Work at Third Party Facilities.** Consultant will not use any third party facilities or intellectual property in performing the Consulting Services without Ironwood's prior written consent.

3.4 **Records; Records Storage.** Consultant will maintain all materials and all other data and documentation obtained or generated by Consultant in the course of preparing for and providing the Consulting Services, including all computerized records and files (the "Records") in a secure area reasonably protected from fire, theft and destruction. These Records will be "Works Made for Hire" and will remain the exclusive property of Ironwood. Upon written instruction of Ironwood, all Records will, at Ironwood's option either be (a) delivered to Ironwood or to its designee, or (b) disposed of, unless such Records are otherwise required to be stored or maintained by Consultant as a matter of law or regulation. In no event will Consultant dispose of any such Records without first giving Ironwood sixty (60) days' prior written notice of Consultant's intent to do so. Consultant may, however, retain copies of any Records as are reasonably necessary for regulatory or insurance purposes, subject to Consultant's obligation of confidentiality **.**

4. Confidential Information.

4.1 Definition. "Confidential Information" means all scientific, technical, financial or business information owned, possessed or used by Ironwood, learned of by Consultant or developed by Consultant in connection with the Consulting Services, whether or not labeled "Confidential", including but not limited to (a) Deliverables, Materials, scientific data and sequence information, (b) marketing plans, business strategies, financial information, forecasts, personnel information and customer lists of Ironwood, and (c) all information of third parties that Ironwood has an obligation to keep confidential.

4.2 Obligations of Confidentiality . During the Term and for a period of five (5) years thereafter, Consultant will not directly or indirectly publish, disseminate or otherwise disclose, use for Consultant's own benefit or for the benefit of a third party, deliver or make available to any third party, any Confidential Information, other than in furtherance of the purposes of this Agreement, and only then with the prior written consent of Ironwood. Consultant will exercise all reasonable precautions to physically protect the integrity and confidentiality of the Confidential Information. Consultant may disclose Confidential Information to its employees, consultants, advisors and collaborators, but only to the extent necessary to perform the Services. Consultant agrees that any such employees, consultants, advisors and collaborators to whom Confidential Information is disclosed shall be advised of Consultant's obligations under this Agreement and shall be bound by the terms at least as restrictive as the terms hereof to protect the confidentiality of the Confidential Information pursuant to (x) a written agreement with Consultant, or (y) the rules and standards of professional conduct to which such employee, consultant, advisor or collaborator is bound.

4.3 Exceptions. Consultant will have no obligations of confidentiality and non-use with respect to any portion of the Confidential Information which:

(a) is or later becomes generally available to the public by use, publication or the like, through no fault of Consultant;

(b) is obtained from a third party who had the legal right to disclose it to Consultant; or

(c) Consultant already possesses, as evidenced by Consultant's written records that predate the receipt thereof.

In the event that Consultant is required by law or court order to disclose any Confidential Information, Consultant will give Ironwood prompt notice thereof so that Ironwood may seek an appropriate protective order. Consultant will reasonably cooperate with Ironwood in its efforts to seek such a protective order.

5. Term and Termination .

5.1 Term . This Agreement will commence on the Effective Date and continue for two years (the "Term"), unless sooner terminated pursuant to the express terms of this Section 5. This Agreement shall automatically renew for subsequent periods of one (1) year each unless either party notifies the other at least thirty (30) days prior to the expiration of the current period of its intent not to renew. Notwithstanding the foregoing, this Agreement shall not expire, but shall continue in full force and effect until Consultant's completion

of any unperformed obligations under any Business Terms Exhibit executed prior to the date upon which the Agreement would otherwise have expired.

5.2 **Termination for Breach** . If either party breaches in any material respect any of its material obligations under this Agreement, in addition to any other right or remedy, the non-breaching party may terminate this Agreement or a Business Terms Exhibit in the event that the breach is not cured within thirty (30) days after receipt by that party of written notice of the breach.

5.3 **Termination by Ironwood** . Ironwood may terminate this Agreement or a Business Terms Exhibit (a) immediately at any time upon written notice to Consultant in the event of a breach of this Agreement or a Business Terms Exhibit by Consultant which cannot be cured (*i.e.* breach of the confidentiality obligation); (b) immediately, if at any time Consultant breaches the representation and warranty set forth in Section 1.4 or otherwise becomes subject to any of the actions, suits, claims, investigations, or proceedings set forth in Section1.4; and/or (c) at any time without cause upon not less than thirty (30) days' prior written notice to Consultant.

5.4 **Effect of Expiration/Termination.** Upon expiration or termination of this Agreement or a Business Terms Exhibit, neither Consultant nor Ironwood will have any further obligations under this Agreement or the Business Terms Exhibit, except that (a) Consultant will terminate all Consulting Services in progress in an orderly manner as soon as practical and in accordance with a schedule agreed to by Ironwood, unless Ironwood specifies in the notice of termination that Consulting Services in progress should be completed, (b) Consultant will deliver to Ironwood any Materials in its possession or control and all Deliverables made through expiration or termination, (c) Ironwood will pay Consultant any monies due and owing Consultant, up to the time of termination or expiration, for Consulting Services actually performed and all authorized expenses actually incurred, (d) Consultant will promptly refund to Ironwood any monies paid by Ironwood in advance for Consulting Services not rendered, (e) Consultant will immediately return to Ironwood all Confidential Information and copies thereof provided to Consultant under this Agreement or a Business Terms Exhibit except for one (1) copy which Consultant may retain solely to monitor Consultant's surviving obligations of confidentiality, and (f) the terms, conditions and obligations under Sections 1.4, 1.7, 3, 4, 5.4 and 6 will survive expiration or termination for any reason.

6. Consultant Selection .

Consultant acknowledges and confirms that he or she has been selected to serve as a Consultant because of his or her expertise in the relevant subject matter and not, in any way, as an inducement to, or in return for prescribing, purchasing, using, recommending preferential formulary status for, or dispensing of any Ironwood product. The parties agree that the payments provided under this Agreement for Consulting Services reflect the fair market value of such Consulting Services, are consistent with arm's length transactions, and are not in exchange for an agreement by Consultant to prescribe, use or recommend the prescription or use of any Ironwood product.

If Consultant's qualifications relate, even in part, to the Consultant's holding of one or more professional licenses (e.g., M.D., D.O., etc.), Consultant hereby represents and warrants that those licenses are current and that Consultant is in good standing with any applicable licensing board. Consultant hereby agrees to notify Ironwood if there is any material change to the status of his or her professional license(s).

7. Affiliated Institutions .

Consultant hereby represents and warrants that he or she has the authority to enter into and perform this Agreement, and his or her performance hereunder will not result in the breach or violation of any contract, arrangement or understanding Consultant may have with any third party. Consultant has made any necessary disclosures and obtained any required approvals for the Consulting Services under this Agreement and associated Business Terms Exhibit. Consultant acknowledges that if his or her employer contacts Ironwood, Ironwood reserves the right to disclose the nature of the relationship contemplated by this Agreement, and any other information deemed relevant by Ironwood, without prior notification to or authorization by Consultant.

Consultant agrees to be responsible to assure that the Consulting Services provided by him or her under this Agreement are in compliance with all applicable rules, regulations and policies of any employer or institution with which Consultant is affiliated, including and without limitation, rules and regulations requiring specific disclosure or record-keeping obligations. Consultant will promptly notify Ironwood if he or she believes that any of such Consulting Services are in violation of, or may reasonably be expected to become in violation of, any of such rules, regulations or policies.

If Consultant is a member of the committee of any entity that sets formularies or develops clinical guidelines, Consultant shall, for the period of this Agreement and the next two year period, disclose to such committee the existence and nature of the services contemplated by this Agreement and agrees to follow any procedures set forth by such committee relative to services under this Agreement.

Consultant agrees to fully disclose his or her relationship with Ironwood contemplated in this Agreement consistent with the requirements of any healthcare institution, medical committee, or other medical or scientific organization with which Consultant is affiliated. This obligation shall survive for a period of two years following the expiration or earlier termination of this Agreement.

8. Miscellaneous.

8.1 Independent Contractor . All Consulting Services will be rendered by Consultant as an independent contractor and this Agreement does not create an employer-employee relationship between Ironwood and Consultant. Consultant will have no rights to receive any employee benefits, such as health and accident insurance, sick leave or vacation which are accorded to regular Ironwood employees. Consultant will not in any way represent himself to be an employee, partner, joint venturer, or agent of Ironwood.

8.2 Taxes. Consultant will pay all required taxes on Consultant's income from Ironwood under this Agreement. Consultant will provide Ironwood with Consultant's taxpayer identification number or social security number, as applicable.

8.3 Use of Name . Consultant consents to the use by Ironwood of Consultant's name and likeness in written materials and oral presentations to current or prospective customers, partners, investors or others, provided that such materials or presentations accurately describe the nature of Consultant's relationship with or contribution to Ironwood.

8.4 Assignability and Binding Effect . The Consulting Services to be rendered by Consultant are personal in nature. Consultant may not assign or transfer this Agreement or any of Consultant's rights or obligations hereunder except to a corporation of which Consultant is the sole stockholder. In no event will Consultant assign or delegate responsibility for actual performance of the Consulting Services to any other entity or

natural person. This Agreement will be binding upon and inure to the benefit of the parties and their respective legal representatives, heirs, successors and permitted assigns.

8.5 **Notices** . All notices required or permitted under this Agreement must be in writing and must be given by addressing the notice to the address for the recipient set forth in this Agreement or at such other address as the recipient may specify in writing under this procedure. Notices to Ironwood will be marked "Attention: Vice President, General Counsel." Notices will be deemed to have been given (a) three (3) business days after deposit in the mail with proper postage for first class registered or certified mail prepaid, or (b) one (1) business day after sending by nationally recognized overnight delivery service.

8.6 **No Modification.** This Agreement may be changed only by a writing signed by Consultant and an authorized representative of Ironwood.

8.7 **Remedies.** It is understood and agreed that Ironwood may be irreparably injured by a breach of this Agreement; that money damages would not be an adequate remedy for any such breach; and that Ironwood will be entitled to seek equitable relief, including injunctive relief and specific performance, without having to post a bond, as a remedy for any such breach, and such remedy will not be Ironwood's exclusive remedy for any breach of this Agreement.

8.8 **Severability; Reformation.** Any of the provisions of this Agreement which are determined to be invalid or unenforceable in any jurisdiction will be ineffective to the extent of such invalidity or unenforceability in such jurisdiction, without rendering invalid or unenforceable the remaining provisions hereof and without affecting the validity or enforceability of any of the other terms of this Agreement in such jurisdiction, or the terms of this Agreement in any other jurisdiction. The parties will substitute for the invalid or unenforceable provision a valid and enforceable provision that conforms as nearly as possible with the original intent of the parties.

8.9 **Waivers.** No waiver of any term, provision or condition of this Agreement in any one or more instances will be deemed to be or construed as a further or continuing waiver of any other term, provision or condition of this Agreement. Any such waiver must be evidenced by an instrument in writing executed by Consultant or, in the case of Ironwood, by an officer authorized to execute waivers.

8.10 **Entire Agreement.** This Agreement constitutes the entire agreement of the parties with regard to its subject matter, and supersedes all previous written or oral representations, agreements and understandings between the parties on the subject matter.

8.11 **Governing Law** . This Agreement will be governed by, construed, and interpreted in accordance with the laws of the Commonwealth of Massachusetts, without reference to principles of conflicts of laws.

8.12 **Counterparts** . This Agreement may be executed in any number of counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

8.13 **Headings** . The section headings are included solely for convenience of reference and will not control or affect the meaning or interpretation of any of the provisions of this Agreement.

IN WITNESS WHEREOF , the parties hereto have executed this Agreement as of the Effective Date.

IRONWOOD PHARMACEUTICALS, INC.		**CHRISTOPHER WALSH, PHD**	
By:	/s/ G. Todd Milne	By:	/s/ Christopher T. Walsh
Name:	G. Todd Milne	Name:	Christopher T. Walsh
Title:	VP, sGC R&D	Title:	Consulting Professor, Stanford

BUSINESS TERMS EXHIBIT

Healthcare Consulting Agreement with Christopher Walsh, PhD

THIS BUSINESS TERMS EXHIBIT, dated December 16, 2014 (the "Business Terms Exhibit") is by and between **Ironwood Pharmaceuticals, Inc.** ("Ironwood") and **Christopher Walsh, PhD** ("Consultant"), and upon execution will be incorporated into the Healthcare Consulting Agreement between Ironwood and Consultant dated December 16, 2014 (the "Agreement"). Capitalized terms in this Business Terms Exhibit will have the same meaning as set forth in the Agreement. Ironwood hereby engages Consultant to provide Consulting Services, as follows:

1. Consulting Services:

Consultant will provide Consulting Services to Ironwood as chairman of Ironwood's Pharmaceutical Advisory Committee ("PAC"). The PAC will meet three times at Ironwood's facilities during 2015, during calendar quarter 1, calendar quarter 3 and calendar quarter 4. Consultant will chair the PAC and provide insight to assist Ironwood in critically reviewing and shaping the scientific strategy of Ironwood's research and development pipeline program.

2. Compensation:

As full compensation for the Consulting Services, Ironwood will pay Consultant $12,500.00 for each PAC meeting that Consultant attends. Total fees under this Business Terms Exhibit shall not exceed $37,500.00 without Ironwood's prior written approval.

Ironwood will reimburse Consultant for all reasonable travel and other business expenses incurred by Consultant in rendering the Consulting Services, provided that such expenses are agreed upon in writing in advance, and are confirmed by appropriate written expense statements and other supporting documentation.

