ARENA PHARMACEUTICALS INC
Form 10-K
March 15, 2012
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2011

December 31, 2011

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 000-31161

ARENA PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**23-2908305**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
6166 Nancy Ridge Drive, San Diego, CA	**92121**
(Address of principal executive offices)	**(Zip Code)**

858.453.7200

(Registrant s telephone number, including area code)

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

Title of each class	**Name of each exchange on which registered**
Common Stock, $0.0001 par value	NASDAQ Global Select Market
Preferred Stock Purchase Rights	NASDAQ Global Select Market

Securities registered pursuant to 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 x

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

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

Large accelerated filer ¨	Accelerated filer x
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 x

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was approximately $196.9 million as of June 30, 2011, based on the last sale price of the registrant s common stock as reported on the NASDAQ Global Market on such date. For purposes of this calculation, shares of the registrant s common stock held by directors and executive officers have been excluded. This number is provided only for purposes of this Annual Report on Form 10-K and does not represent an admission that any particular person or entity is an affiliate of the registrant.

As of March 9, 2012, there were 180,422,401 shares of the registrant s common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required by Part III of this Annual Report on Form 10-K is incorporated by reference from the registrant s definitive proxy statement for the annual meeting of stockholders to be held in June 2012, which will be filed with the Securities and Exchange Commission within 120 days after the close of the registrant s fiscal year ended December 31, 2011.

Table of Contents

ARENA PHARMACEUTICALS, INC.

TABLE OF CONTENTS

Table of Contents

INFORMATION RELATING TO FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes forward-looking statements, which involve a number of risks and uncertainties. These forward-looking statements can generally be identified as such because the context of the statement will include words such as may, will, intend, plan, believe, anticipate, expect, estimate, predict, potential, continue, likely, or opportunity, the negative of these words or ot Similarly, statements that describe our future plans, strategies, intentions, expectations, objectives, goals or prospects and other statements that are not historical facts are also forward-looking statements. Discussions containing these forward-looking statements may be found, among other places, in Business and Management s Discussion and Analysis of Financial Condition and Results of Operations in this Annual Report on Form 10-K. For such statements, we claim the protection of the Private Securities Litigation Reform Act of 1995. Readers of this Annual Report on Form 10-K are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the time this Annual Report on Form 10-K was filed with the Securities and Exchange Commission, or SEC. These forward-looking statements are based largely on our expectations and projections about future events and future trends affecting our business, and are subject to risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. These risks and uncertainties include, without limitation, those discussed in Risk Factors and in Management s Discussion and Analysis of Financial Condition and Results of Operations of this Annual Report on Form 10-K. In addition, past financial or operating performance is not necessarily a reliable indicator of future performance, and you should not use our historical performance to anticipate results or future period trends. We can give no assurances that any of the events anticipated by the forward-looking statements will occur or, if any of them do, what impact they will have on our results of operations and financial condition. Except as required by law, we undertake no obligation to update publicly or revise our forward-looking statements to reflect events or circumstances that arise after the filing of this Annual Report on Form 10-K or documents incorporated by reference herein that include forward-looking statements.

Arena Pharmaceuticals®, Arena® and our corporate logo are registered service marks of Arena. CART is an unregistered service mark of Arena. All other brand names or trademarks appearing in this Annual Report on Form 10-K are the property of their respective holders.

In this Annual Report on Form 10-K, Arena Pharmaceuticals, Arena, we, us and our refer to Arena Pharmaceuticals, Inc., and our wholly ow subsidiaries on a consolidated basis, unless the context otherwise provides. APD is an abbreviation for Arena Pharmaceuticals Development.

Table of Contents

PART I

Item 1. Business.

Overview

We are a clinical-stage biopharmaceutical company focused on discovering, developing and commercializing oral drugs that target G protein-coupled receptors, or GPCRs, an important class of validated drug targets, in four major therapeutic areas: cardiovascular, central nervous system, inflammatory and metabolic diseases. We recently submitted regulatory applications for US and EU approval of our most advanced drug candidate, lorcaserin, which is intended for weight management. We intend to selectively advance certain of our research and development programs, and also to seek collaborators or other licensing opportunities for our programs.

In October 2010, the US Food and Drug Administration, or FDA, issued a Complete Response Letter, or CRL, with respect to the lorcaserin New Drug Application, or NDA, we submitted in December 2009. In the CRL, the FDA stated that it completed its review of the NDA and determined that it could not approve the application in its then present form.

After completing various studies, analyses and other activities in response to the lorcaserin CRL, in December 2011, we resubmitted the lorcaserin NDA. The FDA accepted the resubmission for filing and review and assigned a new Prescription Drug User Fee Act, or PDUFA, target date of June 27, 2012. The FDA subsequently notified us that an Endocrinologic and Metabolic Drugs Advisory Committee meeting to discuss the lorcaserin NDA is tentatively scheduled on May 10, 2012.

We are also seeking regulatory approval for lorcaserin in the European Union. On March 2, 2012, we filed a marketing authorization application, or MAA, for lorcaserin through the centralized procedure with the European Medicines Agency, or EMA, and we expect to learn whether our filing has been accepted for review before the end of March 2012.

Our wholly owned subsidiary, Arena Pharmaceuticals GmbH, or Arena GmbH, has granted Eisai Inc., or Eisai, exclusive rights to commercialize lorcaserin in the United States and its territories and possessions, subject to FDA approval of the lorcaserin NDA. Also subject to applicable regulatory approval, we intend to commercialize lorcaserin in the European Union and in other areas outside of the United States with one or more collaborators or independently.

Our prioritized earlier-stage programs include APD811, an internally discovered, orally available agonist of the prostacyclin receptor intended for the treatment of pulmonary arterial hypertension. APD811 completed a single-dose, Phase 1 clinical trial in 2011, and we plan to initiate a multiple-dose, dose-titration, Phase 1 clinical trial of APD811 this year. We also plan to file this year an investigational new drug, or IND, application with the FDA for APD334 (an internally discovered, orally available agonist of the S1P1 receptor intended for the treatment of a number of conditions related to autoimmune diseases, including multiple sclerosis) and to continue development of our programs on APD371 (an internally discovered, orally available agonist of the cannabinoid receptor 2, or CB2, intended for the treatment of pain) and GPR119 agonists (intended for the treatment of type 2 diabetes).

Our internally discovered, oral drug candidates also include temanogrel, which was formerly called APD791, and nelotanserin, which was formerly called APD125. Temanogrel is an inverse agonist of the serotonin 2A receptor intended for the treatment of arterial thrombosis and other related conditions and has completed Phase 1a and Phase 1b clinical trials. Nelotanserin is a serotonin 2A receptor inverse agonist that we previously studied for insomnia, and has completed Phase 2a and Phase 2b clinical trials. We are not planning to conduct significant development activities, including any additional clinical trials, for these drug candidates at this time. We may consider resuming their development in the future with one or more collaborators or independently, depending on the cost of further development, financial resources and their potential.

Table of Contents

The headquarters of our operations outside of the United States is in Switzerland at Arena GmbH. Activities conducted at this location include manufacturing, quality control, quality assurance, development of manufacturing processes, qualifying suppliers and otherwise managing the global supply chain, regulatory compliance, distribution of finished products, and European strategic planning and development. Arena GmbH and its wholly owned subsidiary, API Development LTD, also hold certain intellectual property rights for lorcaserin.

We have commercial rights for all of our programs and drug candidates, with the exception of Eisai s right to commercialize lorcaserin in the United States. We have not received regulatory approval to market or sell any drugs or generated commercial revenues from selling any drugs, other than in connection with manufacturing drugs for Siegfried Ltd in our Swiss drug product manufacturing facility. We incorporated in the state of Delaware in April 1997.

Our Research and Development Programs

We are currently focusing our resources and activities on the following programs:

Program (Indication)	Development Status	Commercial Rights
Lorcaserin (weight management)	Resubmitted NDA	Arena Ex-US; Eisai US
APD811 (pulmonary arterial hypertension)	Phase 1	Arena
APD334 (autoimmune diseases)	Preclinical	Arena
APD371 (pain)	Preclinical	Arena
GPR119 agonists (type 2 diabetes)	Research	Arena

Our research and development programs also include temanogrel, nelotanserin and earlier-stage programs, for which we are not planning to conduct significant development activities, including any additional clinical trials, at this time. We may consider resuming their development in the future with one or more collaborators or independently, depending on the cost of further development, financial resources and their potential.

Throughout this Form 10-K, when we use the term significantly with regard to the results of our studies or trials, we generally mean statistically significantly, which means that the particular result unlikely occurred by chance.

Currently Active Programs

Lorcaserin Program

Our most advanced drug candidate, lorcaserin, is intended for weight management, including weight loss and maintenance of weight loss. According to the Centers for Disease Control and Prevention, more than one- third of US adults were obese in 2009-2010. Studies have shown that a weight loss of 5% to 10% of body weight from baseline can result in meaningful improvements in cardiovascular risk factors (e.g., lipids, blood pressure and blood glucose), quality of life and functional capacity, and a significant reduction in the incidence of type 2 diabetes. There are currently limited pharmaceutical treatment options to help patients lose weight.

Lorcaserin is a new chemical entity that we believe acts as a selective serotonin 2C receptor agonist. The serotonin 2C receptor is expressed in the brain, including the hypothalamus, which is an area involved in the control of appetite and metabolism. In *in vitro* studies, lorcaserin demonstrated greater affinity and activity at the serotonin 2C receptor than at the serotonin 2A and 2B receptors. Activation of the latter two receptors has been associated with undesirable effects: Activation of the 2A receptor has been associated with central nervous system, or CNS, effects, including altered perception, mood and abuse potential; and activation of the 2B receptor has been associated with cardiac valvulopathy.

We have evaluated the safety, pharmacokinetics and pharmacodynamics of lorcaserin in 19 clinical trials: seven Phase 1 trials, two Phase 2 trials, three Phase 3 trials, a bioavailability study, a mass balance study, an

Table of Contents

ECG/QT trial, two drug interaction trials, an abuse potential trial, and a study of energy intake and energy expenditure. The lorcaserin Phase 3 clinical trial program consisted of three double-blind, randomized, placebo-controlled trials, BLOOM (Behavioral modification and Lorcaserin for Overweight and Obesity Management), BLOSSOM (Behavioral modification and LOrcaserin Second Study for Obesity Management) and BLOOM-DM (Behavioral modification and Lorcaserin for Overweight and Obesity Management in Diabetes Mellitus), and enrolled approximately 7,800 patients. BLOOM and BLOSSOM evaluated lorcaserin versus placebo in non-diabetic patients who were obese or patients who were overweight and had at least one weight-related co-morbid condition other than diabetes: BLOOM evaluated 3,182 patients over a two-year treatment period; and BLOSSOM evaluated 4,008 patients over a one-year treatment period. BLOOM-DM evaluated 604 obese and overweight patients with type 2 diabetes over a one-year treatment period.

Lorcaserin Regulatory Activities and Developments.

US Food and Drug Administration

We submitted our original lorcaserin NDA to the FDA in December 2009, which incorporated information regarding BLOOM and BLOSSOM. In October 2010, the FDA issued a CRL regarding the lorcaserin NDA. In the CRL, the FDA stated that it completed its review of the NDA and determined that it could not approve the application in its then present form. The items for which the FDA requested additional data or analyses in the CRL or subsequent communications can be summarized as follows:

Diagnostic uncertainty in the classification of mammary masses in female rats;

Unresolved exposure-response relationship for lorcaserin-emergent mammary adenocarcinoma and unclear mode of action;

Unidentified mode of action and unclear safety margin for lorcaserin-emergent brain astrocytoma in male rats;

Further assessment of receptor pharmacology to refine estimated margins and more fully characterize lorcaserin s functional activity;

Further assessment in rats of abuse potential for labeling and scheduling decisions; and

Weight-loss efficacy in patients without type 2 diabetes and a request to submit data from BLOOM-DM.

After completing various studies, analyses and other activities intended to address these items, we resubmitted the lorcaserin NDA in December 2011. The resubmission includes data and analyses that were not incorporated in the original NDA, including the results of BLOOM-DM, which was completed after we filed the original NDA.

In January 2012, the FDA notified us that it accepted the lorcaserin NDA resubmission for filing and review, and assigned a PDUFA date of June 27, 2012. (A PDUFA date is the target date for the FDA to complete its review and provide a decision on an application.) The FDA subsequently notified us that an Endocrinologic and Metabolic Drugs Advisory Committee meeting to discuss the lorcaserin NDA resubmission is tentatively scheduled on May 10, 2012.

We expect the FDA to conduct a benefit-risk assessment based upon the totality of the new and previously provided data to determine the approvability of lorcaserin. It is important to note that the FDA may analyze or weigh the data differently than we or others do. In addition, the analyses we included in the resubmitted lorcaserin NDA include estimates based on certain assumptions and extrapolations. The FDA may accept our assumptions and extrapolations or may use different ones in analyzing the data, which could lead the FDA to reach different conclusions.

Table of Contents

Following is a summary of the activities performed in response to the lorcaserin CRL and the information we included in the lorcaserin NDA resubmission:

Diagnostic uncertainty in the classification of mammary masses in female rats. The original lorcaserin NDA included data showing that lorcaserin was not genotoxic in a standard battery of tests, and, in our lorcaserin clinical trials, the occurrence of mammary and other tumors was infrequent and similar with lorcaserin treatment as compared to placebo. The original lorcaserin NDA also included the results of two-year carcinogenicity studies of mice and rats. In mice given lorcaserin, the incidences of tumors were not increased relative to placebo. In rats given lorcaserin, the incidences of certain tumors, including benign and malignant tumors of the mammary gland, were increased relative to placebo. In female rats, the specific diagnoses (i.e., benign or malignant) differed between an initial pathologist s analysis of the tissues on an ongoing basis during the study and the final peer-reviewed diagnoses reported in the study report and included in the original NDA. The FDA recommended that the tissue samples be re-adjudicated to provide greater certainty for the diagnoses of benign and malignant mammary tumors.

We convened a pathology working group, or PWG, that consisted of five independent veterinary pathologists to re-adjudicate the female rat mammary tumor diagnoses in the rat carcinogenicity study. The FDA reviewed and agreed to the PWG membership and procedures. The PWG members independently reviewed slides of relevant tissues in blinded fashion and recorded their initial diagnoses. When consensus on a slide was less than unanimous, the group reached a consensus diagnosis by vote while reviewing and discussing the relevant slide around a multi-headed microscope. The PWG reported that adenocarcinomas (malignant tumors) were generally easily distinguished from fibroadenomas (benign tumors), and provided initial unanimous diagnoses for 97% of fibroadenomas and 93% of adenocarcinomas. After completing their adjudication process, the PWG concluded that the incidence of mammary adenocarcinoma in the high-dose, or 100 mg/kg/day, female group and the increased incidence of mammary fibroadenoma in each of the low-, mid- and high-dose, or 10, 30, and 100 mg/kg/day, respectively, female groups were lorcaserin-related. The incidences of adenocarcinoma and fibroadenoma from the initial report and the PWG report are summarized below.

Percent of Female Rats with Mammary

Adenocarcinoma or Fibroadenoma

Dose:	Control	Low Dose - 10 mg/kg/day	Mid Dose - 30 mg/kg/day	High Dose - 100 mg/kg/day
Number of rats	65	65	65	75
Mammary Adenocarcinoma (Malignant)				
Initial Report	43.1%	52.3%	53.9%	80.0%
PWG Report	40.0%	32.3%	36.9%	68.0%
Mammary Fibroadenoma (Benign)				
Initial Report	30.8%	72.3%	81.5%	60.0%
PWG Report	36.9%	83.1%	84.6%	68.0%

The PWG also reported mammary adenoma (a benign tumor) in 1.5%, 3.1%, 7.7% and 5.3%, and mammary carcinosarcoma (a malignant tumor) in 0%, 0%, 0% and 1.3% of the control and lorcaserin low-, mid- and high-dose groups, respectively. No mammary adenoma was diagnosed by the pathologists who provided the original study report; the incidence of mammary carcinosarcoma did not change from the initial report. In experiments described in this Form 10-K, control refers to the group or agent being used for comparison purposes with the treated group or treatment.

Unresolved exposure-response relationship for lorcaserin-emergent mammary adenocarcinoma. In addition to diagnostic uncertainty, the FDA also cited measures of tumor aggressiveness at all three lorcaserin doses in reaching a conclusion that the exposure response relationship for mammary adenocarcinoma was unresolved. In other words, the FDA questioned whether these tumors might be treatment related at all lorcaserin doses. The FDA requested that we demonstrate that the mammary adenocarcinoma observed in

Table of Contents

rats is reasonably irrelevant to human risk. We included in our NDA resubmission data and analyses regarding tumor aggressiveness and studies investigating the mechanism for the development of mammary tumors in rats.

Additional data and analyses of tumor aggressiveness. The PWG considered measures of aggressiveness for mammary adenocarcinoma, which included time-to-tumor diagnosis, or latency; number of animals with more than one primary tumor, or multiplicity; and number of animals with mammary adenocarcinoma metastases in, or spread to, the lung. Latency was significantly shortened from control when analyzed as a trend across lorcaserin doses; we performed a post hoc analysis of latency for individual doses that showed only the high dose differed significantly from control. Multiplicity was greater than control in the high-dose group, but not in the low- or mid-dose groups (10.8%, 9.2%, 9.2% and 22.7% in the control, low-, mid- and high-dose groups, respectively). Among all of the animals in each dose group, the incidence of lung metastases from mammary adenocarcinoma was 0%, 1.5%, 7.7% and 6.7% (control, low-, mid-, and high-dose groups, respectively), and, among only the animals with mammary adenocarcinoma in each dose group, the incidence of lung metastases from this tumor was 0%, 4.8%, 20.8% and 9.8% (control, low-, mid-, and high-dose groups, respectively); the PWG described the incidence of lung metastases as low for all groups, with basically no difference between the control and the low-dose group and an equivocal increase in the mid- and high-dose groups.

The PWG reached the conclusion that mammary adenocarcinoma was lorcaserin treatment related only at the high dose.

As an additional potential measure of aggressiveness (which measure was previously evaluated by the FDA in reviewing the original NDA), we analyzed time to death due to mammary adenocarcinoma using the updated dataset provided by the PWG. This analysis identified all animals for which the original pathologist named mammary tumor as cause of death. In some cases, the pathologist specifically named mammary adenocarcinoma as the cause of death; in other cases, animals had both mammary adenocarcinoma and fibroadenoma and neither was singled out as the cause of death. Therefore, we performed two survival analyses: The first was based upon death specifically attributed to adenocarcinoma; and the second assumed deaths due to unspecified mammary tumor in animals with both fibroadenoma and adenocarcinoma were also caused by adenocarcinoma. Time to death specifically attributed to adenocarcinoma was significantly accelerated only in the high-dose group. In the second analysis, time to death due to unspecified mammary tumor was accelerated in the mid-dose group as well, although, as discussed above, the incidence of adenocarcinoma was not increased over control in the mid-dose group.

We believe the PWG s re-adjudication and their and our related analyses found that mammary adenocarcinoma was only lorcaserin treatment related at the high dose, establishing a safety margin of 24-fold between human lorcaserin exposures at the intended therapeutic dose and exposures in rats at the highest dose not associated with malignant mammary adenocarcinoma.

With respect to fibroadenoma, the PWG re-adjudication did not establish a safety margin for these benign tumors since they were increased over control at all lorcaserin doses tested. The PWG determined that, in addition to incidence, tumor multiplicity was increased in all lorcaserin groups, and that tumor latency was significantly decreased as a trend across all lorcaserin dose groups. A separate analysis we performed also showed that tumor latency was significantly decreased in each treatment group.

Mechanistic studies. We hypothesized that lorcaserin increased both benign and malignant mammary tumors through the mechanism of, or by, increasing the effects of the hormone prolactin on the rat mammary gland. To test this hypothesis, we conducted certain mechanistic studies that can be categorized as follows:

short-term pilot experiments designed to optimize methods for measuring or detecting prolactin in plasma, the pituitary gland and the mammary gland;

Table of Contents

three-month studies in rats to investigate changes in plasma and tissue prolactin and in the morphology, or the structure, of the mammary gland; and

studies of one-month and shorter duration in female rats to determine whether lorcaserin-mediated, or caused, changes in the mammary gland could be prevented by blocking prolactin action or prolactin release.

In most of the experiments, a positive control drug (perphenazine, a dopamine-2 receptor blocker) that is known to increase circulating prolactin and to cause mammary changes in rats that can precede the formation of tumors was included.

As outlined below, we believe that we have demonstrated persistent increases in tissue prolactin and prolactin effects, and a link between lorcaserin, prolactin and mammary changes that can precede hormone-mediated mammary tumors in rats, in studies of up to three months duration using intact female rats. We believe that our mechanistic studies provide evidence of persistent lorcaserin-mediated prolactin elevation (as seen in relative pituitary prolactin content), histomorphological effects, or microscopic changes in the structures, of the mammary gland consistent with hormonal hyperstimulation (as seen in increased lobular structures, secretory product and mammary hyperplasia scores), and evidence that the lorcaserin-mediated mammary effects were prolactin-dependent (as seen in our blockade experiments). While no single experiment proves a link between lorcaserin, prolactin and mammary changes that can precede the formation of tumors, we believe that the weight of evidence supports such a link.

Three-Month Studies

After optimizing methodology in the pilot experiments, we conducted a three-month study of intact female rats. The prolactin content in the pituitary gland was measured after dosing lorcaserin, perphenazine, or control for 7, 28, 60 and 90 days, and plasma prolactin concentrations were measured at various time points throughout the study. Lorcaserin at all doses tested (10, 30 and 100 mg/kg/day, or the low-, mid- and high-dose, respectively) increased pituitary prolactin content relative to control at all time points after 7 days; these increases were significant for all lorcaserin doses at Day 90. Lorcaserin also significantly increased plasma prolactin compared to control at 20 hours after dosing for up to 10 days at the high dose.

We evaluated lorcaserin s effect on mammary tissue using several different techniques. Mammary whole mount preparations were used to look at the morphology of the gland with a focus on changes that could precede the development of tumors. Mammary sections were also examined microscopically using hematoxylin and eosin, or H&E, staining to evaluate histopathology. Proliferating cell nuclear antigen, or PCNA, immunostaining was performed to quantify cellular proliferation.

In the mammary whole mount preparations, lorcaserin was associated with decreases in mammary gland terminal ducts and increases in lobular structures. Decreases in terminal ducts typically occur under prolactin stimulation as these structures develop into progressively more complex lobular structures (from type 1 to type 3) needed for milk production. The increase in type 2 lobules was significant at Day 28 at the lorcaserin high dose, and decreases in terminal ducts and increases in type 1 lobules and total lobular structures were significant at Day 90 at the low and high lorcaserin doses. These types of changes can precede prolactin-mediated mammary tumors in rats.

H&E staining showed that lorcaserin at the high dose significantly increased the proportion of animals with mammary secretory product (believed to be milk) as compared to control at Day 28. This increase in secretory product is another marker of prolactin stimulation.

Low-dose lorcaserin significantly increased PCNA staining at Day 90, and mid-dose lorcaserin increased the signal at Day 28. High-dose lorcaserin did not significantly affect PCNA staining in this study. An increase in PCNA staining indicates cellular proliferation.

Table of Contents

We did not observe changes in circulating progesterone, estradiol or luteinizing hormone in lorcaserin dose groups that we believe are sufficient to explain the observed changes in mammary morphology.

The positive control, perphenazine, caused significant elevations of plasma prolactin at all time points, more pronounced morphological changes at Days 28 and 90 and significantly decreased pituitary prolactin content at Days 28 and 90. Perphenazine significantly increased lobular structures and decreased terminal ducts in whole mount preparations, significantly increased lobular hyperplasia in H&E sections and significantly increased PCNA immunostaining of mammary tissue on Days 28 and 90.

A smaller study in male rats did not show consistent effects on pituitary or plasma prolactin or mammary morphological changes with lorcaserin or perphenazine treatment. Since the positive control had no effect relative to control, this experiment does not contribute to our interpretation of the prolactin hypothesis.

Blockade Studies of One-Month and Shorter Duration

We also performed studies that utilized agents or procedures to block prolactin release or action.

In one study, mid-dose lorcaserin (30 mg/kg/day) or control was administered for 10 days to female rats that had undergone pituitary ablation to eliminate prolactin production, or the hypophysectomized group, and to an intact control group. Lorcaserin was poorly tolerated by the hypophysectomized animals, resulting in discontinuation of dosing on Day 10 and sacrifice on approximately Day 30. Lorcaserin increased mammary lobular hyperplasia in the intact control group that was significantly greater than control. Hypophysectomy prevented lorcaserin-mediated mammary lobular hyperplasia. The results of this study provide evidence that the lorcaserin-induced mammary lobular hyperplasia (a finding that can precede mammary tumor formation in female rats) was dependent on the pituitary gland. Lorcaserin did not increase mammary PCNA staining or mammary prolactin content in this study.

In another prolactin blockade study, female rats received high-dose lorcaserin (100 mg/kg/day) or perphenazine for 25 days with or without simultaneous administration of a compound (a peptide called S179D) that blocks the prolactin receptor. Lorcaserin and perphenazine significantly increased mammary tissue staining for PCNA, a marker of cellular proliferation. This effect was partially prevented by S179D for both compounds, and with statistical significance for lorcaserin, providing evidence that the proliferative effect of lorcaserin on the rat mammary gland was mediated through prolactin action. Mammary hyperplasia scores were not significantly increased by lorcaserin in this experiment. Small but significant perphenazine-associated increases in mammary hyperplasia scores were not significantly inhibited by S179D.