Upon conclusion of each PAC meeting, Consultant will invoice Ironwood for Consulting Services rendered and expenses incurred. Invoices should reference contract **# HIP-547** and should be submitted to the following address: Ironwood Pharmaceuticals, Inc., Attn: Accounts Payable Dept., 301 Binney Street, Cambridge, MA 02142.

THIS BUSINESS TERMS EXHIBIT AGREED TO AND ACCEPTED BY:

IRONWOOD PHARMACEUTICALS, INC.	**CHRISTOPHER WALSH, PHD**
By: /s/ G. Todd Milne	By: /s/ Christopher T. Walsh
Name: G. Todd Milne	Name: Christopher T. Walsh
Title: VP, sGC R&D	Title: Consulting Professor, Stanford
duly authorized	*duly authorized*

EXHIBIT 10.16.7

EIGHTH AMENDMENT TO LEASE

THIS EIGHTH AMENDMENT TO LEASE (this " Amendment ") is entered into as of this 8th day of July, 2014 (the " Execution Date "), by and between BMR-ROGERS STREET LLC, a Delaware limited liability company (" Landlord ," as successor-in-interest to Rogers Street, LLC (" Original Landlord ")), and IRONWOOD PHARMACEUTICALS, INC., a Delaware corporation (formerly known as Microbia, Inc.) (" Tenant ").

RECITALS

A. WHEREAS, Original Landlord and Tenant entered into that certain Lease dated as of January 12, 2007, as amended by that certain First Amendment to Lease dated as of April 9, 2009, that certain Second Amendment to Lease dated as of February 9, 2010, that certain Third Amendment to Lease dated as of July 1, 2010, that certain Fourth Amendment to Lease dated as of February 3, 2011, that certain Fifth Amendment to Lease dated as of October 18, 2011, that certain Sixth Amendment to Lease dated as of July 19, 2012 and that certain Seventh Amendment to Lease dated as of October 30, 2012 (the " Seventh Amendment ") (collectively, as the same may have been otherwise amended, supplemented or modified from time to time, the " Lease "), whereby Tenant leases certain premises (the " Original Premises ") from Landlord at 301 Binney Street in Cambridge, Massachusetts (the " Building ");

B. WHEREAS, Tenant desires to lease additional premises from Landlord; and

C. WHEREAS, Landlord and Tenant desire to modify and amend the Lease only in the respects and on the conditions hereinafter stated.

AGREEMENT

NOW, THEREFORE, Landlord and Tenant, in consideration of the mutual promises contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, agree as follows:

1. Definitions . For purposes of this Amendment, capitalized terms shall have the meanings ascribed to them in the Lease unless otherwise defined herein. The Lease, as amended by this Amendment, is referred to herein as the " Amended Lease ."

2. Additional Premises Fifth Phase Stage 1 . The parties acknowledge and agree that Tenant has not yet taken and did not intend to take occupancy of the Additional Premises Fifth Phase Stage 1 on or before December 1, 2013, as required by Section 4 of the Seventh Amendment and agree that the requirement to take occupancy on or before December 1, 2013 is waived. Notwithstanding the foregoing, and in accordance with Section 5 of the Seventh Amendment, the parties hereby agree that the term with respect to the Additional Premises Fifth Phase Stage 1 shall commence on and the " Additional Premises Fifth Phase Stage 1 Rent Commencement Date " shall be December 1, 2013. Effective as of the Additional Premises Fifth

Phase Stage 1 Rent Commencement Date, Tenant shall pay Rent with respect to the Additional Premises Fifth Phase Stage 1 based on 23,250 rentable square feet, and until such time as the actual rentable square footage of the Additional Premises Fifth Phase Stage 1 is determined in accordance with Section 5 of the Seventh Amendment and this Section 2 , Tenant's Pro Rata Share shall be 58.90%. Once Tenant takes physical occupancy of the Additional Premises Fifth Phase Stage 1, Landlord and Tenant shall enter into an amendment to the Amended Lease memorializing (a) the actual useable square footage and the actual rentable square footage of the Additional Premises Fifth Phase Stage 1, (b) the amount of the Additional Premises Fifth Phase Finish Work Allowance (as defined in Section 13 of the Seventh Amendment) allocated to the Additional Premises Fifth Phase Stage 1 and (c) an appropriate adjustment to Tenant's Pro Rata Share. In addition, because the Additional Premises Fifth Phase Stage 1 Rent Commencement Date is occurring before the actual rentable square footage of the Additional Premises Fifth Phase Stage 1 is determined, Landlord and Tenant agree to true up all payments of Rent for such Additional Premises Fifth Phase Stage 1 made prior to the date such actual square footage is determined in accordance with Section 10 of the Seventh Amendment.

3. Additional Premises Fifth Phase . Notwithstanding Sections 7 and 8 of the Seventh Amendment, Landlord hereby agrees that in the event that Tenant subleases all or a portion of the Additional Premises Fifth Phase Stage 3 and the Additional Premises Fifth Phase Stage 4 (collectively, the " Proposed Biogen Sublease Premises ") to either Biogen Idec Inc. (" Biogen ") or a direct or indirect subsidiary of Biogen so long as such subsidiary's obligations are guaranteed by Biogen, on the economic terms attached as Exhibit A hereto, and Biogen occupies the Proposed Biogen Sublease Premises prior to (a) June 1, 2015 with respect to the Additional Premises Fifth Phase Stage 3, then Tenant shall not be required to pay Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 3 until April 1, 2015, at which time Tenant shall commence paying the same with respect to the Additional Premises Fifth Phase Stage 3 and (b) June 1, 2016 with respect to the Additional Premises Fifth Phase Stage 4, then Tenant shall not be required to pay Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building, and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 4 until June 1, 2016 ; provided , however, that as of the date Biogen takes occupancy of each of the Additional Premises Fifth Phase Stage 3 and the Additional Premises Fifth Phase Stage 4, Tenant shall be required to pay Tenant's Pro Rata Share of Landlord's expenses for utilities. In addition, Landlord and Tenant shall still enter into an amendment to the Amended Lease memorializing the actual useable square footage and the actual rentable square footage of each Stage, the rent commencement date for each Stage and the amount of the Additional Premises Fifth Phase Finish Work Allowance allocated to each Stage. Nothing contained in this Section shall either (x) operate as a consent to or approval by Landlord of any sublease to Biogen, (y) create any contractual relationship between Landlord and Biogen or (z) be construed to modify, waive or affect any of the provisions, covenants or conditions of, or any rights or remedies of Landlord under, those provisions of the Amended Lease relating to subleasing and assignment and Tenant shall apply for Landlord's consent to any sublease to Biogen in accordance with the provisions of Amended Lease. The terms of this Section 3 shall

only apply to a sublease of the Additional Premises Fifth Phase to Biogen and shall not apply in the event Tenant occupies the Premises itself, or subleases the Additional Premises Fifth Phase to any subtenant other than Biogen.

4. Additional Premises 1st Floor. As of the Additional Premises 1st Floor Term Commencement Date (as defined below), Landlord hereby leases to Tenant, and Tenant leases from Landlord, additional premises located on the first (1st) floor of the Building, as depicted on Exhibit B attached hereto (the "Additional Premises 1st Floor"). The Additional Premises 1st Floor consist of eight thousand six hundred ninety-three (8,693) rentable square feet of space and seven thousand four hundred forty-seven (7,447) usable square feet of space on the first (1st) floor of the Building. For the sake of clarity, (a) Landlord sought the conversion of certain mechanical space located on the first floor of the Building depicted on Exhibit C to the Seventh Amendment that was in addition to the Additional Premises 1st Floor (the "Extra Converted 1st Floor Space"); (b) the square footage of the Extra Converted 1st Floor Space is not included in the Additional Premises 1st Floor and shall not be included within the Premises; and (c) Tenant confirms and agrees that Exhibit C to the Seventh Amendment depicts all the mechanical space to be converted on the first (1st) floor of the Building, including mechanical space to be converted and included in the Additional Premises 1st Floor.

5. Term Commencement Date. Notwithstanding anything to the contrary in the Amended Lease, the term with respect to the Additional Premises 1st Floor commenced on January 1, 2014 (the "Additional Premises 1st Floor Term Commencement Date") and shall terminate, subject to any extension options granted pursuant to the Amended Lease, on the Expiration Date (as defined in Section 14 of the Seventh Amendment). From and after the Additional Premises 1st Floor Term Commencement Date, the term "Premises," as used in the Amended Lease, shall mean the Original Premises plus the Additional Premises 1st Floor and, except as otherwise provided herein, all provisions of the Amended Lease shall apply to such Additional 1st Floor Premises.

6. Construction of Finish Work in the Additional Premises 1st Floor and the 1st Floor Space Finish Work Allowance. Tenant shall use commercially reasonable efforts to complete the conference center improvements described in Section 12 of the Seventh Amendment (which shall include, but not be limited to, the improvements listed on Exhibit D attached to the Seventh Amendment) in the Additional Premises 1st Floor (collectively, the "Conference Center Improvements") as soon as practicable, but in no event later than December 31, 2014. The 1st Floor Space Finish Work Allowance granted to Tenant in Section 12 of the Seventh Amendment is hereby reduced by an amount equal to One Hundred Three Thousand One Hundred Forty-Three and 84/100 Dollars ($103,143.84), for a revised 1st Floor Space Finish Work Allowance of One Million Six Hundred Ninety-Six Thousand Eight Hundred Fifty-Six and 16/100 Dollars ($1,696,856.16).

7. Additional Premises 1st Floor Pro Rata Share. Effective as of the Additional Premises 1st Floor Term Commencement Date, Tenant's Pro Rata Share shall be 61.10%. Notwithstanding such increase in Tenant's Pro Rata Share, Tenant's obligations with respect to Base Rent and Additional Rent with respect to the Additional Premises 1st Floor shall be as set

forth in Section 8 below, and accordingly, none of the square footage of the Additional Premises 1st Floor shall be included for purposes of calculating Tenant's Pro Rata Share prior to January 1, 2015 (i.e., the 2.2% increase in Tenant's Pro Rata Share attributable to the square footage of the Additional Premises 1st Floor shall be disregarded until January 1, 2015); provided , however, that Tenant's Pro Rata Share shall be increased (a) on June 1, 2014 to include the square footage of the Additional Premises Fifth Phase Stage 2 in accordance with Section 9 below shall and (b) the date when any additional premises are added to Tenant's Premises (e.g., the Additional Premises Fifth Phase Stage 3).

8. Additional Premises 1st Floor Base Rent/Additional Rent . Tenant shall not be required to pay any Base Rent with respect to the Additional Premises 1st Floor. However, effective as of January 1, 2015, Tenant shall pay (a) Tenant's Pro Rata Share of Taxes, (b) Tenant's Pro Rata Share of Landlord's expenses for utilities, (c) Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building, (d) Tenant's Pro Rata Share of Operating Expenses, and (e) other Additional Rent with respect to the Additional Premises 1st Floor. For the sake of clarity, with respect to the Additional Premises 1st Floor only, items (a), (b), (c) and (d) of this Section 8 shall be abated from the Additional Premises 1st Floor Term Commencement Date through December 31, 2014.

9. Additional Premises Fifth Phase Stage 2 . The parties acknowledge and agree that Tenant has not yet taken and did not intend to take occupancy of the Additional Premises Fifth Phase Stage 2 on or before June 1, 2014, as required by Section 4 of the Seventh Amendment and agree that the requirement to take occupancy on or before June 1, 2014 is waived. Notwithstanding the foregoing, and in accordance with Section 6 of the Seventh Amendment, the parties hereby agree that the term with respect to the Additional Premises Fifth Phase Stage 2 shall commence on and the " Additional Premises Fifth Phase Stage 2 Rent Commencement Date " shall be June 1, 2014. Effective as of the Additional Premises Fifth Phase Stage 2 Rent Commencement Date, Tenant shall pay Rent with respect to the Additional Premises Fifth Phase Stage 2 based on 23,250 rentable square feet, and until such time as the actual rentable square footage of the Additional Premises Fifth Phase Stage 2 is determined in accordance with Section 6 of the Seventh Amendment and this Section 9 , Tenant's Pro Rata Share shall be 66.96%. Once Tenant takes physical occupancy of the Additional Premises Fifth Phase Stage 2, Landlord and Tenant shall enter into an amendment to the Amended Lease memorializing (a) the actual useable square footage and the actual rentable square footage of the Additional Premises Fifth Phase Stage 2, (b) the amount of the Additional Premises Fifth Phase Finish Work Allowance (as defined in Section 13 of the Seventh Amendment) allocated to the Additional Premises Fifth Phase Stage 2 and (c) an appropriate adjustment to Tenant's Pro Rata Share. In addition, because the Additional Premises Fifth Phase Stage 2 Rent Commencement Date is occurring before the actual rentable square footage of the Additional Premises Fifth Phase Stage 2 is determined, Landlord and Tenant agree to true up all payments of Rent for such Additional Premises Fifth Phase Stage 2 made prior to the date such actual square footage is determined in accordance with Section 10 of the Seventh Amendment.

10. Removal of Conference Center Improvements . Landlord hereby agrees that it shall not require Tenant to remove any of the Conference Center Improvements at the end of the Term.

11. Conference Center . Landlord agrees to use reasonable efforts to explore and discuss (a) options with Tenant for use of the Additional Premises 1st Floor as a conference center by parties other than Tenant and (b) the interest of other tenants in the Building and the Project (excluding residential tenants of the Project) to use the Additional Premises 1st Floor as a conference center. If use of the Additional Premises 1st Floor as a conference center does not violate, and is in accordance with, all Legal Requirements (as defined in the Lease), Landlord does not object to Tenant's use of the Additional Premises 1st Floor for such purpose; provided , that, (y) the parties enter into a written amendment permitting such use in the Additional Premises 1st Floor and (z) Landlord shall be entitled to place reasonable parameters upon such use of the Additional Premises 1st as a conference center as Landlord deems appropriate in Landlord's reasonable discretion.