Unidentified mode of action and unclear safety margin for lorcaserin-emergent brain astrocytoma in male rats. In a two-year carcinogenicity study in male Sprague-Dawley rats, the incidence of brain astrocytoma was significantly increased at the lorcaserin high dose (100 mg/kg/day) and the overall dose-response was significant. Plasma exposure multiples over human were 5- and 17-fold in low- and mid-dose (10 and 30 mg/kg/day, respectively) male rats. Since brain partitioning from plasma can vary from species to species, brain exposure multiples are more relevant than plasma exposure multiples for assessing human risk for this tumor. In the original NDA, we used animal data to estimate human brain exposure and much lower brain partitioning, or the brain-to-blood ratio, in humans than in rats. Using these estimates derived from animal data, the brain exposure multiples at each dose in the carcinogenicity study would be several-fold greater than the plasma exposure multiples.

To provide a better estimate of the safety margin for brain astrocytoma, we focused on estimating human brain exposure at the expected therapeutic dose of 10 mg twice daily, or BID, more directly from additional human data. Using preclinical species, we demonstrated a relatively consistent lorcaserin exposure ratio in brain and cerebrospinal fluid, or CSF, of 101. Assuming that the same ratio applies in humans, it is possible to estimate human brain exposure from CSF exposure. For the NDA resubmission, we conducted a clinical trial that involved measuring lorcaserin concentrations in human CSF in volunteers

Table of Contents

taking lorcaserin 10 mg BID at steady state. We estimated mean exposure of the human brain to lorcaserin to be approximately 1.7 times the exposure in human plasma. In contrast, the measured exposure of the male rat brain to lorcaserin at the dose at which no brain astrocytoma was observed (10 mg/kg/day) was approximately 24 fold the exposure in rat plasma. Using these data, we calculate an exposure margin of approximately 70-fold between human brain at lorcaserin 10 mg BID and the male rat brain at the highest dose with no astrocytoma.

Further assessment of receptor pharmacology to refine estimated margins and more fully characterize lorcaserin s functional activity. Estimating lorcaserin s affinity and activity for the serotonin 2C receptor relative to the related serotonin 2A and 2B receptors may help predict the likelihood of adverse events associated with activation of the serotonin 2A (associated with altered perception, mood, abuse potential) or 2B (associated with cardiac valvulopathy) receptor.

The receptor pharmacology data we included in the original NDA were generated using cell lines with generally greater numbers of serotonin receptors than what are typically present under physiological conditions. For the NDA resubmission, we supplemented the original data by investigating lorcaserin s functional activity at the three serotonin subtype 2 receptors in the absence of excess receptors. These experiments confirmed that lorcaserin has greater potency at the serotonin 2C receptor than at the serotonin 2A or 2B receptor. In these experiments, lorcaserin was 14 times less potent at the serotonin 2A receptors and 61 times less potent at the serotonin 2B receptors than at serotonin 2C receptors.

In addition, as part of the serotonin 2B receptor analyses, we investigated the potency of lorcaserin relative to 33 reference compounds with a range of serotonergic activity, including compounds known to cause valvulopathy and those not known to cause valvulopathy. We believe the results demonstrate that lorcaserin s potency is closer to the reference compounds not known to cause valvulopathy than the reference compounds known to cause valvulopathy.

Further assessment of abuse potential for labeling and scheduling decisions. The FDA requested that we modify and repeat two studies in rats related to abuse potential to address concerns the FDA had with the abuse potential of lorcaserin and the studies we submitted with the original NDA.

The studies we included in the original NDA were two short-term, nonclinical studies in rats: a study of serotonin 2A and 2C receptor associated behaviors and a drug discrimination study. To provide additional safety information for labeling and scheduling decisions, we modified and repeated these studies pursuant to the FDA s request. We believe the results of the modified studies are consistent with the results of the studies we included in the original NDA submission. We continue to believe that lorcaserin has low abuse potential.

Weight-loss efficacy in patients without type 2 diabetes and a request to submit data from BLOOM-DM. The FDA stated in the lorcaserin CRL that the clinical weight loss efficacy of lorcaserin in overweight and obese individuals without type 2 diabetes was marginal in BLOOM and BLOSSOM, and asked us to submit the final study report from BLOOM-DM to allow further evaluation of lorcaserin s benefit-risk profile.

We incorporated the results of BLOOM-DM into the lorcaserin NDA resubmission. BLOOM-DM evaluated lorcaserin for weight loss in obese and overweight patients with type 2 diabetes over a one-year treatment period. We believe that the weight loss efficacy, safety profile and the additional benefit for glycemic control shown in BLOOM-DM improve the overall benefit-risk profile over that presented in the original NDA. See Lorcaserin Phase 3 Clinical Development below for additional information on the results of BLOOM-DM.

European Medicines Agency

We are seeking regulatory approval for lorcaserin in the European Union. In 2011, we were assigned the UK s Medicines and Healthcare products Regulatory Agency, or MHRA, as our application Rapporteur, and Sweden s Medical Products Agency, or MPA, as Co-rapporteur. We also received approval from the Pediatric

Table of Contents

Development Committee for our pediatric investigation plan application, which defers all pediatric studies until after EMA approval. On March 2, 2012, we filed an MAA for lorcaserin through the centralized procedure with the EMA, and we expect to learn whether our filing has been accepted for review before the end of March 2012.

Lorcaserin Phase 3 Clinical Development.

The three trials included in our lorcaserin Phase 3 development program are summarized in the following table:

	BLOOM	BLOSSOM	BLOOM-DM
Number of patients	3,182	4,008	604
Treatment groups	Placebo, lorcaserin 10 mg BID	Placebo, lorcaserin 10 mg once daily, or QD, lorcaserin 10 mg BID	Placebo, lorcaserin 10 mg QD, lorcaserin 10 mg BID
Patient demographics	BMI ³30, or ³27 with co-morbid condition(s); average BMI of 36.2 and baseline weight of 220 pounds	BMI ³30, or ³27 with co-morbid condition(s); average BMI of 35.9 and baseline weight of 220 pounds	BMI ³27; type 2 diabetes mellitus; average BMI of 36 and baseline weight of 228 pounds
	Average age 44	Average age 44	Average age 53
	84% women	80% women	54% women
	Caucasian (67%)	Caucasian (67%)	Caucasian (61%)
	African-American (19%) Hispanic (12%)	African-American (20%) Hispanic (11%)	African-American (21%) Hispanic (14%)
Duration	2 years	1 year	1 year
Echocardiographic monitoring	Screening, every 6 months, post-baseline	Baseline, every 6 months, post-baseline	Baseline, every 6 months, post-baseline
First patient enrolled	November 2006	January 2008	December 2007
Last patient completed	February 2009	July 2009	June 2010
NDA submission	Original NDA 2009	Original NDA 2009	NDA resubmission 2011
Location	U.S.A.	U.S.A.	U.S.A.

The Phase 3 trials shared the same ordered primary efficacy endpoints: the proportion of patients achieving 5% or greater weight loss from baseline at Week 52; mean weight change from baseline at Week 52; and the proportion of patients achieving 10% or greater weight loss from baseline at Week 52. Secondary endpoints included changes in physical measures, serum lipids, blood pressure, HbA1c and other indicators of glycemic control, body compositions (in BLOSSOM and BLOOM-DM), high-sensitivity C-Reactive Protein, or hs-CRP, (in BLOOM and BLOOM-DM) and quality of life. A standardized program of diet and exercise advice was included in each of the trials.

In addition to routine safety monitoring, each study included echocardiographic monitoring for valvular regurgitation and pulmonary artery pressure. Valvular regurgitation, a measure of backflow or leakage of blood through heart valves due to imperfect valve closing, was scored on a five-point scale (absent, trace, mild, moderate or severe) for the mitral and aortic valves. The FDA has defined clinically significant regurgitant valvulopathy as mild or greater aortic valve regurgitation and/or moderate or greater mitral valve regurgitation. Echocardiographic findings meeting this criterion are sometimes called FDA-defined valvulopathy.

Table of Contents

Among the pooled population enrolled in BLOOM and BLOSSOM, 22% had hypertension, 30% had dyslipidemia, 25% had impaired fasting glucose and approximately 8% reported a history of depression. In BLOOM-DM, all patients had type 2 diabetes, 61% had hypertension and approximately 6% reported a history of depression.

We also evaluated lorcaserin 10 mg QD in BLOSSOM and BLOOM-DM. We are not seeking regulatory approval for the lorcaserin 10 mg QD. In addition, to expedite enrollment in BLOOM-DM, randomization to the lorcaserin 10 mg QD dose was discontinued after approximately 300 patients were enrolled in the trial. Patients in the low dose group were continued in the trial to maintain the blind.

Patient Disposition

BLOOM. The Week 52 completion rate was higher for patients on lorcaserin (54.9%) compared to patients on placebo (45.1%). Discontinuation rates for adverse events were 7.1% vs. 6.7% in the lorcaserin and placebo groups, respectively, for Year 1 and approximately 3.0% for each group in Year 2.

BLOSSOM. The Week 52 completion rate was higher for patients on lorcaserin 10 mg BID (57.2%) and 10 mg QD (59.0%) compared to patients on placebo (52.0%). Discontinuation rates for adverse events were 7.2%, 6.2%, and 4.6% in the lorcaserin 10 mg BID, 10 mg QD and placebo groups, respectively.

BLOOM-DM. The Week 52 completion rate was higher for patients on lorcaserin 10 mg BID (66.0%) compared to patients on placebo (62.1%). Discontinuation rates for adverse events were 8.6% and 4.3% in the lorcaserin 10 mg BID and placebo groups, respectively.

Lorcaserin Phase 3 Results.

Efficacy

In each of the Phase 3 trials, lorcaserin 10 mg BID was superior to placebo for each of the ordered primary endpoints using a modified intent-to-treat population with last observation carried forward imputation for missing values, or ITT-LOCF, analysis, as summarized in the table below. Patients who completed one year of study participation experienced significantly greater efficacy according to each of the three co-primary endpoints.

	BLOOM		BLOSSOM		BLOOM-DM	
	Placebo	Lorcaserin 10 BID	Placebo	Lorcaserin 10 BID	Placebo	Lorcaserin 10 BID
	ITT/LOCF					
% Losing ³5% weight	20.3%	47.5%	25.0%	47.2%	16.1%	37.5%
Mean weight change (%)	2.2%	5.8%	2.8%	5.9%	1.5%	4.5%
% Losing ³10% weight	7.7%	22.6%	9.7%	22.6%	4.4%	16.3%
	Per Protocol/Completers*					
% Losing ³5% weight	32.1%	66.4%	34.9%	63.2%	17.9%	44.6%
Mean weight change (%)	3.4%	8.2%	3.9%	7.9%	1.7%	5.5%
% Losing ³10% weight	13.6%	36.2%	16.1%	35.1%	5.8%	20.8%

* These results are reported for the per protocol populations in BLOOM and BLOSSOM, and for the completers population in BLOOM-DM. The particular statistical analysis reported for each trial was pre-specified in the statistical analysis plan for that trial.

At the end of Year 2 of BLOOM, significantly more patients who took lorcaserin for two years maintained at least 5% weight loss achieved in Year 1 than did patients who took lorcaserin during Year 1 and were changed to placebo for Year 2.

The FDA draft guidance document Developing Products for Weight Management dated February 2007 provides two alternate benchmarks for the development of drugs for the indication of weight management. The guidance provides that, in general, a product can be considered effective for weight management if after one year

11

Table of Contents

of treatment either of the following occurs: (1) the difference in mean weight loss between the active-product and placebo-treated groups is at least 5% and the difference is statistically significant, or (2) the proportion of patients who lose at least 5% of baseline body weight in the active-product group is at least 35%, is approximately double the proportion in the placebo-treated group, and the difference between groups is statistically significant. We believe the results of our Phase 3 clinical trials of lorcaserin satisfy the latter of the two alternate efficacy benchmarks.

Lorcaserin exerted similar effects on secondary efficacy variables in BLOOM and BLOSSOM. A pooled analysis of changes from baseline to Week 52 showed significant improvements relative to placebo in waist circumference, BMI, total cholesterol, LDL cholesterol, HDL cholesterol, triglycerides, systolic blood pressure, diastolic blood pressure and heart rate. In BLOOM, significant improvements relative to placebo were also observed for hsCRP, fasting insulin and HOMA-IR (a measure of insulin resistance). In BLOSSOM, lorcaserin significantly decreased body fat content relative to placebo. In BLOOM-DM, which included only patients with type 2 diabetes, significant improvements relative to placebo occurred in HbA1c (-0.9% and -0.4%, respectively) and fasting glucose.