12. Conversion of Core Space . The City of Cambridge approved the conversion of the Core Space depicted on Exhibit B to the Seventh Amendment and such space is now " Converted Space ." Landlord has or will commence the renovation of the Converted Space to a "Warm Shell Condition" and will deliver the same to Tenant on or before August 31, 2014.

13. Freeze Protection . Tenant hereby acknowledges that Landlord has completed the work relating to freeze protection for chilled water and reheat coils in the Premises, including the Additional Premises Fifth Phase, as required by Section 19 and Exhibit F of the Seventh Amendment.

14. Condition of Premises . Tenant acknowledges that, other than as set forth below or in the Lease, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of the Additional Premises 1st Floor, the Additional Premises Fifth Phase Stage 1, the Additional Premises Fifth Phase Stage 2, the Building or the Property, or with respect to the suitability of the Additional Premises 1st Floor, the Additional Premises Fifth Phase Stage 1, the Additional Premises Fifth Phase Stage 2, the Building or the Property for the conduct of Tenant's business. Tenant acknowledges that (a) it is fully familiar with the condition of the Additional Premises 1st Floor, and agrees to take the same in its condition "as is" as of the Additional Premises 1st Floor Term Commencement Date, (b) it is fully familiar with the condition of the Additional Premises Fifth Phase Stage 1, and agrees to take the same in its condition "as is" as of the Additional Premises Fifth Phase Stage 1 Rent Commencement Date, (c) it is fully familiar with the condition of the Additional Premises Fifth Phase Stage 2, and agrees to take the same in its condition "as is" as of the Additional Premises Fifth Phase Stage 2 Rent Commencement Date and (d) Landlord shall have no obligation to alter, repair or otherwise prepare the Additional Premises 1st Floor or the Additional Premises Fifth Phase Stage 1 or the Additional Premises Fifth Phase Stage 2 for Tenant's occupancy or to pay for or construct any improvements to the Additional Premises 1st Floor, the Additional Premises Fifth Phase Stage1 or the Additional Premises Fifth Phase Stage 2, except that Landlord shall provide the 1st Floor Space Finish Work Allowance (as defined in the Seventh

Amendment and as amended by this Amendment) for Finish Work in the Additional Premises 1st Floor and the Additional Premises Fifth Phase Work Allowance (as defined in the Seventh Amendment) for Finish Work in the Additional Premises Fifth Phase Stage 1 and the Additional Premises Fifth Phase Stage 2. Landlord hereby represents and warrants that (w) as of the Additional Premises 1st Floor Term Commencement Date, the Additional Premises 1st Floor is in compliance with all Legal Requirements, (x) as of the Additional Premises Fifth Phase Stage 1 Rent Commencement Date, the Additional Premises Fifth Phase Stage 1 is in compliance with all Legal Requirements, (y) as of the Additional Premises Fifth Phase Stage 2 Rent Commencement Date, the Additional Premises Fifth Phase Stage 2 is in compliance with all Legal Requirements and (z) as of the Execution Date, the common area of the Building is in compliance with all Legal Requirements.

15. Parking .

(a) In addition to any existing rights of Tenant to parking spaces under the Lease, commencing on the Execution Date, Landlord shall provide Tenant with (a) sixteen (16) additional parking spaces allocated to the Additional Premises Fifth Phase Stage 1 (the " Additional Premises Fifth Phase Stage 1 Parking Spaces ") and (b) sixteen (16) additional parking spaces allocated to the Additional Premises Fifth Phase Stage 2 (the " Additional Premises Fifth Phase Stage 2 Parking Spaces "). Tenant shall pay to Landlord as Additional Rent, Landlord's then-current prevailing monthly rate for parking spaces for such Additional Premises Fifth Phase Stage 1 Parking Spaces and Additional Premises Fifth Phase Stage 2 Parking Spaces. Tenant's use of the Additional Premises Fifth Phase Stage 1 Parking Spaces and Additional Premises Fifth Phase Stage 2 Parking Spaces provided hereunder and Tenant's rights with respect thereto (including (without limitation) limitations on increase in the prevailing monthly rate for parking spaces) shall otherwise be in accordance with the terms of Section 2.01(d) of the Lease.

(b) For the sake of clarity, the phrase "Landlord shall provide Tenant with 1.0 parking spaces per 1,000 usable square feet (exclusive of any mechanical space)" in Section 20 of the Seventh Amendment is hereby deleted and replaced with "Landlord shall provide Tenant with 1.0 parking spaces per 1,000 usable square feet (exclusive of any mechanical space, including all the mechanical space converted to gross floor area pursuant to the City of Cambridge Board of Zoning Appeal Case No. 10459)".

16. Notices .

(a) Tenant confirms that, notwithstanding anything in the Lease to the contrary, notices delivered to Tenant pursuant to the Amended Lease should be sent to:

Ironwood Pharmaceuticals, Inc.
301 Binney Street
Cambridge, Massachusetts 02141
Attn: Michael Higgins
Telephone: (617) 621-7722

Fax: (617) 494-0480

with a copy to:

Ironwood Pharmaceuticals, Inc.
301 Binney Street
Cambridge, Massachusetts 02141
Attn: General Counsel
Telephone: (617) 621-7722
Fax: (617) 494-0480

with a copy to:

Ropes & Gray LLP
Prudential Tower
800 Boylston Street
Boston, Massachusetts 02199
Attn: Walter R. McCabe III, Esq.

(b) Landlord confirms that, notwithstanding anything in the Lease to the contrary, notices delivered to Landlord pursuant to the Amended Lease should be sent to:

BMR-Rogers Street LLC
17190 Bernard Center Drive
San Diego, California 92128
Attn: Vice President, Real Estate Legal
Telephone: (858) 485-9840
Fax: (858) 485-9843

17. Broker . Tenant represents and warrants that other than CB Richard Ellis, Inc. (" Broker "), it has had no dealings with any real estate broker or agent in connection with the negotiation of this Amendment, and that it knows of no real estate broker or agent that is or might be entitled to a commission in connection with the representation of Tenant in connection with this Amendment. Landlord shall compensate Broker in relation to this Amendment pursuant to a separate agreement between Landlord and Broker.

(a) Tenant represents and warrants that no broker or agent has made any representation or warranty relied upon by Tenant in Tenant's decision to enter into this Amendment, other than as contained in this Amendment.

(b) Tenant acknowledges and agrees that the employment of brokers by Landlord is for the purpose of solicitation of offers of leases from prospective tenants and that no authority is granted to any broker to furnish any representation (written or oral) or warranty from Landlord unless expressly contained within this Amendment. Landlord is executing this Amendment in reliance upon Tenant's representations, warranties and agreements contained within Section 16 , Section 16(a) and this Section 16(b) .

(c) Tenant agrees to indemnify, save, defend and hold Landlord harmless from any and all cost or liability for compensation claimed by any other broker or agent, other than Broker, employed or engaged by Tenant or claiming to have been employed or engaged by Tenant.

(d) Landlord shall pay any commission, fee or other compensation due to any Landlord broker(s) in connection with this Amendment. Landlord agrees to indemnify, save, defend and hold Tenant harmless from any and all cost or liability for compensation claimed by any broker or agent employed or engaged by Landlord or claiming to have been employed or engaged by Landlord.

18. Effect of Amendment . Except as modified by this Amendment, the Lease and all the covenants, agreements, terms, provisions and conditions thereof shall remain in full force and effect and are hereby ratified and affirmed. The covenants, agreements, terms, provisions and conditions contained in this Amendment shall bind and inure to the benefit of the parties hereto and their respective successors and, except as otherwise provided in the Lease, as amended hereby, their respective assigns. In the event of any conflict between the terms contained in this Amendment and the Lease, the terms herein contained shall supersede and control the obligations and liabilities of the parties. From and after the Execution Date, the term "Lease" as used in the Lease shall mean the Lease, as modified by this Amendment.

19. Miscellaneous . This Amendment becomes effective only upon execution and delivery hereof by Landlord and Tenant. The captions of the paragraphs and subparagraphs in this Amendment are inserted and included solely for convenience and shall not be considered or given any effect in construing the provisions hereof. All exhibits hereto are incorporated herein by reference. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or option for a lease, and shall not be effective as a lease, lease amendment or otherwise until execution by and delivery to both Landlord and Tenant.

20. Counterparts . This Amendment may be executed in one or more counterparts, each of which, when taken together, shall constitute one and the same document.

21. Authority . Landlord and Tenant have all necessary and proper authority, without the need for the consent of any other person or entity, other than any consents that have been obtained, to enter into and perform under this Amendment.

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IN WITNESS WHEREOF, Landlord and Tenant have hereunto set their hands as of the Execution Date as a Massachusetts sealed instrument, and acknowledge that they possess the requisite authority to enter into this transaction and to execute this Amendment.

LANDLORD :

BMR-ROGERS STREET LLC ,
a Delaware limited liability company

By: /s/ William Kane
Name: William Kane
Title: Vice President, Leasing & Development

TENANT :

IRONWOOD PHARMACEUTICALS, INC. ,
a Delaware corporation

By: /s/ Michael J. Higgins
Name: Michael J. Higgins
Title: Chief Financial Officer and Chief Operating Officer

EXHIBIT 10.16.8

NINTH AMENDMENT TO LEASE

THIS NINTH AMENDMENT TO LEASE (this " Amendment ") is entered into as of this 27th day of October, 2014, by and between BMR-ROGERS STREET LLC, a Delaware limited liability company (" Landlord ," as successor-in-interest to Rogers Street, LLC (" Original Landlord ")), and IRONWOOD PHARMACEUTICALS, INC., a Delaware corporation (" Tenant ," formerly known as Microbia, Inc.).

RECITALS

A. WHEREAS, Original Landlord and Tenant entered into that certain Lease dated as of January 12, 2007, as amended by that certain First Amendment to Lease dated as of April 9, 2009, that certain Second Amendment to Lease dated as of February 9, 2010, that certain Third Amendment to Lease dated as of July 1, 2010, that certain Fourth Amendment to Lease dated as of February 3, 2011, that certain Fifth Amendment to Lease dated as of October 18, 2011, that certain Sixth Amendment to Lease dated as of July 19, 2012, that certain Seventh Amendment to Lease dated as of October 30, 2012 and that certain Eighth Amendment to Lease dated as of July 8, 2014 (collectively, as the same may have been otherwise amended, supplemented or modified from time to time, the " Lease "), whereby Tenant leases certain premises (the " Original Premises ") from Landlord at 301 Binney Street in Cambridge, Massachusetts (the " Building ");

B. WHEREAS, in order to adjust the location of certain portions of the Premises, the parties have agreed that certain areas shall be excluded from the Premises and other areas shall be included within the Premises as further detailed herein; and

C. WHEREAS, Landlord and Tenant desire to modify and amend the Existing Lease only in the respects and on the conditions hereinafter stated.

AGREEMENT

NOW, THEREFORE, Landlord and Tenant, in consideration of the mutual promises contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, agree as follows:

1. Definitions . For purposes of this Amendment, capitalized terms shall have the meanings ascribed to them in the Existing Lease unless otherwise defined herein. The Existing Lease, as amended by this Amendment, is referred to collectively herein as the " Lease ."

2. Change in Location of Premises . Effective as of the Execution Date, the Premises are hereby modified as follows: (a) Tenant hereby releases and excludes from the Premises approximately seven hundred and ninety-nine (799) rentable square feet of space on the first (1st) floor of the Building in the locations labeled as "Surrendered Space" on Exhibit A attached hereto (the " Surrendered Space ") and (b) Tenant hereby accepts and includes as part of the

Premises seven hundred and ninety-nine (799) rentable square feet of space on the first (1st) floor of the Building in the locations labeled as "Additional Space" on Exhibit A attached hereto (the " Additional Space "). The simultaneous occurrence of (a) and (b) shall be referred to herein as the " Premises Swap ". From and after the Execution Date, the "Premises" shall mean the Premises originally identified in the Existing Lease (i) less the Surrendered Space and (ii) plus the Additional Space. For the avoidance of doubt, the overall useable square footage, the overall rentable square footage and Tenant's Pro Rata Share shall remain unchanged by the Premises Swap.

3. Condition of Premises . Tenant acknowledges that (a) it is fully familiar with the condition of the Additional Space and, notwithstanding anything contained in the Lease to the contrary, agrees to take the same in its condition "as is" as of the first day of the Execution Date, and (b) Landlord shall have no obligation to alter, repair or otherwise prepare the Additional Space for Tenant's occupancy or to pay for any improvements to the Additional Premises, except as may be expressly provided in the Lease.

4. Broker . Tenant represents and warrants that other than CB Richard Ellis, Inc. (" Broker "), it has had no dealings with any real estate broker or agent in connection with the negotiation of this Amendment, and that it knows of no real estate broker or agent that is or might be entitled to a commission in connection with the representation of Tenant in connection with this Amendment. Broker is not entitled to any commission pursuant to this Amendment.

(a) Tenant represents and warrants that no broker or agent has made any representation or warranty relied upon by Tenant in Tenant's decision to enter into this Amendment, other than as contained in this Amendment.

(b) Tenant acknowledges and agrees that the employment of brokers by Landlord is for the purpose of solicitation of offers of leases from prospective tenants and that no authority is granted to any broker to furnish any representation (written or oral) or warranty from Landlord unless expressly contained within this Amendment. Landlord is executing this Amendment in reliance upon Tenant's representations, warranties and agreements contained within Section 5 , Section 5(a) and this Section 5(b) .

(c) Tenant agrees to indemnify, save, defend and hold Landlord harmless from any and all cost or liability for compensation claimed by any other broker or agent, other than Broker, employed or engaged by Tenant or claiming to have been employed or engaged by Tenant.

(d) Landlord shall pay any commission, fee or other compensation due to any Landlord broker(s) in connection with this Amendment. Landlord agrees to indemnify, save, defend and hold Tenant harmless from any and all cost or liability for compensation claimed by any broker or agent employed or engaged by Landlord or claiming to have been employed or engaged by Landlord.

5. No Default . Tenant represents, warrants and covenants that, to the best of Tenant's knowledge, Landlord and Tenant are not in default of any of their respective

obligations under the Lease and no event has occurred that, with the passage of time or the giving of notice (or both) would constitute a default by either Landlord or Tenant thereunder.

6. Effect of Amendment . Except as modified by this Amendment, the Existing Lease and all the covenants, agreements, terms, provisions and conditions thereof shall remain in full force and effect and are hereby ratified and affirmed. In the event of any conflict between the terms contained in this Amendment and the Existing Lease, the terms herein contained shall supersede and control the obligations and liabilities of the parties. From and after the date hereof, the term " Lease " as used in the Lease shall mean the Existing Lease, as modified by this Amendment.

7. Successors and Assigns . Each of the covenants, conditions and agreements contained in this Amendment shall inure to the benefit of and shall apply to and be binding upon the parties hereto and their respective heirs, legatees, devisees, executors, administrators and permitted successors and assigns and sublessees. Nothing in this section shall in any way alter the provisions of the Lease restricting assignment or subletting.

8. Miscellaneous . This Amendment becomes effective only upon execution and delivery hereof by Landlord and Tenant. The captions of the paragraphs and subparagraphs in this Amendment are inserted and included solely for convenience and shall not be considered or given any effect in construing the provisions hereof. All exhibits hereto are incorporated herein by reference. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or option for a lease, and shall not be effective as a lease, lease amendment or otherwise until execution by and delivery to both Landlord and Tenant.

9. Authority . Landlord and Tenant have all necessary and proper authority, without the need for the consent of any other person or entity, other than any consents that have been obtained, to enter into and perform under this Amendment.

10. Counterparts; Facsimile and PDF Signatures . This Amendment may be executed in one or more counterparts, each of which, when taken together, shall constitute one and the same document. A facsimile or portable document format (PDF) signature on this Amendment shall be equivalent to, and have the same force and effect as, an original signature.

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IN WITNESS WHEREOF, Landlord and Tenant have executed this Amendment as a sealed Massachusetts instrument as of the date and year first above written.

LANDLORD :

BMR-ROGERS STREET LLC ,
a Delaware limited liability company

By: /s/ Kevin Simonsen
Name: Kevin Simonsen
Title: VP, Real Estate Legal

TENANT :

IRONWOOD PHARMACEUTICALS, INC. ,
a Delaware corporation

By: /s/ Jim DeTore
Name: Jim DeTore
Title: VP, Finance

EXHIBIT 10.16.9

TENTH AMENDMENT TO LEASE

THIS TENTH AMENDMENT TO LEASE (this " Amendment ") is entered into as of this 21st day of January, 2015 (the " Execution Date "), by and between BMR-ROGERS STREET LLC, a Delaware limited liability company (" Landlord ," as successor-in-interest to Rogers Street, LLC (" Original Landlord ")), and IRONWOOD PHARMACEUTICALS, INC., a Delaware corporation (" Tenant ," formerly known as Microbia, Inc.).

RECITALS

A. WHEREAS, Original Landlord and Tenant entered into that certain Lease dated as of January 12, 2007, as amended by that certain First Amendment to Lease dated as of April 9, 2009, that certain Second Amendment to Lease dated as of February 9, 2010, that certain Third Amendment to Lease dated as of July 1, 2010, that certain Fourth Amendment to Lease dated as of February 3, 2011, that certain Fifth Amendment to Lease dated as of October 18, 2011, that certain Sixth Amendment to Lease dated as of July 19, 2012, that certain Seventh Amendment to Lease dated as of October 30, 2012 (the " Seventh Amendment "), that certain Eighth Amendment to Lease dated as of July 8, 2014 (the " Eighth Amendment ") and that certain Ninth Amendment to Lease dated as of October 27, 2014 (collectively, and as the same may have been heretofore further amended, amended and restated, supplemented or modified from time to time, the " Existing Lease "), whereby Tenant leases certain premises (the " Premises ") from Landlord at 301 Binney Street in Cambridge, Massachusetts (the " Building ");

B. WHEREAS, Landlord and Tenant, among other things, desire to memorialize certain terms relating to the Additional Premises Fifth Phase (as defined in the Seventh Amendment); and

C. WHEREAS, Landlord and Tenant desire to modify and amend the Existing Lease only in the respects and on the conditions hereinafter stated.

AGREEMENT

NOW, THEREFORE, Landlord and Tenant, in consideration of the mutual promises contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, agree as follows:

1. Definitions . For purposes of this Amendment, capitalized terms shall have the meanings ascribed to them in the Existing Lease unless otherwise defined herein. The Existing Lease, as amended by this Amendment, is referred to collectively herein as the " Lease ."

2. Additional Premises Fifth Phase . The parties desire to memorialize certain terms relating to the Additional Premises Fifth Phase and hereby agree as follows:

(a) The Additional Premises Fifth Phase consists of 92,750 rentable square feet and 81,917 useable square feet.

(b) The Additional Premises Fifth Phase, including associated off-floor mechanical space, is shown on the premises plans attached hereto as Exhibit A .

3. Additional Premises Fifth Phase Stage 1 . Pursuant to Section 5 of the Seventh Amendment and Section 2 of the Eighth Amendment, the parties desire to memorialize certain terms relating to the Additional Premises Fifth Phase Stage 1 and hereby agree as follows:

(a) Tenant's subtenant, Biogen Idec MA Inc. (" Biogen ") took physical occupancy of the Additional Premises Fifth Phase Stage 1 on November 15, 2014 (the " Biogen Occupancy Date ").

(b) The Additional Premises Fifth Phase Stage 1 consists of 23,188 rentable square feet and 20,480 useable square feet.

(c) Nine Hundred Twenty-Seven Thousand Five Hundred Twenty and 00/100 Dollars ($927,520.00) of the Additional Premises Fifth Phase Finish Work Allowance (as defined in Section 13 of the Seventh Amendment) was allocated to the Additional Premises Fifth Phase Stage 1.

(d) Tenant's Pro Rata Share of 58.90% set forth in Section 2 of the Eighth Amendment is hereby deleted and replaced with 58.89%, which new Pro Rata Share shall retroactively apply as of December 1, 2013.

(e) Pursuant to Section 2 of the Eighth Amendment, the Additional Premises Fifth Phase Stage 1 Rent Commencement Date was December 1, 2013, and Tenant shall continue paying Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 1 for the remainder of the Term, as extended by the Extension Term (as defined in Section 14 of the Seventh Amendment).

4. Additional Premises 1st Floor Pro Rata Share . Tenant's Pro Rata Share of 61.10% set forth in Section 7 of the Eighth Amendment is hereby deleted and replaced with 61.08%, which new Pro Rata Share shall retroactively apply as of the Additional Premises 1st Floor Term Commencement Date (as defined in Section 5 of the Eighth Amendment), subject to abatement as set forth in Sections 7 and 8 of the Eighth Amendment.

5. Additional Premises Fifth Phase Stage 2 . Pursuant to Section 6 of the Seventh Amendment and Section 9 of the Eighth Amendment, the parties desire to memorialize certain terms relating to the Additional Premises Fifth Phase Stage 2 and hereby agree as follows:

(a) Biogen took physical occupancy of the Additional Premises Fifth Phase Stage 2 on the Biogen Occupancy Date.

(b) The Additional Premises Fifth Phase Stage 2 consists of 23,188 rentable square feet and 20,480 useable square feet.

(c) Nine Hundred Twenty-Seven Thousand Five Hundred Twenty and 00/100 Dollars ($927,520.00) of the Additional Premises Fifth Phase Finish Work Allowance was allocated to the Additional Premises Fifth Phase Stage 2.

(d) Tenant's Pro Rata Share of 66.96% set forth in Section 9 of the Eighth Amendment is hereby deleted and replaced with 66.93%, which new Pro Rata Share shall retroactively apply as of June 1, 2014.

(e) Pursuant to Section 9 of the Eighth Amendment, the Additional Premises Fifth Phase Stage 2 Rent Commencement Date was June 1, 2014 and Tenant shall continue paying Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 2 for the remainder of the Term, as extended by the Extension Term.

6. Additional Premises Fifth Phase Stage 3 . Pursuant to Section 7 of the Seventh Amendment and Section 3 of the Eighth Amendment, the parties desire to memorialize certain terms relating to the Additional Premises Fifth Phase Stage 3 and hereby agree as follows:

(a) Biogen took physical occupancy of the Additional Premises Fifth Phase Stage 3 on the Biogen Occupancy Date.

(b) The Additional Premises Fifth Phase Stage 3 consists of 23,187 rentable square feet and 20,479 useable square feet.

(c) Nine Hundred Twenty-Seven Thousand Four Hundred Eighty and 00/100 Dollars ($927,480.00) of the Additional Premises Fifth Phase Finish Work Allowance was allocated to the Additional Premises Fifth Phase Stage 3.

(d) The Additional Premises Fifth Phase Stage 3 Rent Commencement date is the Biogen Occupancy Date, and from and after the Biogen Occupancy Date, Tenant's Pro Rata Share shall be increased to 72.78% to reflect inclusion of the Additional Premises Fifth Phase Stage 3; provided , however, that pursuant to Section 3 of the Eighth Amendment, Tenant shall not be required to pay Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 3 until April 1, 2015 (i.e., Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 3 shall be abated for the period from the Biogen Occupancy Date through March 31, 2015.) Tenant shall, however, be required to pay Tenant's Pro Rata Share of Landlord's expenses for utilities with respect to Additional Premises Fifth Phase Stage 3 commencing on the Biogen Occupancy Date.

7. Additional Premises Fifth Phase Stage 4 . Pursuant to Section 8 of the Seventh Amendment and Section 3 of the Eighth Amendment, the parties desire to memorialize certain terms relating to the Additional Premises Fifth Phase Stage 4 and hereby agree as follows:

(a) Biogen took physical occupancy of the Additional Premises Fifth Phase Stage 4 on the Biogen Occupancy Date.

(b) The Additional Premises Fifth Phase Stage 4 consists of 23,187 rentable square feet and 20,478 useable square feet.

(c) Nine Hundred Twenty-Seven Thousand Four Hundred Eighty and 00/100 Dollars ($927,480.00) of the Additional Premises Fifth Phase Finish Work Allowance was allocated to the Additional Premises Fifth Phase Stage 4.

(d) The Additional Premises Fifth Phase Stage 4 Rent Commencement date is the Biogen Occupancy Date, and from and after the Biogen Occupancy Date, Tenant's Pro Rata Share shall be increased to 78.63%, which Pro Rata Share reflects the inclusion of the Additional Premises Fifth Phase Stage 3 and the Additional Premises Fifth Phase Stage 4; provided , however, that pursuant to Section 3 of the Eighth Amendment, Tenant shall not be required to pay Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 4 until June 1, 2016 (i.e., Base Rent, Tenant's Pro Rata Share of Operating Expenses, Tenant's Pro Rata Share of Taxes, Tenant's Pro Rata Share of Landlord's insurance premiums related to the Building and all other Additional Rent with respect to the Additional Premises Fifth Phase Stage 4 shall be abated for the period from the Biogen Occupancy Date through May 31, 2016.) Tenant shall, however, be required to pay Tenant's Pro Rata Share of Landlord's expenses for utilities with respect to Additional Premises Fifth Phase Stage 4 commencing on the Biogen Occupancy Date.

8. Parking . In addition to any existing rights of Tenant to parking spaces under the Lease, commencing on the Biogen Occupancy Date, Landlord shall provide Tenant with (a) sixteen (16) additional parking spaces allocated to the Additional Premises Fifth Phase Stage 3 (the " Additional Premises Fifth Phase Stage 3 Parking Spaces ") and (b) fifteen (15) additional parking spaces allocated to the Additional Premises Fifth Phase Stage 4 (the " Additional Premises Fifth Phase Stage 4 Parking Spaces "). Tenant shall pay to Landlord as Additional Rent, Landlord's then-current prevailing monthly rate for parking spaces for such Additional Premises Fifth Phase Stage 3 Parking Spaces and such Additional Premises Fifth Phase Stage 4 Parking Spaces. Tenant's use of the Additional Premises Fifth Phase Stage 3 Parking Spaces and the Additional Premises Fifth Phase Stage 4 Parking Spaces provided hereunder and Tenant's rights with respect thereto (including (without limitation) limitations on increase in the prevailing monthly rate for parking spaces) shall otherwise be in accordance with the terms of Section 2.01(d) of the Lease.

9. Conversion of Core Space . Tenant hereby acknowledges that Landlord has completed the renovation of the Converted Space to a "Warm Shell Condition" and timely delivered the same to Tenant, all as required by Section 12 of the Eight Amendment.

10. Broker . Tenant represents and warrants that other than CB Richard Ellis, Inc. (" Broker "), it has had no dealings with any real estate broker or agent in connection with the negotiation of this Amendment, and that it knows of no real estate broker or agent that is or might be entitled to a commission in connection with the representation of Tenant in connection with this Amendment. Broker is not entitled to any commission pursuant to this Amendment.

(a) Tenant represents and warrants that no broker or agent has made any representation or warranty relied upon by Tenant in Tenant's decision to enter into this Amendment, other than as contained in this Amendment.