At baseline in BLOOM-DM, approximately 90% of patients were taking metformin and approximately 50% of patients were taking sulfonylureas with or without metformin. Weight loss and reductions in HbA1c and fasting plasma glucose were greater with lorcaserin treatment compared to placebo whether patients were treated with metformin or sulfonylureas. Fewer patients on lorcaserin compared to placebo (13.5% vs. 22.2%, respectively) increased and more patients on lorcaserin compared to placebo (17.1% vs. 11.7%, respectively) decreased use of anti-diabetic medication during the trial.

Safety and Tolerability Profile

BLOOM and BLOSSOM Pooled Analysis. Under the BLOOM and BLOSSOM pooled analysis, the most frequent adverse events reported in Year 1 and their incidences for lorcaserin 10 mg BID and placebo patients, respectively, were as follows: headache (16.8% vs. 10.1%), upper respiratory tract infection (13.7% vs. 12.3%), nasopharyngitis (13.0% vs. 12.0%), sinusitis (7.4% vs. 7.7%) and nausea (8.3% vs. 5.3%). Adverse events of depression, anxiety and suicidal ideation were infrequent and were reported by a similar proportion of each treatment group. The occurrence of mammary and other tumors was similar with lorcaserin treatment as compared to placebo.

BLOOM-DM. In BLOOM-DM, the most frequent adverse events reported and their incidences for lorcaserin 10 mg BID and placebo patients, respectively, were as follows: hypoglycemia (biochemical, symptomatic or asymptomatic) (29.3% vs. 21.0%), upper respiratory infection (13.7% vs. 14.7%), nasopharyngitis (11.3% vs. 9.9%), headache (14.5% vs. 7.1%), back pain (11.7% vs. 7.9%) and nausea (9.4% vs. 7.9%). Adverse events of depression, anxiety and suicidal ideation were infrequent and were reported by a similar proportion of each treatment group.

Echocardiographic Analysis. Echocardiograms were evaluated to assess whether there was an association between lorcaserin and valvular insufficiency. Incidences of new FDA-defined valvulopathy were as follows for lorcaserin 10 mg BID and placebo:

	Dose	Week 24	Week 52	Week 104
BLOOM	Lorcaserin 10 mg BID	2.1%	2.7%	2.6%
	Placebo	1.9%	2.3%	2.7%
BLOSSOM	Lorcaserin 10 mg BID	2.3%	2.0%	
	Placebo	1.8%	2.0%	
BLOOM-DM	Lorcaserin 10 mg BID	2.5%	2.9%	
	Placebo	1.9%	0.5%	
Pooled analysis	Lorcaserin 10 mg BID	2.20%	2.37%	
	Placebo	1.88%	2.04%	

Table of Contents

Data from our two large Phase 3 lorcaserin trials of one and two years in duration, BLOOM and BLOSSOM, including the proportions of patients that developed FDA-defined valvulopathy, were included in our original lorcaserin NDA. There are different ways of analyzing the valvulopathy data from our trials. The pre-specified statistical analysis plan for the NDA provided that the risk difference between lorcaserin and placebo using Baseline and Week 52 echocardiograms would be evaluated using a non-inferiority model that would rule out a greater than 50% increase over the assumed placebo risk of FDA-defined valvulopathy. The assumed placebo risk of FDA-defined valvulopathy was derived from the Data Safety Monitoring Board, or DSMB, interim review of six-month data from BLOOM. Using this analysis, the combined data from BLOOM and BLOSSOM demonstrated that lorcaserin was non-inferior to placebo. Using a relative risk analysis of the Baseline and Week 52 data, which the FDA has used previously and may favor over the above analysis, these trials ruled out an increase of more than 55% in the relative risk for FDA-defined valvulopathy with lorcaserin. Our other one-year Phase 3 clinical trial, BLOOM-DM, was not designed to include enough patients to be adequately powered to detect meaningful differences in the incidence of valvulopathy. Rather, we pre-specified a combined analysis of echocardiographic changes in all three Phase 3 trials. We integrated into our lorcaserin NDA resubmission the results of BLOOM-DM, which include additional data relating to heart valves and pulmonary artery pressures. Using the analysis of risk difference that we used for our original NDA, the pooled data from BLOOM, BLOSSOM and BLOOM-DM would rule out a greater than 50% increase over the assumed placebo risk of FDA-defined valvulopathy. Using a relative risk analysis, the pooled data from all three trials ruled out an increase of more than 67% in the relative risk of FDA-defined valvulopathy. Statistical methods that consider all echocardiograms rather than restricting the analysis to Baseline and Week 52 produced risk ratio or hazard ratio estimates of 1.08 1.09, ruling out a 44% increase in risk of FDA-defined valvulopathy.

Lorcaserin Prior Clinical Development.

Prior to initiating our Phase 3 clinical trial program, we completed multiple Phase 1 and Phase 2 clinical trials of lorcaserin.

Our Phase 2a clinical trial included 352 obese patients dosed for 28 days, and our Phase 2b clinical trial included 469 obese patients dosed for 12 weeks. Significant weight loss was observed in both Phase 2 clinical trials. The most common adverse events occurring in the Phase 2a and Phase 2b clinical trials included headache, nausea and dizziness.

Our Phase 1 clinical trials included a three-part Phase 1a clinical trial of lorcaserin that established a maximum tolerated dose for the drug candidate and a multiple-dose Phase 1b clinical trial of lorcaserin in obese volunteers. There were no severe or serious adverse events reported and no withdrawals due to an adverse event. The most common adverse events reported in the Phase 1 clinical trials were related to the central nervous system and the gastrointestinal system. Dose escalation was terminated at the 40 mg dose in the Phase 1a trial, a dose that resulted in euphoria and other CNS adverse effects. In each of the Phase 1a and b trials, serial echocardiograms supported further development of lorcaserin.

Lorcaserin Intellectual Property.

As of February 15, 2012, we owned issued patents that cover compositions of matter for lorcaserin and related compounds and methods of treatment utilizing lorcaserin and related compounds in 69 jurisdictions, including the United States, Japan, China, Germany, France, the United Kingdom, Italy, Spain and Canada, and had applications pending in two other jurisdictions, of which the one with the largest pharmaceutical market was Brazil. Based on sales statistics provided by IMS Health, the jurisdictions where lorcaserin patents have been issued accounted for more than 94% of global pharmaceutical sales in 2009, while other jurisdictions where lorcaserin patents remain pending accounted for more than 1% of global pharmaceutical sales in that same year. The patents on lorcaserin issued by the US Patent and Trademark Office have serial numbers US 6,953,787, US 7,514,422 and US 7,977,329, while the corresponding patent granted by the European Patent Office has serial number EP 1 411 881 B1. Other of our lorcaserin patent applications, including those directed to the lorcaserin

Table of Contents

HCl salt, the hemihydrate of the lorcaserin HCl salt as well as its crystalline forms, synthetic routes and intermediates useful in the manufacturing of lorcaserin and pharmaceutical combinations of lorcaserin and phentermine, have all been filed in a lesser number of commercially important jurisdictions. The earliest priority date for the patents on lorcaserin is 2002. The terms of these patents are capable of continuing into 2023 in most jurisdictions without taking into account any patent term adjustment or extension regimes of any country or any additional term of exclusivity we might obtain by virtue of the later filed patent applications.

Eisai Collaboration

In July 2010, our wholly owned subsidiary, Arena GmbH, entered into a marketing and supply agreement with Eisai. Under this agreement, Arena GmbH granted Eisai exclusive rights to commercialize lorcaserin in the United States and its territories and possessions subject to FDA approval of the lorcaserin NDA. As part of the agreement, Arena GmbH is obligated to manufacture lorcaserin at our facility in Switzerland, and Eisai is obligated to purchase all of its requirements of lorcaserin from Arena GmbH. Under the agreement, Eisai and we will share equally the development expenses for the additional development work required by the FDA prior to approval of our NDA for lorcaserin. If the FDA requires development work following US approval of lorcaserin, Eisai will bear 90% and we will bear 10% of such expenses, except that Eisai and we will share equally the costs of certain pediatric or adolescent studies.

We received a non-refundable, upfront payment of $50.0 million from Eisai, and, following US regulatory approval of lorcaserin and upon the delivery of product supply for launch, will receive $40.0 million or $60.0 million, depending on the approved drug label. We are obligated to sell lorcaserin to Eisai for a purchase price starting at 31.5% of Eisai s annual net product sales, and the purchase price will increase on a tiered basis to 36.5% on the portion of annual net product sales exceeding $750.0 million, subject to reduction in the event of generic competition and certain other circumstances. We are also eligible to receive up to an aggregate of $1.19 billion in purchase price adjustment payments based on Eisai s annual net sales of lorcaserin, with the first and last amounts payable with annual net sales of $250.0 million and $2.5 billion, respectively. Of these purchase price adjustment payments, Eisai is obligated to pay us a total of $330.0 million for annual net sales of up to $1.0 billion. We are also eligible to receive up to an additional $70.0 million in regulatory and development milestone payments.

Eisai and we have agreed to not commercialize outside of our marketing and supply agreement any product that competes with lorcaserin in the United States. Our marketing and supply agreement includes a stand-still provision limiting Eisai s ability to acquire our securities and assets.

Unless terminated earlier, our marketing and supply agreement will continue in effect until terminated by Eisai following the later of the expiration of all issued lorcaserin patents for the United States and 12 years after the first commercial sale of lorcaserin in the United States. Either party has the right to terminate this agreement early in certain circumstances, including (i) if the other party is in material breach, (ii) for certain commercialization concerns and (iii) for certain intellectual property infringement. Eisai also has the right to terminate this agreement early in certain circumstances, including (a) if sales of generic equivalents of lorcaserin in the United States exceed sales of lorcaserin in the United States (based on volume) and (b) if Eisai is acquired by a company that has a product that competes with lorcaserin.

APD811 Program

APD811, an orally available agonist of the prostacyclin receptor, is intended for the treatment of pulmonary arterial hypertension, or PAH.

PAH is a progressive, life-threatening disorder characterized by increased pressure in the arteries that carry blood from the heart to the lungs. The increased pressure strains the heart, which can lead to limited physical activity and a reduced life expectancy. Over time, the heart weakens, can no longer pump blood efficiently and

Table of Contents

may eventually fail. Data from the National Institutes of Health Registry indicate that without treatment, patients in the United States with PAH have a median survival time of approximately three years from diagnosis.

Prostacyclin receptor agonists slow disease progression and improve exercise tolerance in PAH patients and are among the treatments administered as standard of care for advanced PAH. Currently available prostacyclin receptor agonists belong to the prostanoid class of molecules, and these products need to be administered frequently or continuously through intravenous, subcutaneous or inhaled delivery methods. We believe that an orally bioavailable, non-prostanoid prostacyclin receptor agonist that provides clinical benefits similar to currently available prostacyclin receptor agonists has the potential to improve the standard of care for PAH.

APD811 demonstrated efficacy in a chronic model of PAH in rats. In this model, APD811 attenuated the development of several indexes of PAH, including pulmonary artery remodeling, increased pulmonary arterial pressure, right ventricular hypertrophy and mortality. As prostacyclin receptors are expressed in both systemic and pulmonary arteries, a reduction in systemic blood pressure following APD811 administration has also been measured in preclinical studies. There was a small safety margin from the no observed adverse effect level to significant adverse events in preclinical studies of APD811, and appropriate dosing in humans may require balancing the systemic hypotensive and other potential adverse effects with therapeutic benefits. Pharmacokinetics across species suggested the plasma half life in humans may support once-daily dosing.

Development

In December 2010, we initiated a Phase 1 clinical trial to evaluate the safety, tolerability and pharmacokinetics of single-ascending doses of APD811. The randomized, double-blind and placebo-controlled trial evaluated the safety, tolerability and pharmacokinetics of 0.03 mg, 0.05 mg, 0.1 mg and 0.2 mg single doses of APD811. The trial evaluated 32 healthy volunteers in four cohorts of eight participants each, with six randomized to APD811 and two to placebo. APD811 was rapidly absorbed and demonstrated dose-proportional pharmacokinetic exposure over the tested dose range. The terminal half-life was approximately 20 hours.

The most frequent treatment-emergent adverse events were headache, vomiting, nausea, jaw pain and flushing. Dose-limiting adverse events of nausea and vomiting occurred at the 0.2 mg dose. As compared to placebo, heart rate trended higher at the 0.05 mg, 0.1 mg and 0.2 mg doses and the corrected QT, or QTc, interval trended higher at the 0.1 mg and 0.2 mg doses. We believe the QTc observation is not supported by preclinical data and will further evaluate this in future studies. No serious adverse events were reported.

We believe the results of this early stage clinical trial suggest APD811 has the potential for once-daily, oral dosing. We plan to initiate a multiple-dose, dose-titration, Phase 1 clinical trial of APD811 later this year.