(b) Tenant acknowledges and agrees that the employment of brokers by Landlord is for the purpose of solicitation of offers of leases from prospective tenants and that no authority is granted to any broker to furnish any representation (written or oral) or warranty from Landlord unless expressly contained within this Amendment. Landlord is executing this Amendment in reliance upon Tenant's representations, warranties and agreements contained within Section 10 , Section 10(a) and this Section 10(b) .

(c) Tenant agrees to indemnify, save, defend and hold Landlord harmless from any and all cost or liability for compensation claimed by any other broker or agent, other than Broker, employed or engaged by Tenant or claiming to have been employed or engaged by Tenant.

(d) Landlord shall pay any commission, fee or other compensation due to any Landlord broker(s) in connection with this Amendment. Landlord agrees to indemnify, save, defend and hold Tenant harmless from any and all cost or liability for compensation claimed by any broker or agent employed or engaged by Landlord or claiming to have been employed or engaged by Landlord.

11. No Default . Tenant represents, warrants and covenants that, to the best of Tenant's knowledge, Landlord and Tenant are not in default of any of their respective obligations under the Lease and no event has occurred that, with the passage of time or the giving of notice (or both) would constitute a default by either Landlord or Tenant thereunder.

12. Effect of Amendment . Except as modified by this Amendment, the Existing Lease and all the covenants, agreements, terms, provisions and conditions thereof shall remain in full force and effect and are hereby ratified and affirmed. In the event of any conflict between the terms contained in this Amendment and the Existing Lease, the terms herein contained shall supersede and control the obligations and liabilities of the parties. From and after the date hereof, the term " Lease " as used in the Lease shall mean the Existing Lease, as modified by this Amendment.

13. Successors and Assigns . Each of the covenants, conditions and agreements contained in this Amendment shall inure to the benefit of and shall apply to and be binding upon the parties hereto and their respective heirs, legatees, devisees, executors, administrators and permitted successors and assigns and sublessees. Nothing in this section shall in any way alter the provisions of the Lease restricting assignment or subletting.

14. Miscellaneous . This Amendment becomes effective only upon execution and delivery hereof by Landlord and Tenant. The captions of the paragraphs and subparagraphs in this Amendment are inserted and included solely for convenience and shall not be considered or given any effect in construing the provisions hereof. All exhibits hereto are incorporated herein by reference. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or option for a lease, and shall not be effective as a lease, lease amendment or otherwise until execution by and delivery to both Landlord and Tenant.

15. Authority . Landlord and Tenant have all necessary and proper authority, without the need for the consent of any other person or entity, other than any consents that have been obtained, to enter into and perform under this Amendment.

16. Counterparts; Facsimile and PDF Signatures . This Amendment may be executed in one or more counterparts, each of which, when taken together, shall constitute one and the same document. A facsimile or portable document format (PDF) signature on this Amendment shall be equivalent to, and have the same force and effect as, an original signature.

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IN WITNESS WHEREOF, Landlord and Tenant have executed this Amendment as a sealed Massachusetts instrument as of the date and year first above written.

LANDLORD :

BMR-ROGERS STREET LLC ,
a Delaware limited liability company

By: /s/ William F. Kane
Name: William F. Kane
Title: Vice President, Leasing & Development

TENANT :

IRONWOOD PHARMACEUTICALS, INC. ,
a Delaware corporation

By: /s/ Thomas Graney
Name: Thomas Graney
Title: CFO

EXHIBIT 10.16.10

SUBLEASE

This SUBLEASE is made as of July 1, 2014, by and between Ironwood Pharmaceuticals, Inc., a Delaware corporation having an address at 301 Binney Street, Cambridge, Massachusetts (" Sublessor ") and Biogen Idec MA Inc., a Massachusetts corporation having an address at 225 Binney Street, Cambridge MA 02142 (" Sublessee ").

BACKGROUND

A. Under the Lease dated as of January 12, 2007 (as amended by a First Amendment to Lease dated as of April 9, 2009, a Second Amendment to Lease dated as of February 9, 2010, a Third Amendment to Lease dated as of July 1, 2010, a Fourth Amendment to Lease dated as of February 3, 2011, a Fifth Amendment to Lease dated as of October 18, 2011, a Sixth Amendment to Lease dated as of July 19, 2012, a Seventh Amendment to Lease dated as of October 30, 2012 and an Eighth Amendment to Lease dated as of July 8, 2014 by and between BMR-Rogers Street LLC (as successor-in-interest to Rogers Street, LLC), as "Landlord" (" Prime Lessor ") and Sublessor (formerly known as Microbia, Inc.), as "Tenant" (such lease, as so amended, and all renewals, modifications and extensions of such lease are collectively referred to in this Sublease as the " Prime Lease "), a true and complete copy of which is attached hereto as Exhibit A , whereby Sublessor leases approximately 303,259 square feet of rentable space on floor(s) 1, 2, 3 and 4 located in the building known as and numbered 301 Binney Street, Cambridge, Massachusetts (the " Building ") (all as more particularly described in the Prime Lease the " Premises ").

B. Sublessee desires to sublease a portion of the Premises from Sublessor and Sublessor is willing to sublease a portion of the Premises to Sublessee, all on the terms and conditions set forth in this Sublease.

For good and valuable consideration, the receipt and sufficiency of which are acknowledged by Sublessor and Sublessee, Sublessor and Sublessee agree as follows:

1. Sublease of Subleased Premises . For the rent and upon the terms and conditions in this Sublease, Sublessor subleases to Sublessee, and Sublessee subleases from Sublessor approximately 93,000 square feet of rentable space located on the fourth floor of the Building as shown on Exhibit B attached hereto (the " Subleased Premises ") If requested by Sublessee, Sublessor agrees to exercise its right to have the Subleased Premises remeasured upon completion of the construction documents for the Improvement Work (defined in Section 6(e) below) in accordance with the terms of Section 2.01(e)(ii) of the Prime Lease. During the Term of this Sublease, Sublessee shall have access to the Subleased Premises twenty-four (24) hours a day, 7 days a week, fifty-two (52) weeks a year, subject to the terms of this Sublease and the Prime

Lease to the extent incorporated in this Sublease by reference. From and after the date on which this Sublease has been fully executed by Sublessor and Sublessee and the Prime Lessor has delivered the Consent (as defined in Paragraph 24 of this Sublease), Sublessee shall have the right to enter the Subleased Premises at reasonable times for the purposes of inspecting and reviewing the Improvement Work as defined in Paragraph 6(e) of this Sublease, inspecting the Subleased Premises, taking measurements, installing network cabling and preparing for the move into the Subleased Premises. Sublessor shall have the right to have a representative present any time the early entry right is exercised, at no cost or charge to Sublessee. If Sublessee enters the Subleased Premises before the Commencement Date, Sublessee shall be responsible for complying with all of the terms of this Sublease and the Prime Lease to the extent incorporated in this Sublease by reference, other than the payment of Rent or other charges hereunder.

2. Term . The term (the " Term ") of this Sublease shall commence upon the date (the " Commencement Date ") that is the later of (i) the date on which the Consent Contingency (as defined in Paragraph 24 of this Sublease) has been satisfied and (ii) July 1, 2014, and shall expire at 11:59 p.m. on January 31, 2018 or such earlier date on which this Sublease may terminate under the terms or provisions of the Prime Lease, this Sublease or applicable law (the " Expiration Date ").

3. Base Rent . Commencing on the Commencement Date, Sublessee shall pay to Sublessor the following amounts as base rent (the " Base Rent ") during the Term of this Sublease:

Dates	Annual Base Rent	Monthly Base Rent	Rent Per Square Foot
Commencement Date – 6/30 /15	$ 2,897,602.44*	$ 241,466.87	$ 62.31
7/1/15 – 6/30 /16	$ 4,234,477.44**	$ 352,873.12	$ 60.71
7/1/16 – 6/30 /17***	$ 5,617,852.44	$ 468,154.37	$ 60.41
7/1/17 – 1/31/18***	$ 3,331,330.59****	$ 475,904.37	$ 61.41

*The annual Base Rent for the first year of the Term was calculated based on fifty percent (50%) of the rentable square footage of the Subleased Premises.
**The annual Base Rent for the second year of the Term was calculated based on seventy-five percent (75%) of the rentable square footage of the Subleased Premises.
***The annual Base Rent for the last nineteen (19) months of the Term was calculated based on one hundred percent (100%) of the rentable square footage of the Subleased Premises.
****The annual Base Rent amount represents Base Rent for seven (7) months.

The Base Rent is intended to be gross rent inclusive of all Operating Costs and Taxes payable by Sublessor to Prime Lessor under the Prime Lease, excluding the following services separately provided to the Subleased Premises in accordance with the terms of

this Sublease (i) electricity, (ii) janitorial services, and (iii) additional services requested by Sublessee from Prime Lessor (such as after-hours HVAC service).

Notwithstanding anything in this Sublease to the contrary, if Sublessor actually receives an abatement of any of its rental obligations under Prime Lease, and the condition giving rise to the abatement also adversely affects or relates to the Subleased Premises, then Sublessee shall be entitled to an equitable abatement of Rent, as and when Sublessor's rental obligations under the Prime Lease are actually abated, based on the extent to which the basis for the abatement relates to or affects the Subleased Premises.

Base Rent and additional rent hereunder shall sometimes be referred to as " Rent " in this Sublease. All Rent shall be due and payable in monthly installments in advance on the first day of each calendar month, without demand, deduction, counterclaim or setoff, except as provided for herein or in the Prime Lease as and to the extent incorporated herein by reference. Rent for any partial month shall be prorated and paid on the first day of any partial month. Sublessee shall pay as additional rent for all other expenses for additional services that are requested by Sublessee and which Sublessor is or would be responsible under the Prime Lease, but in any event only to the extent such expenses relate solely to the Subleased Premises (e.g., after hours HVAC ordered by Sublessee).

Any late payment of Rent by Sublessee shall bear interest from the date due until paid at the annual rate equal to the rate of fifteen percent (15%) per annum (the " Default Rate ") except to the extent such interest would cause the total interest to be in excess of that legally permitted. Payment of interest shall not cure Sublessee's payment default or prevent Sublessor from exercising other rights and remedies available under this Sublease or at law. No late interest under this Paragraph 3 shall accrue on late Rent unless Sublessee has failed to make such payment within five (5) days after receipt of notice from Sublessor of such failure to pay; provided, that Sublessor shall not be required to give such notice more than one time in any twelve (12) month period.

Sublessee, at its sole cost and expense, shall be responsible for providing its own cleaning services to the Subleased Premises, whether by its own employees or a third-party contractor.

4. Electricity . The Subleased Premises are separately metered for electricity. Sublessee shall pay for all separately metered electricity consumed within the Subleased Premises (including, but not limited to the consumption of lights and outlets which will be directly billed by the utility company to Sublessee and any heating and air conditioning serving only the Subleased Premises which shall be billed to Sublessee by Prime Lessor through Sublessor) during the Term directly to the utility company providing electricity to the Subleased Premises on or prior to the date on which such payments are due. Sublessor represents and warrants that the meter(s) serving the Subleased Premises do not and will not serve or cover any electric service provided to any area other than the Subleased Premises.

5. Permitted Uses . Sublessee shall use the Subleased Premises only for general office purposes and legal uses ancillary or incidental thereto to the extent permitted under the Prime Lease and for no other purpose. Sublessee shall not do, suffer or permit anything to be done in or upon the Subleased Premises except in compliance with and as permitted by the Prime Lease and applicable law. Sublessee shall not cause or permit the Subleased Premises, the Premises or the Property to be used in any way that violates any Legal Requirement (as defined in Section 9.03 of the Prime Lease), or constitutes a nuisance or waste. Sublessee shall comply with the certificate of occupancy relating to the Subleased Premises and (to the extent such compliance is the obligation of Sublessor under the Prime Lease, including without limitation Section 9.03 thereof) with all laws, statutes, ordinances, orders, rules, regulations and requirements of all federal, state and municipal governments and the appropriate agencies, officers, departments, boards and commissions thereof, and the board of fire underwriters and/or the fire insurance rating organization or similar organization performing the same or similar functions, whether now or hereafter in force, applicable to the Subleased Premises.

6. Condition of Subleased Premises .

(a) Sublessor represents and warrants that Sublessor has possession and control of the entire Subleased Premises, notwithstanding that the Prime Lease contemplates that Sublessor will take possession in phases. Sublessee represents that it has made or caused to be made a reasonable visual examination and inspection of the Subleased Premises and is familiar with the condition of the Subleased Premises. Sublessee acknowledges that, except as expressly provided in this Sublease, and without in any way derogating from any repair or maintenance obligation of Prime Lessor under the Prime Lease, (i) it enters into this Sublease without relying upon any representations, warranties or promises by Sublessor, its agents, representatives, employees, servants or any other person in respect of the Building or the Subleased Premises, (ii) no rights, easements or licenses are acquired by Sublessee by implication or otherwise except as expressly set forth in this Sublease, (iii) Sublessor shall have no obligation to do any work in order to make the Subleased Premises suitable and ready for occupancy and use by Sublessee other than as described in Exhibit C hereto, and (iv) the Subleased Premises are accepted “as is” and are in satisfactory condition.

(b) Sublessee shall keep and maintain the Subleased Premises, and the fixtures and equipment in the Subleased Premises clean and in good order, repair and condition, except for reasonable wear and tear and damage by fire or other casualty or condemnation, and other matters for which Sublessee is not responsible under this Sublease.

(d) Sublessee shall make no alteration, installation, removal, addition or improvement in or to the Subleased Premises or to any other portion of the Building without the prior written consent of each of Sublessor (such consent not to be unreasonably withheld by Sublessor) and Prime Lessor, if required under the terms of the Prime Lease, and then, only in compliance fully with the terms of this Sublease and

the Prime Lease. Notwithstanding the foregoing, Sublessor agrees that Minor Work (as defined in Section 10.05(a) of the Prime Lease) performed by Sublessee in the Subleased Premises shall not require Sublessor's prior written consent.

(e) Sublessor shall perform all tenant improvement work (the " Improvement Work ") necessary to make the Subleased Premises ready for Sublessee's use and occupancy in accordance with the terms of the Work Letter attached hereto as Exhibit C and the terms of the Prime Lease as incorporated in this Sublease by reference.

7. Insurance . Sublessee shall maintain throughout the Term of this Sublease such insurance in respect of the Subleased Premises and the conduct and operation of Sublessee's business in the Subleased Premises, with Sublessor and Prime Lessor listed as additional insureds as is required of "Tenant" under the terms of the Prime Lease (including, without limitation, Article 7 as incorporated in this Sublease by reference) with no penalty to Sublessor or Prime Lessor resulting from deductibles or self-insured retentions effected in Sublessee's insurance coverage. If Sublessee fails to procure or maintain such insurance, pay all premiums and charges therefor and provide Sublessor with certificate (s) of such insurance within ten (10) days after notice from Sublessor, Sublessor may (but shall not be obligated to) do so, whereupon Sublessee shall reimburse Sublessor upon demand for Sublessor's costs incurred in so doing. All such insurance policies shall, to the extent obtainable, contain endorsements providing that (i) such policies may not be canceled except upon thirty (30) days' prior notice to Sublessor and Prime Lessor (except 10 days in the case of non-payment of premium), (ii) no act or omission of Sublessee shall affect or limit the obligations of the insurer with respect to any additional insured and (iii) Sublessee shall be solely responsible for the payment of all premiums under such policies and Sublessor, notwithstanding that it is or may be an additional insured, shall have no obligation for the payment of any insurance premiums. On or before the Commencement Date, Sublessee shall deliver to Sublessor and Prime Lessor a certificate evidencing the coverages required by this Paragraph 7. Any endorsements to such certificates shall also be delivered to Sublessor and Prime Lessor upon issuance of such certificates. Sublessee shall procure and pay for renewals of such insurance from time to time before the expiration of such insurance, and Sublessee shall deliver to Sublessor and Prime Lessor such renewal certificates within ten (10) days after the expiration or renewal of any existing policy. In the event Sublessee fails so to deliver any such renewal certificate within such ten (10) day period, then, in addition to its other rights and remedies in respect of such breach of this Sublease by Sublessee, Sublessor shall have the right, but not the obligation, to obtain such insurance on Sublessee's behalf, whereupon Sublessee shall reimburse Sublessor upon demand for Sublessor's costs incurred in so doing.

Sublessee shall include in all insurance policies required to be maintained under this Sublease any clauses or endorsements in favor of Prime Lessor that Sublessor is required to provide as "Tenant" under the provisions of the Prime Lease, including, but not limited to, waivers of the right of subrogation. Sublessee releases and waives all claims against Sublessor for loss or damage to Sublessee's personal property and its alterations in the Subleased Premises to the extent that any loss or damage is insurable

under policies of casualty insurance Sublessee carries or is required to carry under this Sublease. Sublessor releases and waives all claims against Sublessee for loss or damage to Sublessor's personal property and its alterations in the Subleased Premises to the extent that any loss or damage is insurable under policies of casualty insurance Sublessor carries or is required to carry under this Sublease or the Prime Lease.

During the Term, Sublessor shall maintain the insurance Sublessor is required to maintain under the Prime Lease.

8. Indemnification . (a) Subject to the foregoing waivers, Sublessee shall protect, defend (with counsel reasonably approved by Sublessor), indemnify and hold Sublessor, Prime Lessor and Ground Landlord and their respective officers and employees harmless from and against any and all third-party liabilities, claims, suits, demands, judgments, costs, losses, interest and expenses (except to the extent arising, or claimed to have arisen, from any negligence or willful misconduct of Ground Landlord, Prime Lessor or Sublessor or their contractors, invitees, agents or employees), and arising from any bodily injury to or death of persons, or damage to property occurring or resulting from an occurrence in the Subleased Premises during the Term of this Sublease or from any willful misconduct or negligence on the part of Sublessee or any of its agents, employees, licensees, invitees or assignees or any person claiming through or under Sublessee. Any non-liability, indemnity or hold harmless provisions in the Prime Lease for the benefit of Prime Lessor or Ground Landlord that are incorporated in this Sublease by reference shall be deemed to inure to the benefit of Sublessor, Prime Lessor and Ground Landlord.

(b) Subject to the foregoing waivers, Sublessor shall protect, defend (with counsel reasonably approved by Sublessee), indemnify and hold Sublessee and its officers and employees harmless from and against any and all third-party liabilities, claims, suits, demands, judgments, costs, losses, interest and expenses (except to the extent arising, or claimed to have arisen, from any negligence or willful misconduct of Sublessee, Prime Lessor or Ground Landlord or their respective contractors, invitees, agents or employees), or from any breach or default on the part of Sublessor in the performance of any covenant or agreement on the part of Sublessor to be performed under the terms of the Prime Lease (beyond any applicable notice and cure periods) by reason of which the Prime Lease is or could be terminated or forfeited, or to the extent arising from any negligence or willful misconduct on the part of Sublessor or its agents, employees or contractors.

9. No Assignment or Subletting . Sublessee shall not assign, sell, mortgage, pledge or in any manner transfer this Sublease or any interest in this Sublease, or the Term or estate granted or the rentals under this Sublease, or sublet the Subleased Premises or any part of the Subleased Premises, or grant any concession or license or otherwise permit occupancy of all or any part of the Subleased Premises by any person or take any action or undertake any transaction if such transaction would require the consent of Prime Lessor under Article 13 of the Prime Lease, without the prior written consent of Sublessor and Prime Lessor, if and to the extent that such consent is required

in accordance with Article 13 of the Prime Lease. Provided that Prime Lessor has given its consent, the Sublessor will not unreasonably withhold, delay or condition its consent to any such transaction proposed by Sublessee. Neither the consent of Sublessor or Prime Lessor to an assignment, subletting, concession, or license, nor the references in this Sublease to assignees, subtenants, concessionaires or licensees, shall in any way be construed to relieve Sublessee or any assignee, subtenant or sub-subtenant of the requirement of obtaining the consent of Sublessor and Prime Lessor to any further assignment or subletting or to the making of any assignment, subletting, concession or license for all or any part of the Subleased Premises, Sublessee and any such assignee, subtenant or sub-subtenant under this Sublease agreeing to be bound by the provisions of this Sublease and the Prime Lease as to any further assignment, subleasing or other arrangement for which consent is required under this Sublease and the Prime Lease. Notwithstanding any assignment or subletting, including, without limitation, any assignment or subletting permitted or consented to, the original Sublessee named in this Sublease and any other person(s) who at any time was or were Sublessee shall remain fully liable under this Sublease, and all acts and omissions of any assignee or subtenant or anyone claiming under or through any assignee or subtenant that shall be in conflict with the terms of this Sublease shall (subject to the terms and conditions hereof) constitute a breach by Sublessee under this Sublease. If this Sublease is assigned, or if the Subleased Premises or any part of the Subleased Premises is underlet or occupied by any person or entity other than Sublessee, Sublessor may, while any default by Sublessee remains uncured, following notice and the expiration of any applicable cure period, collect rent from the assignee, undertenant or occupant, and apply the net amount collected to the Rent payable by Sublessee under this Sublease, but no assignment, underletting, occupancy or collection shall be deemed a waiver of the provisions of this Sublease, the acceptance of the assignee, undertenant or occupant as tenant, or a release of Sublessee from the further performance by Sublessee of the covenants under this Sublease to be performed on the part of Sublessee. Any attempted assignment or subletting or other arrangement, whether by Sublessee or any assignee or subtenant of Sublessee, without the prior written consent of the Sublessor and Prime Lessor shall be void.

10. Primacy and Incorporation of Prime Lease .

(a) This Sublease is and shall be subject and subordinate to the Prime Lease and to all matters to which the Prime Lease is or shall be subject and subordinate, and to all amendments, modifications, renewals and extensions of or to the Prime Lease and Sublessor purports to convey, and Sublessee takes, no greater rights than those accorded to or taken by Sublessor as “Tenant” under the terms of the Prime Lease. Sublessee covenants that it will perform and observe all of the provisions contained in the Prime Lease to be performed and observed by the “Tenant” under the Prime Lease to the extent incorporated in this Sublease and applicable to the Subleased Premises, other than the payment of rent and any other charges under the Prime Lease. Notwithstanding anything in this Sublease to the contrary, Sublessee shall have no obligation to (i) cure any default of Sublessor under the Prime Lease unless caused by Sublessee’s default under this Sublease , (ii) perform any obligation of Sublessor under the Prime Lease

which arose or accrued (or otherwise relates to the period) before the Commencement Date and which Sublessor failed to perform, (iii) repair any damage to the Subleased Premises caused by Sublessor, Prime Lessor or Ground Landlord or their respective agents, employees or contractors, (iv) remove any alterations, improvements or additions installed within or related to the Subleased Premises before the Commencement Date, (v) indemnify Sublessor, Prime Lessor or Ground Landlord with respect to any negligence or willful misconduct of Sublessor, Prime Lessor or Ground Landlord, or their respective agents, employees or contractors or (vi) discharge any liens on the Subleased Premises or the Building except those that arise out of any work performed by or at the direction of Sublessee. Except to the extent inconsistent with the context of this Sublease, capitalized terms used and not otherwise defined in this Sublease shall have the meanings ascribed to them in the Prime Lease. Further, except as set forth below, the terms, covenants and conditions of the following specified provisions of the Prime Lease are incorporated in this Sublease by reference as if such terms, covenants and conditions were stated in this Sublease to be the terms, covenants and conditions of this Sublease, so that except to the extent that they are inconsistent with or modified by the provisions of this Sublease, for the purpose of incorporation by reference each and every referenced term, covenant and condition of the Prime Lease binding upon or inuring to the benefit of the "Landlord" under the Prime Lease shall, in respect of this Sublease and the Subleased Premises, be binding upon or inure to the benefit of Sublessor, and each and every referenced term, covenant and condition of the Prime Lease binding upon or inuring to the benefit of the "Tenant" under the Prime Lease shall, in respect of this Sublease, be binding upon or inure to the benefit of Sublessee, with the same force and effect as if such terms, covenants and conditions were completely set forth in this Sublease: Articles/Sections: 1.04, 1.05, 1.06, 1.19, 2.01(a-c), , the last paragraph of 2.01(d), 4.03, 5.03, 7.01, 7.02, 7.03, 9.01 (excluding the first sentence), 9.02, 9.03 (excluding the first sentence and the third paragraph), 9.04 9.06, 10.02(a), 10.04(a), 10.04(b), 10.05 (excluding the last sentence of 10.05(c) and the last sentence of 10.05(e)), 10.06, 13, 14.01, 14.02, 14.03 (excluding 14.03(f)), 16.05, 17.01, 17.02, , 17.04, 17.05, 17.07, 17.08, 17.09, 17.10 and 17.12 (excluding the last sentence), and Exhibits 1.06, 9.01, 9.04(a), 10.05(b) and 10.05(c). Notwithstanding anything in this Sublease to the contrary, for purposes of this Sublease, as to such incorporated terms, covenants and conditions:

(i) references in the Prime Lease to the "Premises" shall be deemed to refer to the "Subleased Premises" under this Sublease;

(ii) references in the Prime Lease to "Landlord" and to "Tenant" shall be deemed to refer to "Sublessor" and "Sublessee" under this Sublease, respectively, except that where the terms "Landlord" is used in the context of ownership or management of the entire Building, such term shall be deemed to mean only "Prime Lessor";

(iii) references in the Prime Lease to "this Lease" shall be deemed to refer to "this Sublease" (except when such reference in the Prime Lease is, by its terms (unless modified by this Sublease), a reference to any other section

of the Prime Lease, in which event such reference shall be deemed to refer to the particular section of the Prime Lease);

(iv) references in the Prime Lease to the "Lease Commencement" and "Rent Commencement Date" shall be deemed to refer to the "Commencement Date" under this Sublease;

(v) references in the Prime Lease to the "Base Rent", "additional rent" and "rent" shall be deemed to refer to the "Base Rent", "additional rent" and "Rent", respectively, as defined under this Sublease; and

(vi) references in the Prime Lease to the "Term" shall be deemed to refer to the "Term" of this Sublease.

The following provisions of the Prime Lease, Exhibits and Schedules annexed thereto are not incorporated in this Sublease by reference and shall not, except as to definitions set forth in the Prime Lease, have any applicability to this Sublease: Articles/Sections: 1.01, 1.02, 1.03, 1.07-1.18, 1.20-1.23, 2.01 (excluding (a), (b) and (c)), 2.01(d) (excluding the last paragraph), 2.01(e), 3, 4.01, 4.02, 4.04, 4.05, 4.06, 5.01, 5.02, 6, 7.04, 8, the first sentence of 9.01, the first sentence and third paragraph of 9.03, 9.05, 10.01, 10.02(b), 10.02(c), 10.03, 10.04(c), 10.07, 11, 12, 14.03(f), 15, 16 (excluding 16.05), 17.03, 17.06, 17.11, the last sentence of 17.12, 18 and 19; First Amendment to Lease, Second Amendment to Lease, Third Amendment to Lease, Fourth Amendment to Lease, Fifth Amendment to Lease, Sixth Amendment to Lease, Seventh Amendment to Lease and Eighth Amendment to Lease; and Exhibits 1.07, 2.01(e), 3.01, 6.01, 10.03(a), 10.04(c), 15.01, 16.01, 16.06 and 19.01.