APD334 Program

We are researching and developing S1P1 receptor agonists, including APD334, as potential oral treatments for a number of conditions related to autoimmune diseases, including multiple sclerosis and rheumatoid arthritis. S1P1 receptors have been demonstrated to be involved in the modulation of several biological responses, including lymphocyte trafficking from lymph nodes to the peripheral blood. Five S1P receptors have been identified. A non-selective oral S1P agonist, fingolomod, has demonstrated lowering of lymphocyte counts in blood and been approved for the treatment of multiple sclerosis. We have optimized potent and selective small molecule S1P1 receptor agonists that reduce the severity of disease in preclinical autoimmune disease models of multiple sclerosis, such as the experimental autoimmune encephalomyelitis, or EAE, model, and the collagen-induced arthritis, or CIA, animal disease model. We plan to file an IND for APD334 this year.

Table of Contents

APD371 Program

We are researching and developing APD371 for the potential treatment of pain. The analgesic effects of CB receptor agonists are well established in the scientific literature. However, they have been limited in utility by the psychotropic effects associated with activation of the CB1, but not CB2, receptor subtype. We have identified several novel, potent, CB2-selective, orally available lead compounds that are intended to retain the analgesic activity of CB receptor agonists while avoiding the limiting psychotropic side effects. Preclinical efficacy with these CB2 receptor agonists has been established in animal models of pain. Our current lead candidate, APD371, is in preclinical development.

GPR119 Program

We believe GPR119 represents a novel pharmaceutical target for discovering orally available small molecule agonists for the treatment of type 2 diabetes. GPR119 is expressed in beta cells, which are located in the pancreas and responsible for secreting insulin in response to increases in blood glucose. Stimulation of GPR119 has been shown to promote insulin release by beta cells in response to elevated blood glucose levels. In addition, GPR119 is expressed in cells other than pancreatic beta cells, such as endocrine cells in the gastrointestinal tract. In preclinical studies and clinical trials, GPR119 agonists have stimulated the release of GLP-1, GIP and PYY, incretins that play important roles in insulin regulation and other metabolic pathways.

We own a broad array of internally discovered, orally available GPR119 agonists, including APD597 and next generation compounds that we discovered after the research portion of our former collaboration with Ortho-McNeil-Janssen Pharmaceuticals, Inc., or Ortho-McNeil-Janssen, ended, and a portfolio of patents and patent applications directed to a range of materials and methods that are related to the discovery and development of GPR119 agonists. The technologies covered by our patents and patent applications include materials and methods that may be used to identify and determine the activity of molecules that modulate GPR119, methods that measure the incretin response to GPR119 agonists and pharmaceutical compositions containing both GPR119 agonists and DPP-4 inhibitors.

Type 2 diabetes is characterized by dysregulation of insulin sensitivity, insulin secretion and hepatic glucose production. Therapies for type 2 diabetes act by improving insulin release, enhancing insulin sensitivity, increasing insulin levels, modifying glucose absorption from the gut, or modifying hepatic glucose production. Current oral medications for type 2 diabetes may have side effects that include hypoglycemia, weight gain, edema or possible increases in cardiovascular mortality, prompting continuing efforts to develop therapeutics to improve the treatment of diabetes.

Development and Collaboration Status

In December 2004, we entered into a collaboration and license agreement with Ortho-McNeil-Janssen to further develop GPR119 agonists for the potential treatment of type 2 diabetes and other disorders. Under the collaboration, Ortho-McNeil-Janssen advanced two Arena-discovered compounds into clinical trials, APD668 and APD597. Although we believe the data from these trials suggest GPR119 agonists have the potential to improve glucose control, in December 2010 Ortho-McNeil-Janssen terminated the collaboration. As a result of the termination, GPR119 compounds and related intellectual property and other information (including the IND relating to APD597) reverted to us.

Table of Contents

Other Research and Development Programs

Below is a summary of other of our programs, for which we are not currently planning to conduct significant development activities, including any additional clinical trials.

Temanogrel Program

Temanogrel, an inverse agonist of the serotonin 2A receptor intended for the treatment of arterial thrombosis and other related conditions, has completed Phase 1a and Phase 1b clinical trials. Temanogrel is intended to lower the risk of arterial thrombosis and related conditions by reducing the amplification of platelet aggregation, arterial constriction and intimal hyperplasia, or thickening of the vessel wall, mediated by serotonin. Thrombosis is the formation of a clot, or thrombus, inside a blood vessel that restricts the flow of blood. The formation of a thrombus is often caused by an injury to the wall of the blood vessel, such as the rupture of an atherosclerotic plaque. The injury to the blood vessel activates platelets, which then aggregate and adhere to one another as they start to release certain factors, including serotonin, that facilitate thrombosis. Thrombi that form in diseased atherosclerotic arteries of the heart may cause acute coronary syndrome or myocardial infarction, and thrombi that form in the vessels of the brain may cause stroke. The American Heart Association estimates that in the United States 14.9 million people alive in 2008 had survived either a myocardial infarction or a stroke. To reduce the risk of future events, many patients receive daily anti-thrombotic therapy.

Serotonin activation of the serotonin 2A receptor on platelets and vascular smooth muscle is thought to play an important role in the events leading to thrombosis, and elevated serotonin levels have been associated with increased cardiovascular risk. Normally, when a platelet is activated by one of a number of factors such as thrombin or collagen, the platelet releases serotonin, which promotes platelet aggregation, vasoconstriction and intimal hyperplasia in preclinical models. By blocking activation of the serotonin 2A receptor on platelets and in other cardiovascular tissues, temanogrel may curb platelet aggregation, vasoconstriction and intimal hyperplasia in the clinical setting, thereby reducing or preventing thrombosis.

Temanogrel demonstrated improved coronary artery flow in the Folts model, an established animal model of acute coronary syndrome. In other preclinical studies, blocking activation of the serotonin 2A receptor on platelets was associated with an improved separation, relative to existing therapies, of the dose needed for inhibition of thrombosis versus the dose that increased bleeding. These data suggest that temanogrel has the potential for improved safety relative to existing therapies. We believe these results are consistent with blocking the role of serotonin in the thrombotic process.

Development

In July 2007, we initiated a randomized, double-blind, placebo-controlled, single-ascending dose Phase 1a clinical trial evaluating temanogrel in 90 healthy male and female volunteers. Doses originally intended for study ranged from 1 mg to 160 mg, but due to favorable tolerability the maximum dose was increased to 320 mg. In this trial, a maximum tolerated dose could not be defined despite achieving high concentrations in blood. Temanogrel was rapidly absorbed, and exposures were generally related to dose. Terminal half-life ($t_{1/2}$) of parent plus active metabolites was also related to dose, reaching approximately 11 hours at the higher doses. Dose-dependent inhibition of serotonin-mediated amplification of platelet aggregation was demonstrated, supporting the preclinical data generated around temanogrel and establishing initial clinical validation for temanogrel s novel mechanism of action.

The Phase 1b trial, initiated in January 2008, was a randomized, double-blind, placebo-controlled, multiple-ascending dose trial in 50 healthy male and female volunteers. This trial evaluated safety, tolerability, pharmacokinetics and pharmacodynamics of multiple-ascending doses of temanogrel over a period of one week. Total daily doses ranged from 15 mg to 80 mg. Temanogrel was rapidly absorbed and exposures were related to dose. The most frequently reported adverse event was headache, which was more common in the placebo group

Table of Contents

than in any temanogrel dose group. None of the adverse events occurred in a dose-related fashion with the exception of epistaxis (nose bleed), which occurred in two of the volunteers who received the 80 mg dose, a dose above the anticipated therapeutic range. Dose-dependent inhibition of serotonin-mediated amplification of platelet aggregation was demonstrated starting at the 15 mg dose and may permit the identification of exposure ranges that produce minimal, moderate and near-complete inhibition of serotonin-amplified platelet aggregation.

Due to the cost of Phase 2 and Phase 3 clinical trials for temanogrel, we are not currently planning further development of this drug candidate, but may consider proceeding in the future with one or more collaborators or independently.

Nelotanserin Program

In December 2008, we announced preliminary data from a Phase 2b clinical trial of nelotanserin, an internally discovered drug candidate that was being evaluated for the treatment of insomnia. The trial measured subjective endpoints in patients with primary insomnia. There were no reports of serious adverse events and no emerging safety findings as compared to placebo in the trial. However, nelotanserin did not meet the trial s primary or secondary endpoints, and we are not currently planning any further clinical development of nelotanserin. In the future, we may consider clinical development for other indications, but do not have definitive plans to do so at this time.

Other Earlier-stage Development and Research Programs

We are continuing our efforts to discover and develop additional oral drugs that target GPCRs in four major therapeutic areas: cardiovascular, central nervous system, inflammatory and metabolic diseases. The extent of our earlier-stage research and developments efforts will depend on our available resources and prioritization decisions.

Our GPCR Focus, Technologies and Programs

Our drug candidates have resulted from our GPCR-focused drug discovery and development approach, specialized expertise and technologies, including Constitutively Activated Receptor Technology, or CART, and our Melanophore technology. GPCRs are categorized as known when their naturally occurring, or native, ligands have been identified. Scientists have used molecular cloning in combination with the sequencing of the human genome to identify both additional receptor subtypes of known GPCRs as well as hundreds of novel GPCRs. GPCRs are categorized as orphan GPCRs when their native ligands have not been identified. We believe both orphan and known GPCRs offer significant promise for the development of novel GPCR-based therapeutics.

Our drug discovery approach, specialized expertise and technologies allow us to identify drug leads that act as receptor activators, or agonists, which increase the detected biological response, or act as receptor inhibitors, which decrease the detected response. We can also identify inverse agonists, which inhibit ligand-independent, as well as ligand-dependent, receptor activity.

We believe that our drug discovery approach, specialized expertise and technologies offer several advantages for drug discovery, including:

- eliminating the need to identify the native ligand for an orphan receptor;
- enhancing the detection of, and allowing us to simultaneously identify, both receptor inhibitor and receptor activator drug leads;
- allowing for the identification of drug leads that inhibit both ligand-independent and ligand-dependent activity; and

Table of Contents

providing the ability to discover novel and improved therapeutics directed at known receptors.

Our Strategy

The key elements of our general strategy are as follows:

Focus on lorcaserin. We intend to focus our efforts on seeking approval for lorcaserin in the United States, the European Union and other select markets outside of the United States. Pending regulatory approvals, we intend to commercialize lorcaserin in the United States under our marketing and supply agreement with Eisai and in other markets with one or more collaborators or independently.

Selectively advance our other lead candidates. We intend to selectively advance our pipeline of drug candidates independently or through licensing, collaborations or other opportunities.

Maintain research and development capabilities to advance our pipeline. Our technologies, our drug discovery infrastructure and the integrated approach to research used by our scientists have allowed us to identify and develop a number of GPCR targets and novel compounds, and our development infrastructure has allowed us to develop compounds through NDA filing. We expect that our research and development capabilities will continue to play an important role in the support of the further development and potential commercialization of lorcaserin. We intend to maintain our research and development capabilities to selectively advance our programs and to discover additional drug candidates.

Intellectual Property

Our success depends in large part on our ability to protect our proprietary technologies, compounds and information, and to operate without infringing the proprietary rights of third parties. We rely on a combination of patent, trade secret, copyright, and trademark laws, as well as confidentiality, licensing and other agreements, to establish and protect our proprietary rights. We seek patent protection for our key inventions, including drug candidates we identify, routes for chemical synthesis, pharmaceutical formulations and drug screening technologies.

We regularly review our patent portfolio taking into consideration factors such as the cost of prosecuting and maintaining patents and our assessment of their potential value. Late in 2011 and early in 2012, we abandoned many patent applications and issued patents that were directed to pharmaceutical compounds or other technologies based on our assessment of the therapeutic or market potential of the compounds or programs to which these patent applications and patents relate as compared to those of other compounds and programs in our pipeline. This has resulted in a reduction in the numbers of our patent applications and issued patents, and will allow us to reduce costs and focus our efforts and resources on protecting intellectual property that we have determined to be potentially the most valuable.

As of February 15, 2012, we owned, in part or in whole, or had exclusively licensed the following patents: 56 in the United States, 14 in Japan, 6 in China, 18 in Germany, 18 in France, 18 in the United Kingdom, 15 in Italy, 15 in Spain, 7 in Canada, and approximately 491 in other jurisdictions. In addition, as of February 15, 2012, we had approximately 517 patent applications before the US Patent and Trademark Office, foreign patent offices and international patent authorities. These patents and patent applications are divided into 89 distinct families of related patents that are directed to chemical compositions of matter, methods of treatment using chemical compositions, research on GPCR genes, CART, Melanophore technology, other novel screening methods or pharmaceutical manufacturing processes. One of our patent families was exclusively in-licensed and contains a single issued patent. Eighty-six of our patent families, which include a total of approximately 643 patents and 494 patent applications, were invented solely by our employees. The remaining two of our patent families, which include a total of approximately 14 patents and 23 patent applications, were the subject of joint inventions by our employees and the employees of other entities.