Where reference is made in the following Sections to "Landlord", such references shall be deemed to refer only to "Prime Lessor": Articles/Sections: 1.19, 2.01(a), 2.01(c), the last paragraph of 9.03, the first sentence of 10.04(a), 10.05(b)(-v), the tenth sentence of 10.05(b), the eighth sentence of 10.05(c), and the first paragraph of 10.05(e).

Where reference is made in the following Sections to "Landlord", such references shall be deemed to refer to "Prime Lessor" and "Sublessor": Articles/Sections: the last sentence of the first paragraph of 9.03, 9.04, 9.06, 10.05(a), 10.05(b) (excluding (iv) and the tenth sentence), and the third and fourth paragraphs of 10.05(e).

(b) Notwithstanding any incorporation of any provision of the Prime Lease by reference, Sublessee acknowledges that under the Prime Lease, certain services, repairs, restorations, equipment and access to and for the Premises and insurance coverage of the Building are in fact to be provided by Prime Lessor and Sublessor shall have no obligation to provide any such services, repairs, restorations, equipment, access or insurance coverage. Without derogating from Sublessor's obligation to enforce its rights under the Prime Lease for the benefit of Sublessee, Sublessee shall look solely to

Prime Lessor for the furnishing of such services, repairs, restorations, equipment, access and insurance coverage. Sublessor shall cooperate reasonably with Sublessee in attempting to obtain for Sublessee's benefit the performance by Prime Lessor of its obligations under the Prime Lease, including commencing litigation or other formal proceedings where deemed commercially reasonable given the circumstances. Sublessor not be liable to Sublessee, nor shall the obligations of Sublessee under this Sublease be impaired or the performance of Sublessee be excused, because of any failure or delay on Prime Lessor's part in furnishing such services, repairs, restorations, equipment, access or insurance coverage. If Prime Lessor shall default in any of its obligations to Sublessor with respect to the Subleased Premises or any other area or facility that Sublessee has the right to use hereunder, Sublessee shall be entitled to request that Sublessor use commercially reasonable efforts to enforce Sublessor's rights against Landlord with respect thereto. Sublessor agrees to use commercially reasonable efforts to enforce Sublessor's rights against Landlord. If Sublessee desires any after hours HVAC service, Sublessee must give Sublessor at least such prior notice as is required of Prime Lessor under the terms of the Prime Lease and Sublessor shall provide such request to Prime Lessor promptly after receipt. Sublessee shall reimburse Sublessor for the costs of obtaining such after hours HVAC use in accordance with Paragraph 3 of this Sublease.

(c) Notwithstanding anything to the contrary contained in the Prime Lease, the time limits (the " Notice Periods ") contained in the Prime Lease for the giving of notices, making of demands or performing of any act, condition or covenant on the part of the "Tenant" (including any grace periods set forth in Section 14.02 of the Prime Lease), under the Prime Lease, or for the exercise by "Tenant" under the Prime Lease of any right, remedy or option, are changed for the purposes of incorporation in this Sublease by reference by shortening the Notice Periods in each instance by five (5) days (or by three (3) days if the notice period is ten (10) days or less), so that in each instance Sublessee shall have five (5) (or three (3), as applicable) fewer days to observe or perform under this Sublease than Sublessor has as "Tenant" under the Prime Lease. Notwithstanding the foregoing provisions of this Paragraph 10(c), if the Prime Lease allows a Notice Period of five (5) days or less, then Sublessee shall nevertheless be allowed the number of days equal to one-half of the number of days in each Notice Period (but never fewer than two (2) business days) to give any such notices, make any such demands, perform any such acts, conditions or covenants or exercise any such rights, remedies or options. If one-half of the number of days in the Notice Period is not a whole number, Sublessee has the number of days equal to one-half of the number of days in the Notice Period rounded up to the next whole number.

(d) Notwithstanding anything to the contrary contained in this Sublease (including, without limitation, the provisions of the Prime Lease incorporated in this Sublease by reference), Sublessor makes no representations or warranties whatsoever with respect to the Subleased Premises, this Sublease, the Prime Lease or any other matter, either express or implied, except as expressly set forth in this Sublease, except further that Sublessor represents and warrants, as of the date of execution of this Sublease, (i) that it is the holder of the interest of the "Tenant" under the Prime Lease

and Sublessor's interest as "Tenant" under the Prime Lease is not the subject of any lien, assignment, conflicting sublease, or other hypothecation or pledge, (ii) that the Prime Lease is in full force and effect, unmodified and constitutes the entire agreement between Prime Lessor and Sublessor in respect of the Subleased Premises, (iii) that no notices of default have been served on Sublessor under the Prime Lease which have not been cured, (iv) to the best of Sublessor's knowledge, neither Sublessor nor Prime Lessor is in default under the Prime Lease, (v) the term of the Lease commenced on January 12, 2007, and will expire not sooner than February 1, 2018, (vi) neither Sublessor nor any of its agents, employees or contractors has conducted any activity at the Subleased Premises that produced or used hazardous materials, and neither Sublessor nor any of its agents, employees or contractors has stored, released, brought into or introduced to the Subleased Premises any hazardous materials during the term of the Lease, and (vii) Sublessor has not installed in the Subleased Premises or the Building any supplemental heating, ventilation or air conditioning equipment for which Sublessee would be responsible under the terms hereof.

11. Certain Services and Rights . Except to the extent otherwise expressly provided in Paragraph 10(b) of this Sublease, the only services or rights to which the Sublessee is entitled under this Sublease, including without limitation rights relating to the repair, maintenance and restoration of the Subleased Premises, are those services and rights to which Sublessor is entitled under the Prime Lease. Sublessor has no obligation to furnish any services whatsoever to Sublessee, any such obligation being that of Prime Lessor under the Prime Lease, and that, as set forth in Paragraph 10(b) of this Sublease, the obligation of Sublessor under this Sublease with respect to such services is to cooperate reasonably with Sublessee to obtain Prime Lessor's performance and to use reasonable efforts to enforce Sublessor's rights under the Prime Lease.

12. Compliance with Prime Lease . Sublessee shall neither do nor permit anything to be done that would, after notice and failure to timely cure, if applicable, cause the Prime Lease to be terminated or forfeited by reason of any right of termination or forfeiture reserved or vested in Prime Lessor under the Prime Lease as a result of a "Tenant" default under the Prime Lease, and Sublessee shall defend, indemnify and hold Sublessor harmless from and against any and all liabilities, claims, suits, demands, judgments, costs, losses, interest and expenses (including, without being limited to, reasonable attorneys' fees and expenses) of any kind whatsoever by reason of any breach or default on the part of Sublessee by reason of which the Prime Lease is or could be so terminated or forfeited. Sublessee covenants that Sublessee will not do anything that would (after notice and failure to timely cure, if applicable) constitute a default under the provisions of the Prime Lease or omit to do anything that Sublessee is obligated to do under the terms of this Sublease that would (after notice and failure to timely cure, if applicable) constitute a default under the Prime Lease. Sublessor shall promptly deliver to Sublessee a copy of any written notice received by Sublessor from Prime Lessor or any governmental agency in respect of this Sublease or the Subleased Premises.

13. Default . If Sublessee shall default in any of its obligations under this Sublease beyond applicable notice and cure periods, Sublessor shall have available to it all of the rights and remedies available to Prime Lessor under the Prime Lease, including without limitation Sections 14.02 and 14.03 of the Prime Lease as incorporated in this Sublease by reference, as though Sublessor were the "Landlord" and Sublessee the "Tenant" under the Prime Lease.

14. Brokerage . Sublessee and Sublessor represent that they have not dealt with any broker in connection with this Sublease other than Cassidy Turley and CBRE/New England (the " Brokers "). Each party shall indemnify and hold harmless the other from and against any and all liabilities, claims, suits, demands, judgments, costs, losses, interest and expenses (including, without being limited to, reasonable attorneys' fees and expenses) which the indemnified party may be subject to or suffer by reason of any claim made by any person, firm or corporation other than the Brokers for any commission, expense or other compensation as a result of the execution and delivery of this Sublease, which is based on alleged conversations or negotiations by such person, firm or corporation with the indemnifying party. Sublessor shall pay the Brokers the brokerage commission or other compensation due the Brokers in connection with this Sublease under separate agreements between Sublessor and Brokers.

15. Notices . All notices, consents, approvals, demands, bills, statements and requests which are required or permitted to be given by either party to the other under this Sublease shall be in writing and are governed by Section 17.05 of the Prime Lease as incorporated in this Sublease by reference, except that the mailing addresses for Sublessor and Sublessee are those first set forth above. Notices to Sublessee shall be addressed to the attention of "Ed Dondero, Director of Facilities," with a copy to the attention of "Harry M. Carey, Esq., Associate General Counsel — Corporate." Either party may change the address(es) to which notices are to be sent, by notice to the other party. Communications and payments to the Prime Lessor shall be given in accordance with, and subject to, Section 17.05 of the Prime Lease.

16. Interpretation . This Sublease shall be construed without regard to any presumption or other rule suggesting construction or interpretation against the party causing this Sublease to be drafted. All terms and words used in this Sublease, regardless of the number or gender in which they are used, shall be deemed to include any other number and any other gender as the context may require. The word "person" as used in this Sublease means a natural person or persons, a partnership, a corporation or any other form of business or legal association or entity.

17. Fire or Casualty; Eminent Domain . In the event the Subleased Premises or any portion thereof (or access thereto or systems serving the Subleased Premises) are subjected to a fire or other casualty or to a taking by eminent domain that interferes with the use and enjoyment by Sublessee of a material portion of the Subleased Premises, Sublessee shall, to the extent Sublessor is entitled to an abatement of rent under the Prime Lease, be entitled to an abatement of Rent until tenantable occupancy is restored. If the estimated time for repairs shall exceed, or such interference has not been remedied

and tenantable occupancy restored after, six (6) months (or a period equal to one-half (½) of the then-remaining term, whichever is shorter) from the date such interference was first experienced, Sublessor or Sublessee may, by notice to the other, terminate this Sublease. In the event of any taking of the Subleased Premises, Sublessee assigns to Prime Lessor any right Sublessee may have to any damages or award. Sublessee shall not make claims against Sublessor, Prime Lessor or the condemning authority for damages.

18. Signage . Subject to the consent of Prime Lessor if required under the terms and provisions of the Prime Lease, Sublessee shall have the right, at its sole cost and expense, to install signage consistent with Sublessor's signage and that of any other subtenants on the Building lobby directory and on the entrance to the Subleased Premises.

19. Right to Cure Sublessee's Defaults . If and for so long as an Event of Default by Sublessee exists under this Sublease, then Sublessor has the right, but not the obligation, after notice to Sublessee, or without notice to Sublessee in the case of any emergency, and without waiving or releasing Sublessee from any obligations of Sublessee under this Sublease, to make such payment or perform such other obligation in respect of which Sublessee is in default in such manner and to such extent as Sublessor deems necessary, and in exercising any such right, to pay any incidental costs and expenses, employ attorneys, and incur and pay reasonable attorneys' fees. Sublessee shall pay to Sublessor upon demand as additional rent all actual and reasonable out-of-pocket sums so paid by Sublessor and all incidental costs and expenses of Sublessor in connection therewith, together with interest thereon at an annual rate equal to the rate two percent (2%) above the base rate or prime rate then published as such in the *Wall Street Journal* , or, if less, the maximum rate permitted by law. Such interest is payable with respect to the period commencing on the date such expenditures are made by Sublessor and ending on the date such amounts are repaid by Sublessee. The provisions of this Paragraph survive the Expiration Date or the sooner termination of this Sublease.

20. Termination of Prime Lease; Surrender . Subject to the terms and conditions of the Consent, this Sublease automatically terminates if the Prime Lease terminates for any reason before the Expiration Date. Sublessor is not liable to Sublessee by reason of any termination of the Prime Lease. As long as this Sublease is in force and effect, Sublessor shall not (i) commit an Event of Default (as defined in the Prime Lease) or do or allow to be done any other act or omission under the Prime Lease, or (ii) amend or modify the Prime Lease in any material way that would adversely affect the Subleased Premises or Sublessee, without in each case having received the prior written consent of Sublessee, such consent not to be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Sublessor may terminate the Prime Lease (and the exercise of such right by Sublessor shall not constitute a default or breach under this Sublease) if the Prime Lease gives Sublessor any right to terminate the Prime Lease in the event of the partial or total damage, destruction, or condemnation of the Demised Premises or the Building. Notwithstanding anything in this Sublease to the

contrary, in the event that Sublessee receives a recognition and/or non-disturbance agreement from Prime Lessor, Sublessor may voluntarily terminate the Prime Lease. Nothing in this Sublease prevents an assignment of the Prime Lease or the subleasing of additional space covered by the Prime Lease to any third parties and in no event does Sublessor have any liability to Sublessee for any defaults or termination of the Prime Lease by such other subtenants or defaults under such other subleases, provided that any assignee or transferee of Sublessor's interest in the Prime Lease shall assume and agree with Sublessee to perform and be responsible for all covenants and obligations of Sublessor hereunder.