Table of Contents

There is no assurance that any of our patent applications will issue, or that any of the patents will be enforceable or will cover a drug or other commercially significant product or method. As part of our efforts to conserve our financial resources, we are reviewing our patent portfolio to identify patents and patent applications that we deem to have relatively low value to our ongoing business operations. To the extent we identify such patents and patent applications and abandon them, the number of patents and patent applications reported above will be reduced in the future. There is also no assurance that we will correctly identify which of our patents and patent applications should be maintained and which should be abandoned. Except for the US patents relating to our Melanophore technology, the term of most of our other current patents commenced, and most of our future patents, if any, will commence, on the date of issuance and terminate 20 years from the earliest effective filing date of the patent application. Since our US Melanophore patents were issued under now superseded rules that provided a patent term of 17 years from the date of issuance, the term of these patents is scheduled to end in 2012. Because the time from filing a patent application relating to our business to the issuance, if ever, of the patent is often more than three years and because any marketing and regulatory approval for a drug often occurs several years after the related patent application is filed, the resulting market exclusivity afforded by any patent on our drug candidates and technologies will likely be substantially less than 20 years. In the United States, the European Union and some other jurisdictions, patent term extensions are available for certain delays in either patent office proceedings or marketing and regulatory approval processes. However, due to the specific requirements for obtaining these extensions, there is no assurance that our patents will be afforded extensions even if we encounter significant delays in patent office proceedings or marketing and regulatory approval.

In addition to patent protection, we rely on trade secrets, proprietary know-how, and continuing technological advances to develop and maintain our competitive position. To maintain the confidentiality of our trade secrets and proprietary information, all of our employees are required to enter into and adhere to an employee confidentiality and invention assignment agreement, laboratory notebook policy, and invention disclosure procedures as a condition of employment. Additionally, our employee confidentiality and invention assignment agreements require that our employees not bring to us, or use without proper authorization, any third-party proprietary technology. We also require our consultants and collaborators that have access to proprietary property and information to execute confidentiality and invention rights agreements in our favor before beginning their relationship with us. While such arrangements are intended to enable us to better control the use and disclosure of our proprietary property and provide for our ownership of proprietary technology developed on our behalf, they may not provide us with meaningful protection for such property and technology in the event of unauthorized use or disclosure.

Competition

The biotechnology and pharmaceutical industries are highly competitive and are subject to rapid and significant change. We face significant competition from organizations that are pursuing the same or similar technologies. We also face significant competition from organizations that are pursuing drugs that would compete with the drug candidates we are developing. We may not be able to compete successfully against these organizations, which include many large, well-financed and experienced pharmaceutical and biotechnology companies, as well as academic and research institutions and government agencies.

The focus of our scientific and business strategy is on GPCRs. We believe that many pharmaceutical and biotechnology companies and other organizations also have internal drug discovery programs focused on GPCRs. In addition, other companies have attempted to overcome the problems associated with traditional drug screening by embarking on a variety of alternative strategies. Developments by others may render our drug candidates or technologies obsolete or noncompetitive.

Our present competitors with respect to lorcaserin include Hoffmann-La Roche Inc., the US prescription drug unit of the Roche Group, which markets orlistat under the brand name Xenical, and GlaxoSmithKline Consumer Healthcare which markets an over-the-counter low-dose version of orlistat in the United States under the brand name alli. Another competitor is phentermine, which is a generic drug sold by a number of companies.

Table of Contents

In addition to currently marketed obesity drugs, there are potentially competing obesity drug candidates that are in development at various pharmaceutical and biotechnology companies, including drug candidates in similar stages of development as lorcaserin. Some programs in discovery, preclinical or other stages of development may include serotonin 2C programs.

In October 2010, the FDA issued a CRL with respect to VIVUS Inc. s original NDA for a drug candidate for the treatment of obesity that is a combination of phentermine and topiramate. In October 2011, VIVUS resubmitted the NDA to the FDA, and the FDA assigned a PDUFA data of April 17, 2012. On February 22, 2012, the FDA s Endocrinologic and Metabolic Drugs Advisory Committee met to review VIVUS NDA resubmission, and, among other discussion, the committee voted 20 to 2 that, considering all the available data included in the resubmission and their discussion, the overall benefit-risk assessment of VIVUS drug candidate supports its approval for the treatment of obesity.

In January 2011, the FDA issued a CRL with respect to Orexigen Therapeutics, Inc. s NDA for a drug candidate for the treatment of obesity that is a combination of bupropion and naltrexone. According to Orexigen, it is planning to conduct a cardiovascular outcomes trial in response to the CRL, and the objective of the trial is to demonstrate that its drug candidate does not unacceptably increase the risk of major adverse cardiovascular events, or MACE. Orexigen has also stated that it has reached agreement with the FDA on a Special Protocol Assessment, or SPA, and an interim analysis and NDA resubmission is planned once approximately 87 MACE events have occurred.

Many of our existing and potential competitors have substantially greater drug development capabilities and financial, scientific and marketing resources than we do. Additional consolidation in the pharmaceutical industry may result in even more resources being concentrated with our competitors. As a result, our competitors may be able to devote greater resources than we can to the research, development, marketing and promotion of therapeutic products or drug discovery techniques, or to adapt more readily to technological advances than we can. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA approval or commercializing drugs before we do.

We expect to encounter significant competition in the therapeutic areas targeted by our principal drug candidates. Companies that complete clinical trials, obtain regulatory approvals and commence commercial sales of their drug candidates before us may achieve a significant competitive advantage. Furthermore, we may be competing against companies with substantially greater manufacturing, marketing, distribution and selling capabilities, and any drug candidate that we successfully develop may compete with existing therapies that have long histories of safe and effective use.

We may rely on collaborators for support of development programs and for the manufacturing and marketing of drug candidates. Such collaborators may be conducting multiple drug development efforts within the same disease areas that are the subject of their agreements with us, which may negatively impact the development of drugs that are subject to our agreements. In addition, we face and will continue to face intense competition from other companies for such collaborative arrangements, and technological and other developments by others may make it more difficult for us to establish such relationships.

Government Regulation

The FDA and comparable regulatory agencies in state and local jurisdictions and in foreign countries impose substantial requirements upon the preclinical and clinical development, pre-market approval, manufacture, marketing and distribution of pharmaceutical products. These agencies and other regulatory agencies regulate research and development activities and the testing, approval, manufacture, quality control, safety, effectiveness, labeling, storage, recordkeeping, advertising and promotion of drug candidates. Failure to comply with applicable FDA or other requirements may result in notices on Form 483, Warning Letters, civil or criminal penalties, suspension or delays in clinical development, recall or seizure of products, partial or total suspension of production, withdrawal of a product from the market or other negative consequences.

Table of Contents

In the United States. In the United States, the FDA regulates drug products under the Federal Food, Drug, and Cosmetic Act, or FFDCA, and its implementing regulations. The process required by the FDA before drug candidates may be marketed in the United States generally involves the following:

- completion of extensive preclinical laboratory tests and preclinical animal studies, many of which are required to be performed in accordance with the FDA s Good Laboratory Practice, or GLP, regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin and be updated annually;
- performance of adequate and well-controlled human clinical trials to establish the safety and efficacy of the drug candidate for each proposed indication;
- submission to the FDA of an NDA after completion of all pivotal clinical trials;
- a determination by the FDA within 60 days of its receipt of the NDA to file the NDA for review;
- satisfactory completion of an FDA pre-approval inspection, or PAI, of the manufacturing facilities at which the active pharmaceutical ingredient, or API, and finished drug product, or FDP, are produced and tested to assess compliance with Current Good Manufacturing Practices, or CGMPs, regulations; and
- FDA review and approval of the NDA prior to any commercial marketing or sale of the drug in the United States. Prior to commercialization, centrally acting drugs are generally subject to review and potential scheduling by the Drug Enforcement Administration of the US Department of Justice, or DEA.

The development and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our drug candidates will be granted on a timely basis, if at all.

The results of preclinical tests (which include laboratory evaluation as well as GLP studies to evaluate toxicity in animals) for a particular drug candidate, together with related manufacturing information and analytical data, are submitted as part of an IND to the FDA. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises concerns or questions about the conduct of the clinical trial, including concerns that human research subjects will be exposed to unreasonable health risks. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. IND submissions may not result in FDA authorization to commence a clinical trial. A separate submission to an existing IND must also be made for each successive clinical trial conducted during product development. Further, an independent institutional review board, or IRB, for each medical center proposing to conduct the clinical trial must review and approve the plan for any clinical trial before it commences at that center and it must monitor the study until completed. The FDA, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects or patients are being exposed to an unacceptable health risk. Clinical testing also must satisfy extensive Good Clinical Practice, or GCP, regulations and regulations for informed consent and privacy of individually identifiable information.

Clinical Trials. For purposes of NDA submission and approval, clinical trials are typically conducted in the following sequential phases, which may overlap:

- *Phase 1 Clinical Trials.* Studies are initially conducted in a limited population to test the drug candidate for safety, dose tolerance, absorption, metabolism, distribution and excretion, typically in healthy humans, but in some cases in patients.

Phase 2 Clinical Trials. Studies are generally conducted in a limited patient population to identify possible adverse effects and safety risks, explore the initial efficacy of the product for specific targeted indications and to determine dose range or pharmacodynamics. Multiple Phase 2 clinical trials may be

Table of Contents

conducted by the sponsor to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.

Phase 3 Clinical Trials. These are commonly referred to as pivotal studies. When Phase 2 evaluations demonstrate that a dose range of the product is effective and has an acceptable safety profile, Phase 3 clinical trials are undertaken in large patient populations to further evaluate dosage, provide substantial evidence of clinical efficacy and further test for safety in an expanded and diverse patient population at multiple, geographically dispersed clinical trial centers.

Phase 4 Clinical Trials. The FDA may approve an NDA for a drug candidate, but require that the sponsor conduct additional clinical trials to further assess the drug after NDA approval under a post-approval commitment. In addition, a sponsor may decide to conduct additional clinical trials after the FDA has approved an NDA. Post-approval trials are typically referred to as Phase 4 clinical trials.

New Drug Applications. The results of drug development, preclinical studies and clinical trials are submitted to the FDA as part of an NDA. NDAs also must contain extensive manufacturing and control information. An NDA must be accompanied by a significant user fee, which is waived for the first NDA submitted by a qualifying small business. Once the submission has been accepted for filing, the FDA s goal is to review applications within 10 months of submission or, if the application relates to an unmet medical need in a serious or life-threatening indication, 6 months from submission. The review process is often significantly extended by FDA requests for additional information or clarification. The FDA may refer the 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 recommendation of an advisory committee. The FDA may deny approval of an NDA by issuing a CRL if the applicable regulatory criteria are not satisfied. A CRL may require additional clinical data and/or an additional pivotal Phase 3 clinical trial(s), and/or other significant, expensive and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. Data are not always conclusive and the FDA may interpret data differently than we or our collaborators interpret data. Approval may occur with Risk Evaluation and Mitigation Strategies, or REMS, that may limit the labeling, distribution or promotion of a drug product. Once issued, the FDA may withdraw product approval if ongoing regulatory requirements are not met or if safety problems occur after the product reaches the market. In addition, the FDA may require testing, including Phase 4 clinical trials, and surveillance programs to monitor the safety effects of approved products which have been commercialized, and the FDA has the power to prevent or limit further marketing of a product based on the results of these post-marketing programs or other information.

Other US Regulatory Requirements. Products manufactured or distributed pursuant to FDA approvals are subject to continuing regulation by the FDA, including recordkeeping, annual product quality review and reporting requirements. Adverse event experience with the product must be reported to the FDA in a timely fashion and pharmacovigilance programs to proactively look for these adverse events are mandated by the FDA. Drug manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with ongoing regulatory requirements, including CGMPs, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Following such inspections, the FDA may issue notices on Form 483 and Warning Letters that could cause us to modify certain activities. A Form 483 notice, if issued at the conclusion of an FDA inspection, can list conditions the FDA investigators believe may have violated CGMP or other FDA regulations or guidelines. FDA guidelines specify that a Warning Letter be issued only for violations of regulatory significance, also known as Official Action Indicated, or OAI. Failure to adequately and promptly correct the observation(s) can result in regulatory action. In addition to Form 483 notices and Warning Letters, failure to comply with the statutory and regulatory requirements can subject a manufacturer to possible legal or regulatory action, such as suspension of manufacturing, seizure of product, injunctive action or possible civil penalties. We cannot be certain that we or our present or future third-party manufacturers or suppliers will be able to comply with the CGMP regulations and other ongoing FDA regulatory requirements. If we or our present or future third-party manufacturers or suppliers are not able to comply with

Table of Contents

these requirements, the FDA may halt our clinical trials, require us to recall a drug from distribution or withdraw approval of the NDA for that drug.

The FDA closely regulates the post-approval marketing and promotion of drugs, including standards and regulations for direct-to-consumer advertising, dissemination of off-label information, industry-sponsored scientific and educational activities and promotional activities involving the Internet. Drugs may be marketed only for the approved indications and in accordance with the provisions of the approved label. Further, if there are any modifications to the drug, including changes in indications, labeling, or manufacturing processes or facilities, we may be required to submit and obtain FDA approval of a new or supplemental NDA, which may require us to develop additional data or conduct additional preclinical studies and clinical trials. Failure to comply with these requirements can result in adverse publicity, Warning Letters, corrective advertising and potential civil and criminal penalties.

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

DEA Regulation. The DEA regulates drugs that are controlled substances. Controlled substances are those drugs that appear on one of the five schedules promulgated and administered by the DEA under the Controlled Substances Act, or CSA. The CSA governs, among other things, the inventory, distribution, recordkeeping, handling, security and disposal of controlled substances. Any drug that acts on the central nervous system has the potential to become a controlled substance, and scheduling by the DEA is an independent process that may delay the commercial launch of a drug even after FDA approval of the NDA. If our drug candidates are scheduled by the DEA as controlled substances, we will be subject to periodic and ongoing inspections by the DEA and similar state drug enforcement authorities to assess our ongoing compliance with the DEA s regulations. Any failure to comply with these regulations could lead to a variety of sanctions, including the revocation, or a denial of renewal of any DEA registration, injunctions, or civil or criminal penalties.

Outside of the United States. Outside of the United States, the ability to market a product is contingent upon obtaining marketing authorization from the appropriate regulatory authorities. The requirements governing marketing authorization, pricing and reimbursement vary widely from country to country.

In the European Economic Area, or EEA (which is comprised of the 27 Member States of the European Union, plus Norway, Iceland and Liechtenstein), medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations:

The Community MA, which is issued by the European Commission through the centralized procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the EMA, and which is valid throughout the entire territory of the EEA. The centralized procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, and medicinal products containing a new active substance indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, autoimmune and viral diseases. The centralized procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the European Union.

National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the centralized procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time

Table of Contents

of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State. The competent authority of the Reference Member State prepares a draft assessment report, a draft summary of the product characteristics, or SPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling, or packaging proposed by the Reference Member State, the product is subsequently granted a national MA in all the Member States (i.e. in the Reference Member State and the Member States Concerned).

Under the procedures described above, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

Under Regulation (EC) No 726/2004/EC and Directive 2001/83/EC (each as amended), the European Union has adopted a harmonized approach to data and marketing exclusivity (known as the 8 + 2 + 1 formula). The approach permits eight years of data exclusivity and 10 years of marketing exclusivity. An additional non-cumulative one-year period of marketing exclusivity is possible if during the data exclusivity period (the first eight years of the 10-year marketing exclusivity period), the MA holder obtains an authorization for one or more new therapeutic indications that are deemed to bring a significant clinical benefit compared to existing therapies.

The data exclusivity period begins on the date of the product s first MA in the European Union and prevents generics from relying on the marketing authorization holder s pharmacological, toxicological and clinical data for a period of eight years. After eight years, a generic product application may be submitted and generic companies may rely on the marketing authorization holder s data. However, a generic cannot launch until two years later (or a total of 10 years after the first MA in the European Union of the innovator product), or three years later (or a total of 11 years after the first MA in the European Union of the innovator product) if the MA holder obtains marketing authorization for a new indication with significant clinical benefit within the eight-year data exclusivity period.

The 8 + 2 + 1 exclusivity scheme applies to products that have been authorized in the European Union by either the EMA through the centralized procedure or the competent authorities of the Member States of the EEA (under the Decentralized or Mutual Recognition procedures).

The holder of a Community MA or National MA is subject to various obligations under applicable EEA regulations, such as pharmacovigilance obligations, requiring it to, among other things, report and maintain detailed records of adverse reactions, and to submit periodic safety update reports to the competent authorities. The holder must also ensure that the manufacturing and batch release of its product is in compliance with the applicable requirements. The MA holder is further obligated to ensure that the advertising and promotion of its products complies with applicable laws, which can differ from Member State to Member State of the EEA.

Drug Product Manufacturing. In Zofingen, Switzerland, our Swiss subsidiary, Arena GmbH operates a drug product manufacturing facility. Swissmedic, a public service organization of the Swiss federal government, is the central Swiss agency for the authorization and supervision of therapeutic products. Our Swiss manufacturing facility has been inspected by the competent regional authorities (Regionales Heilmittelinspektorat der Nordostschweiz, Basel, Switzerland), acting on behalf of Swissmedic, which issued GMP and production licenses to Arena GmbH for the production of drugs. The production license is valid until July 2012, and we expect it will be renewed. The FDA conducted a PAI of this facility in July 2010, which resulted in No Actions Indicated, and classified this facility as acceptable. We expect this facility will be re-inspected by the FDA prior to approval of our lorcaserin NDA.

Table of Contents

Manufacturing and Sources and Availability of Raw Materials, Intermediates and Clinical Supplies

In January 2008, Arena GmbH acquired from Siegfried certain drug product facility assets, including manufacturing facility production licenses, fixtures, equipment, other personal property and real estate assets in Zofingen, Switzerland. This facility is generating revenue from the manufacture of certain drug products for Siegfried. We have also used this facility to produce and package lorcaserin tablets for registration and validation. If lorcaserin is approved, we plan to use this facility for the commercial production and packaging of lorcaserin. We also plan to use this facility for producing and packaging tablets and capsules for other programs.

All of our manufacturing services revenues are attributable to Siegfried, which is our only customer for such services. Our revenues of $12.7 million for the year ended December 31, 2011, included $5.3 million, or 41.9%, of our total revenues, from Siegfried. Our revenues of $16.6 million for the year ended December 31, 2010, included $7.1 million, or 42.5% of our total revenues, from Siegfried. Our revenues of $10.4 million for the year ended December 31, 2009, included $6.6 million, or 63.3% of our total revenues, from Siegfried.

We purchase raw materials and intermediates when necessary from commercial sources. To decrease the risk of an interruption to our supply, when reasonably possible for us to do so, we source these materials from multiple suppliers so that, in general, the loss of any one source of supply would not have a material adverse effect on project timelines or inventory of clinical supplies for use in human trials. However, currently we have a primary source of supply for some key intermediates, API excipients, components and drug products for our lead development projects. The loss of a primary source of supply would potentially delay our lead development projects and commercialization efforts, including for lorcaserin, and potentially those of current or future collaborators. Our facility in Zofingen is also currently the only manufacturer of finished drug product for lorcaserin. In addition, as a result of our receipt of the CRL for lorcaserin, commercial production has been delayed and the modification to the supply chain could result in scheduling conflicts at multiple suppliers, which may result in product delay.

Compliance with Environmental Regulations

Our research and development programs involve the controlled use of hazardous materials, chemicals, biological materials and various radioactive compounds. In the United States, we are subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, US Environmental Protection Agency, California Environmental Protection Agency, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, the Controlled Substances Act and other federal, state or local regulations.

With regard to Arena GmbH s drug product manufacturing facility, Arena GmbH has contracted with Siegfried to provide safety, health and environmental services and assess compliance, train personnel and oversee Arena GmbH s compliance with the applicable safety, health and environmental regulations. Arena GmbH is subject to regulation under the Environmental Protection Act (Umweltschutzgesetz, USG), the Chemicals Act (Chemikaliengesetz, ChemG), and the Federal Act on the Protection of Waters (Gewässerschutzgesetz, GSchG), which refer to several ordinances such as the Ordinance on Air Pollution Control (Luftreinhalteverordnung, LRV), the Ordinance on Incentive Taxes on Volatile Organic Compounds (Verordnung über die Lenkungsabgabe auf flüchtigen organischen Verbindungen, VOCV), the Water Protection Ordinance (Gewässerschutzverordnung, GSchV), the Ordinance of the Handling of Wastes (Verordnung über den Verkehr mit Abfällen, VeVA), the Chemicals Ordinance (Chemikalienverordnung, ChemV), the Ordinance on Chemical Risk Reduction (Chemikalien-Risikoreduktions-Verordnung, ChemRRV) and the Ordinance on Protection against Major Accidents (Störfallverordnung, StFV). The competent authorities in Switzerland for the implementation of environmental regulations are BAFU (Bundesamt für Umwelt / Federal Office for the Environment), which is the Swiss federal agency for the environment, and the respective authorities of the Canton of Aargau (Abteilung für Umwelt, AfU). Furthermore, the BAFU and the BAG (Bundesamt für Gesundheit / Federal Office of Public Health) share authorities with regard to the implementation and, together with the respective authority of the Canton of Aargau (Amt für Verbraucherschutz), the supervision of compliance with the laws and regulations

Table of Contents

related to chemicals. Occupational health and safety is regulated, in particular, by the EKAS (Eidgenössische Koordinationskommission für Arbeitssicherheit) guideline No. 6508 (ASA), governing the evaluation of worker safety and the reporting to the relevant authorities. The competent authority for the implementation of occupational health and safety regulations is the Canton of Aargau (Amt für Wirtschaft und Arbeit), whereby exposure limits are set by SUVA (Schweizerische Unfallversicherungsanstalt), which is the Swiss Accident Insurance Fund.

The Registration, Evaluation, Authorization and Restriction of Chemicals Regulation (EC) No 1907/2006, commonly referred to as REACH, is Europe s broad chemicals legislation, which is directly applicable in all EU Member States. REACH creates a new system for gathering information, assessing risks to human health and the environment, and authorizing or restricting the marketing and use of chemicals produced or supplied in the European Union. It applies to EU producers, importers and distributors/retailers of products, and users of chemicals in the course of industrial or professional activities. In compliance with REACH, we have registered relevant materials that could be imported into the European Union by us or our third-party manufactures for the production of lorcaserin and select components of other of our more advanced drug candidates.

We may be subject to further such regulations in the future. Although we believe that our operations comply in all material respects with the applicable environmental laws and regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident, we could be held liable for any damages that result, and the extent of that liability could exceed our resources. Our compliance with these laws and regulations has not had, and is not expected to have, a material effect upon our capital expenditures, results of operations or competitive position.

Research and Development Expenses

Research and development activities are the primary source of our expenses. Our research and development expenses include personnel costs, research supplies, facility and equipment costs, clinical and preclinical study fees and manufacturing costs. Such expenses totaled $58.7 million for the year ended December 31, 2011, $75.5 million for the year ended December 31, 2010, and $110.2 million for the year ended December 31, 2009. We include research and development sponsored by collaborators in our total research and development expenses. We estimate that such expenses totaled $3.3 million in 2011. Our collaborators did not fund any of our research and development expenses in 2010 or 2009.

Employees

As of February 29, 2012, we had a total of 266 employees, including 219 in research, development and manufacturing and 47 in administration, which includes finance, legal, facilities, information technology and other general support areas.

Available Information

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, or the Exchange Act, are available free of charge on our website (*www.arenapharm.com*) as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC.

Item 1A. Risk Factors.

Investment in our stock involves a high degree of risk. You should consider carefully the risks described below, together with other information in this Annual Report on Form 10-K and other public filings, before making investment decisions regarding our stock. If any of the following events actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause

Table of Contents

the trading price of our common stock to decline and you may lose all or part of your investment. Moreover, the risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business, operating results, prospects or financial condition.

Risks Relating to Our Business

We will need additional funds to conduct our planned research, development and commercialization efforts; we may not be able to obtain additional funds, your ownership may be substantially diluted if we do obtain additional funds, and you may not agree with the manner we allocate our available resources; and we may never become profitable.

We have accumulated a large deficit since inception that has primarily resulted from the significant research and development expenditures we have made in seeking to identify and validate new drug targets and develop compounds that could become marketed drugs. We expect that our losses and operating expenses will continue to be substantial, even if we are successful in advancing our most advanced drug candidate, lorcaserin, including under our marketing and supply agreement with Eisai Inc., or Eisai, or our other compounds and drug candidates, with one or more collaborators or independently.

We do not have any commercially available drugs, and may not have adequate funds to develop our compounds into marketed drugs. It takes many years and potentially hundreds of millions of dollars to successfully develop a preclinical or early clinical compound into a marketed drug, and our efforts may not result in any marketed drugs.