Upon the expiration or termination of this Sublease, whether by forfeiture, lapse of time or otherwise, or upon the termination of Sublessee's right of possession, Sublessee shall (i) remove (and restore any damage resulting from such removal) any and all of Sublessee's movable personal property, furniture, fixtures, equipment and signage, and (ii) at once surrender and deliver to Sublessor the Subleased Premises in the condition and repair required by, and in accordance with the provisions of, this Sublease. Sublessee shall have no obligation to remove any alterations or improvements (including without limitation the "Improvement Work") or otherwise restore the Subleased Premises to their pre-existing condition, unless Prime Lessor requires removal or restoration under the Prime Lease. If Sublessee fails to remove any of Sublessee's personal property from the Subleased Premises, such property is deemed abandoned (and Sublessee is deemed to have relinquished all right, title and interest in such property), and Sublessor is authorized, without liability to Sublessee for loss or damage thereto, at the sole risk of Sublessee, to (a) remove and store such property at Sublessee's risk and expense; (b) retain such property, in which case all right, title and interest in such property shall accrue to Sublessor; (c) sell such property and retain the proceeds from such sale; or (d) otherwise dispose or destroy such property.

21. Consents and Approvals . All references in this Sublease to the consent or approval of Prime Lessor and/or Sublessor shall be deemed to mean the written consent or approval of Prime Lessor and/or Sublessor, as the case may be, and to the extent the same is required under the Prime Lease or this Sublease, no such consent or approval of Prime Lessor and/or Sublessor, as the case may be, shall be effective for any purpose unless such consent or approval is set forth in a written instrument executed by Prime Lessor and/or Sublessor, as the case may be. In all provisions requiring the approval or consent of Sublessor (whether under the express terms of this Sublease or the terms of the Prime Lease incorporated in this Sublease), Sublessee shall obtain the approval or consent of Prime Lessor as well as obtain like approval or consent of Sublessor. If Sublessor is required or has determined to give its consent or approval to a matter as to which consent or approval has been requested by Sublessee, Sublessor shall cooperate reasonably with Sublessee in endeavoring to obtain any required Prime Lessor's consent or approval upon and subject to the following terms and conditions: (i) Sublessee shall reimburse Sublessor for any actual and reasonable out-of-pocket costs incurred by Sublessor in connection with seeking such consent or approval, (ii) Sublessor is not required to make any payments to Prime Lessor or to enter into any agreements or to modify the Prime Lease or this Sublease in order to obtain any such

consent or approval, (iii) if Sublessee agrees or is otherwise obligated to make any payments to Sublessor or Prime Lessor in connection with such request for such consent or approval, Sublessee has made arrangements satisfactory to Sublessor for such payments, and (iv) Sublessee shall indemnify and hold Sublessor harmless from and against all liabilities, claims, suits, demands, judgments, costs, losses, interest and expenses (including, without being limited to, reasonable attorneys' fees and expenses) Sublessor suffers or incurs in connection with seeking such consent or approval (including, without being limited to, claims by prospective subtenants, sub-subtenants, assignees and brokers if consent to a sublease or sub-sublease or assignment is not granted or is unreasonably conditioned). Nothing contained in this Article is deemed to require Sublessor to give any consent or approval simply because Prime Lessor has given such consent or approval. Wherever Sublessor's consent is required under this Sublease, such consent shall not be unreasonably withheld, conditioned or delayed by Sublessor, and Sublessor shall use commercially reasonable efforts to diligently and promptly consider and respond to Sublessee's request for such consent.

22. No Privity of Estate . Except as may other be provided in the Consent, nothing contained in this Sublease creates any privity of estate or of contract between Sublessee and Prime Lessor and Prime Lessor is not obligated to recognize or to provide for the non-disturbance of the rights of Sublessee under this Sublease.

23. Waiver of Jury Trial and Right to Counterclaim . Sublessor and Sublessee each waive any rights which they may have to trial by jury in any summary action or other action, proceeding or counterclaim arising out of or in any way connected with this Sublease, the relationship of Sublessor and Sublessee, the Subleased Premises and the use and occupancy of the Subleased Premises, and any claim for injury or damages. Sublessee also waives all right to assert or interpose a counterclaim (other than mandatory or compulsory counterclaims) in any summary proceeding or other action or proceeding to recover or obtain possession of the Subleased Premises.

24. Consent of Prime Lessor . Notwithstanding anything to the contrary contained in this Sublease, the effectiveness of this Sublease is subject to and conditioned upon the written approval of, and consent to, this Sublease by Prime Lessor in form reasonably acceptable to Sublessor and Sublessee (the " Consent "). This Sublease shall not become effective, and the Commencement Date shall not occur, unless and until the Consent is fully executed and delivered by Prime Lessor, Sublessor and Sublessee (the " Consent Contingency "). Each of Sublessor and Sublessee shall execute and deliver the Consent in the form provided by Prime Lessor and reasonably approved by Sublessor and Sublessee, even if the Consent has not been signed by Prime Lessor, but the same shall be of no force or effect until the Prime Lessor has executed the same. If the Consent Contingency is not satisfied before the date that is thirty (30) days after submission of the request for the Consent, then from and after such date, either party may terminate this Sublease by providing written notice to the other unless the Consent Contingency is satisfied before the date on which such notice of termination is provided. If this Sublease is terminated under this Paragraph 24, then this Sublease shall cease to have any further force or effect and the parties hereto shall have no further

obligations to each other with respect to this Sublease, except that any Rent or other funds paid under this Sublease by Sublessee shall be promptly refunded by Sublessor.

25. Limitation of Liability . No partner, director, officer, shareholder, employee, advisor or agent of Sublessor or Sublessee shall be personally liable in any manner or to any extent under or in connection with this Sublease. In no event shall either Sublessor or Sublessee, or any of the respective partners, directors, officers, shareholders, employees, advisors or agents of Sublessor or Sublessee, be responsible for (i) any indirect or consequential/special damages, or (ii) any damages in the nature of interruption or loss of business. For purposes of this Sublease, "indirect or consequential/special damages" shall not include, without limitation, any liability, claim, suit, damage, judgment, cost, loss, interest or expense incurred by Sublessor as a result of a breach or default under the Prime Lease, to the extent resulting from or relating to a breach or default by Sublessee of any provision of this Sublease.

26. Holdover . If Sublessee fails to surrender and deliver the Subleased Premises as and when required under this Sublease, Sublessee shall become a tenant at sufferance only, subject to all of the terms, covenants and conditions in this Sublease specified, except the rate of Base Rent (pro-rated on a daily basis) increases to (i) 150% of the rate of Base Rent then in effect for the first thirty (30) days of such holdover and (ii) thereafter Sublessee shall pay 200% of the rate of Base Rent then in effect for the remainder of such holdover. In addition, Sublessee shall protect, defend (with counsel reasonably approved by Sublessor), indemnify and hold harmless Sublessor and its officers, directors, agents and employees from and against any and all liability, claims, suits, demands, judgments, costs, losses, interest and expenses (including, without being limited to, reasonable attorneys' fees and expenses) that Sublessor may suffer, under Section 3.02 of the Prime Lease or otherwise, by reason of any holdover by Sublessee under this Sublease. The terms and provisions of this Paragraph 26 shall survive the expiration or earlier termination of this Sublease.

27. Recording . Sublessor and Sublessee agree that neither party may record this Sublease.

28. Attorney's Fees . If either Sublessor or Sublessee bring any action or legal proceeding for an alleged breach of any provision of this Sublease, to recover Rent, to terminate this Sublease or otherwise to enforce, protect or establish any term or covenant of this Sublease, the prevailing party is entitled to recover as a part of such action or proceeding, or in a separate action brought for that purpose, reasonable attorneys' fees, court costs, and expert fees as may be fixed by the court.

29. Parking . Sublessor grants Sublessee the right to use, in common with others entitled thereto, the unreserved parking spaces located in the garage serving the Building that Sublessor has the right to use in connection with the Subleased Premises under the Prime Lease (i.e., 1 parking space per 1,000 useable square feet (exclusive of any mechanical space, including all the mechanical space converted to gross floor area pursuant to the City of Cambridge Board of Zoning Appeal Case No. 10459) as and

when Sublessor is granted use of such parking spaces. Sublessee shall pay to Sublessor as additional rent (unless directly billed by Prime Lessor, in which event Sublessee shall pay Prime Lessor upon written demand) for the parking spaces so used by Sublessee at Prime Lessor's then current prevailing monthly rate for such parking spaces (currently $280 per space per month). Sublessee will advise Sublessor at the time of execution of this Sublease as to the number of parking spaces Sublessee initially desires to use. Thereafter, Sublessee may request the use of additional parking spaces (but no more than the number of spaces that Sublessor is entitled to under the Seventh Amendment to the Prime Lease in connection with the Subleased Premises) on no less than sixty-five (65) days' written notice to Sublessor. Sublessee's use of the parking spaces provided under this Paragraph 29 and Sublessee's rights with respect to such parking spaces (including, without limitation, limitations on increases in the prevailing monthly rate for parking spaces) shall otherwise be in accordance with the terms of Section 2.01(d) of the Prime Lease. Sublessee shall not assign, license or sublease Sublessee's rights under this Paragraph 29 except in connection with an assignment or sublease permitted or for which consent is not required under Paragraph 9 of this Sublease.

30. Appurtenant Rights . Sublessee has (as appurtenant to the Subleased Premises) rights to use in common with Sublessor and others entitled thereto Sublessor's rights in driveways, walkways, hallways, stairways and passenger elevators convenient for access to the Subleased Premises and the lavatories nearest thereto as shown on Exhibit B attached hereto.

31. Non-Disturbance . Sublessor shall assist Sublessee in obtaining a non-disturbance agreement from Prime Lessor, provided that the effectiveness of this Sublease is not conditioned upon Sublessee obtaining a non-disturbance agreement from Prime Lessor.

32. Rooftop Antenna . Sublessee shall have the right to install Rooftop Equipment (as defined in Section 11.01 of the Prime Lease) on its proportionate share of Sublessor's rights to the Rooftop Installation Areas and the Antenna Installation Area (as defined in Section 11.01 of the Prime Lease) in accordance with the terms of Article 11 of the Prime Lease.

33. Emergency Generator . Sublessee shall have the right to access [at least] 50 KW from Sublessor's emergency generation system for the Subleased Premises, provided that Sublessee pays for the electricity generated by the emergency generator and used in the Subleased Premises as measured by a separate sub-meter to be installed in the Subleased Premises as part of the Improvement Work.

34. Quiet Enjoyment . Sublessor agrees that, so long as Sublessee is not in default under the terms of this Sublease (beyond any applicable notice and cure period), Sublessee shall lawfully and quietly hold, occupy and enjoy the Subleased Premises during the Term of this Sublease without disturbance by Sublessor or any subtenant of Sublessor or any other party claiming by, through or under Sublessor, subject to the terms of this Sublease. Notwithstanding the foregoing (without limiting Sublessor's

obligations under Paragraph 10(b) above), Sublessor shall not be responsible in the event Prime Lessor or any person claiming through Prime Lessor (including, without limitation, any mortgagee of the Building) disturbs Sublessee's quiet enjoyment of the Subleased Premises.

35. Guaranty . Biogen Idec, Inc., shall guarantee all of Sublessee's obligations under this Sublease in accordance with the terms of the Guaranty attached to this Sublease as Exhibit D .

36. Survival . Without limitation, paragraphs 3 (Base Rent), 4 (Electricity), 8 (Indemnification), 14 (Brokerage), 23 (Waiver of Jury Trial and Right to Counterclaim), and 25 (Limitation on Liability) of this Sublease survive the expiration or earlier termination of this Sublease.

IN WITNESS WHEREOF, Sublessor and Sublessee have executed this Sublease as a sealed instrument as of the date first written above.

SUBLESSOR

IRONWOOD PHARMACEUTICALS, INC.

By: /s/ Michael J. Higgins
Name: Michael J. Higgins
Title: Chief Financial Officer and Chief Operating Officer

SUBLESSEE

BIOGEN IDEC MA INC.

By: /s/ Jorg Thommes
Name: Jorg Thommes
Title: VP OSI

Exhibit 21.1

List of Registrant's Subsidiaries

Ironwood Pharmaceuticals Securities Corporation, incorporated in Massachusetts, a wholly owned subsidiary.

Ironwood Pharmaceuticals GmbH, incorporated in Switzerland, a wholly owned subsidiary.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements (Form S-3 Nos. 333-179430 and 333-199885; and Form S-8 Nos. 333-184396, 333-165227, 333-165228, 333-165229, 333-165230, 333-165231, 333-189339, 333-189340, 333-197874, and 333-197875) of Ironwood Pharmaceuticals, Inc. and in the related Prospectuses of our reports dated February 18, 2015, with respect to the consolidated financial statements of Ironwood Pharmaceuticals, Inc., and the effectiveness of internal control over financial reporting of Ironwood Pharmaceuticals, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2014.

/s/ Ernst & Young LLP

Boston, Massachusetts
February 18, 2015

QuickLinks

EXHIBIT 31.1

CERTIFICATION PURSUANT
TO RULE 13a-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934

I, Peter M. Hecht, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ironwood Pharmaceuticals, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 18, 2015

/s/ PETER M. HECHT

Peter M. Hecht, Ph.D.
Chief Executive Officer

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CERTIFICATION PURSUANT TO RULE 13a-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

EXHIBIT 31.2

CERTIFICATION PURSUANT
TO RULE 13a-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934

I, Thomas Graney, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ironwood Pharmaceuticals, Inc. (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 18, 2015

/s/ THOMAS GRANEY

Thomas Graney
Chief Financial Officer

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CERTIFICATION PURSUANT TO RULE 13a-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Ironwood Pharmaceuticals, Inc. (the "Company") on Form 10-K for the period ended December 31, 2014 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Peter M. Hecht, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ PETER M. HECHT

Peter M. Hecht, Ph.D.
Chief Executive Officer
February 18, 2015

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

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EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Ironwood Pharmaceuticals, Inc. (the "Company") on Form 10-K for the period ended December 31, 2014 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas Graney, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ THOMAS GRANEY

Thomas Graney
Chief Financial Officer
February 18, 2015

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

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