Our wholly owned subsidiary, Arena Pharmaceuticals GmbH, or Arena GmbH, has entered into a marketing and supply agreement with Eisai for the commercialization of lorcaserin in the United States and its territories and possessions, subject to approval by the US Food and Drug Administration, or FDA, of our resubmitted lorcaserin New Drug Application, or NDA. Even if the FDA approves our NDA and Eisai commences commercialization of lorcaserin under our marketing and supply agreement, we cannot assure you that any additional payments we receive under such agreement will be sufficient to fund our planned research and development and other activities or to result in profitability. In addition, we are also seeking regulatory approval for lorcaserin in the European Union, and, on March 2, 2012, we filed a marketing authorization application, or MAA, for lorcaserin through the centralized procedure with the European Medicines Agency, or EMA. We also plan to seek approval for lorcaserin in other countries outside of the United States. We will need additional funds or a collaborative or other agreement with a pharmaceutical company or companies to commercialize lorcaserin outside of the United States, and we may not be able to secure adequate funding or find a pharmaceutical company to commercialize lorcaserin outside of the United States at all or on terms we or others believe are favorable. We also believe that it may be difficult for us to obtain additional financing or enter into strategic relationships on terms that we or third parties, including investors, analysts or potential collaborators, view as favorable, if at all.

We may allocate our resources in ways that do not improve our results of operations or enhance the value of our common stock. Our stockholders and others may also not agree with the manner in which we choose to allocate our resources. Our failure to apply our resources effectively could have a material adverse effect on our business or the development of our product candidates and cause the price of our common stock to decline.

In addition, if we experience a significant setback or delay, including with regard to our lorcaserin NDA, or adequate funding is not available, we may eliminate or postpone or scale back some or all of our research or development programs or delay the advancement of one or more of such programs, including in ways with which our stockholders or others may not agree. Any such reductions may adversely impact our lorcaserin development and commercialization timeline or narrow or slow the development of our pipeline, which we believe would reduce our opportunities for success and result in a decline in the market price of our common stock.

Table of Contents

We will continue to be opportunistic in our efforts to obtain cash, and expect to evaluate various financing alternatives on an ongoing basis. If we do obtain additional funding through equity sales, your ownership may be substantially diluted and it may result in a decline in the market price of our common stock.

We are focusing a significant portion of our activities and resources on lorcaserin and depend on its marketing approval and commercial success.

We are focusing a significant portion of our activities and resources on lorcaserin, and we believe a significant portion of the value of our company relates to our ability to obtain marketing approval for, and commercialize, this drug candidate. The marketing approval and successful commercialization of lorcaserin is subject to many risks, including the risks discussed in other risk factors, and lorcaserin may not receive marketing approval from any regulatory agency. If the results of clinical trials and preclinical studies of lorcaserin, actions and decisions related to lorcaserin, the regulatory process, the anticipated or actual timing and plan for commercializing lorcaserin, or, ultimately, the market acceptance of lorcaserin do not meet our, your, analysts or others expectations, the market price of our common stock could decline significantly. For example, in October 2010, the FDA issued a Complete Response Letter, or CRL, regarding our lorcaserin NDA. In the CRL, the FDA stated that it completed its review of the NDA and determined that it could not approve the application in its then present form.

After completing various studies, analyses and other activities, we resubmitted the lorcaserin NDA in December 2011. In 2012, we may learn the results of the FDA s Endocrinologic and Metabolic Drugs Advisory Committee meeting to discuss the lorcaserin NDA, whether and when the FDA will approve lorcaserin or issue another CRL and, if approved, the labeling and any FDA or other restrictions on the commercialization of lorcaserin, including whether the Drug Enforcement Administration of the US Department of Justice, or DEA, will schedule lorcaserin as a controlled substance and, if so, the level of scheduling.

The lorcaserin NDA resubmission may not be satisfactory to the FDA, or its advisory committee, including with regard to demonstrating adequate safety and efficacy for regulatory approval. We made assumptions, estimations, calculations and decisions as part of our analysis of data and our response to the CRL, and the FDA, or its advisory committee, may not accept or agree with our assumptions, estimations, calculations, decisions or analyses or may interpret or weigh the importance of data differently. For example, we believe that our prolactin studies of both three months and shorter duration and related analyses will be sufficient to demonstrate that lorcaserin causes mammary tumors in rats by increasing prolactin effects on the mammary gland, and we did not include in the lorcaserin NDA resubmission a 12-month study in female rats the FDA asked us to consider. The FDA has expressed concern that the three-month duration may not be adequate to address issues it identified, which may necessitate longer duration studies. In addition, the FDA may request additional information or have additional recommendations prior to approval of our lorcaserin NDA resubmission, and lorcaserin may never receive marketing approval from the FDA.

We are also seeking regulatory approval for lorcaserin in the European Union, and plan to seek approval for lorcaserin in other countries outside of the United States. The review and potential approval of lorcaserin for regulatory approval outside of the United States carries similar risks and uncertainties as our lorcaserin NDA resubmission with the FDA, as well as new risks and uncertainties.

Our ability to generate significant revenues, for at least the short term, depends upon the regulatory approval of lorcaserin, the commercialization of lorcaserin, activities and payments under the marketing and supply agreement with Eisai and our entry into new collaborations.

We expect that, for at least the short term, our ability to generate significant revenues will depend on the regulatory approval of lorcaserin, the success of Eisai in commercializing lorcaserin, if approved, in the United States, and our ability to enter into new collaborations. Future revenues under our marketing and supply agreement with Eisai will depend on the achievement of milestones under the agreement and Eisai s

Table of Contents

commercialization of lorcaserin, and, other than possible reimbursement for pre-approval development work, we may receive no additional revenues from Eisai if our lorcaserin NDA resubmission is not approved by the FDA. In addition, we intend to commercialize lorcaserin outside of the United States with one or more collaborators or independently. Lorcaserin may not be approved for sale outside of the United States, and, even if it is approved, we or any collaborator may not be successful in commercializing lorcaserin outside of the United States.

We cannot guarantee that any development, approval or sales milestones in our existing or future collaborations will be achieved in the future, or that we will receive any payments for the achievement of any milestones or product sales. In addition, our marketing and supply agreement with Eisai may be terminated early in certain circumstances, in which case we may not receive milestone or other payments under the agreement.

Moreover, our ability to enter into new collaborations may depend on the outcomes of our preclinical and clinical testing. We do not control these outcomes. In addition, even if our testing is successful, pharmaceutical companies may not enter into agreements with us on terms that we believe are acceptable until we have advanced our drug candidates into the clinic and, possibly, through later-stage clinical trials, approval or successful commercialization, if at all. With respect to lorcaserin, our ability to enter into additional collaborative agreements may also depend on the FDA s approval of our resubmitted NDA for lorcaserin as well as our interactions with, and decisions by, regulatory agencies outside of the United States.

Our development and commercialization of lorcaserin may be adversely impacted by cardiovascular side effects previously associated with fenfluramine and dexfenfluramine.

We developed lorcaserin to more selectively stimulate the serotonin 2C receptor than did fenfluramine or dexfenfluramine because we believe this may avoid the cardiovascular side effects associated with fenfluramine and dexfenfluramine (often used in combination with phentermine, the combination of which was commonly referred to as fen-phen). These two drugs were serotonin-releasing agents and non-selective serotonin receptor agonists, and were withdrawn from the market in 1997 after reported incidences of heart valve disease and pulmonary hypertension associated with their usage. In *in vitro* studies examining affinity, activity and serotonin receptor subtype specificity, lorcaserin demonstrated affinity for, and activity at, serotonin 2A, 2B and 2C receptors, but demonstrated greater affinity, activity and selectivity for the serotonin 2C receptor than for the serotonin 2A and 2B receptors. Activation of the latter two receptors has been associated with undesirable effects. Activation of the 2A receptor has been associated with central nervous system, or CNS, effects, including altered perception, mood and abuse potential, and activation of the 2B receptor has been associated with cardiac valvulopathy.

We may not be correct in our belief that more selectively stimulating the serotonin 2C receptor will avoid these undesired side effects, or lorcaserin s selectivity profile may not be adequate to avoid these side effects. Lorcaserin s selectivity profile and the potential relationship between the activity of lorcaserin and the activity of fenfluramine and dexfenfluramine may result in increased FDA regulatory scrutiny of the safety of lorcaserin and may raise potential adverse publicity, which could affect enrollment of any future clinical trials or sales if lorcaserin is approved for commercialization.

Our two large Phase 3 lorcaserin trials of one and two years in duration, BLOOM (Behavioral modification and Lorcaserin for Overweight and Obesity Management) and BLOSSOM (Behavioral modification and LOrcaserin Second Study for Obesity Management) supported our original NDA submission for lorcaserin. Data from these two trials, including the proportions of patients that developed FDA-defined valvulopathy, were included in the original NDA. There are different ways of analyzing the valvulopathy data from our trials. The pre-specified statistical analysis plan for the NDA provided that the risk difference between lorcaserin and placebo using Baseline and Week 52 echocardiograms would be evaluated using a non-inferiority model that would rule out a greater than 50% increase over the assumed placebo risk of FDA-defined valvulopathy. The assumed placebo risk of FDA-defined valvulopathy was derived from the Data Safety Monitoring Board, or DSMB, interim review of six-month data from BLOOM. Using this analysis, the combined data from BLOOM

Table of Contents

and BLOSSOM demonstrated that lorcaserin was non-inferior to placebo. Using a relative risk analysis of the Baseline and Week 52 data, which the FDA has used previously and may favor over the above analysis, these trials ruled out an increase of more than 55% in the relative risk for FDA-defined valvulopathy with lorcaserin. Our other one-year Phase 3 clinical trial, BLOOM-DM (Behavioral modification and Lorcaserin for Overweight and Obesity Management in Diabetes Mellitus), was not designed to include enough patients to be adequately powered to detect meaningful differences in the incidence of valvulopathy. Rather, we pre-specified a combined analysis of echocardiographic changes in all three Phase 3 trials. We integrated into our lorcaserin NDA resubmission the results of BLOOM-DM, which include additional data relating to heart valves and pulmonary artery pressures. Using the analysis of risk difference that we used for our original NDA, the pooled data from BLOOM, BLOSSOM and BLOOM-DM would rule out a greater than 50% increase over the assumed placebo risk of FDA-defined valvulopathy. Using a relative risk analysis, the pooled data from all three trials ruled out an increase of more than 67% in the relative risk of FDA-defined valvulopathy. Statistical methods that consider all echocardiograms rather than restricting the analysis to Baseline and Week 52 produced risk ratio or hazard ratio estimates of 1.08 1.09, ruling out a 44% increase in risk of FDA-defined valvulopathy. Our Phase 3 trials were not designed to rule out a risk for pulmonary hypertension, which, due to the rarity of this event, would require a very large database.

We cannot guarantee that the FDA will find the data relating to heart valves and pulmonary artery pressures supportive of approval. In addition, at the FDA s recommendation, we included in the lorcaserin NDA resubmission receptor pharmacology studies to more fully characterize lorcaserin s activity at the serotonin 2A, 2B and 2C receptors. The FDA may not find our data favorable, may request additional data or other information or analyses, may decline to approve our NDA for lorcaserin, or may impose post-approval requirements that adversely impact the commercialization of lorcaserin. For example, the FDA could require additional preclinical studies or clinical trials pre- or post-approval to continue to assess risks relating to cardiac or other side effects, or the FDA could require screening or follow-up echocardiograms for patients being prescribed lorcaserin.

We are dependent on the marketing and supply agreement with Eisai to commercialize lorcaserin in the United States and, if applicable, to further develop lorcaserin, and the failure to maintain such agreement, or poor performance under such agreement, could negatively impact our business.

Following regulatory approval of lorcaserin in the United States, if ever, Eisai has primary responsibility for the marketing and sale of lorcaserin in the United States and responsibility for compliance with certain US regulatory requirements, and we have limited control over the amount and timing of resources that Eisai will dedicate to the commercialization of lorcaserin.

We are subject to a number of other risks associated with our dependence on our marketing and supply agreement, including:

- Eisai may not comply with applicable regulatory guidelines with respect to commercializing lorcaserin, which could adversely impact sales or any development of lorcaserin;
- there could be disagreements regarding the agreement or the development of lorcaserin that delay or terminate the research, development or commercialization of lorcaserin, delay or eliminate potential payments under the agreement or increase our costs under the agreement; or
- Eisai may not perform as expected, including with regard to making research, development, milestone or other payments under the agreement, and such agreement may not provide adequate protection or may not be effectively enforced.

Eisai and we each have the right to terminate the agreement in certain circumstances. Eisai and we could also agree to amend the terms of the agreement, and we or others, including investors and analysts, may not view the amendments as favorable. If the agreement is terminated early, we may not be able to find another company to further develop and commercialize lorcaserin in the United States on acceptable terms, if at all, and even if we

Table of Contents

elected to pursue further development or commercialization of lorcaserin on our own, we might not have the funds, or otherwise be able, to do so successfully.

We may enter into additional agreements for the commercialization of lorcaserin or other of our drug candidates, and may be similarly dependent on the performance of third parties with similar risk.

Negative US and global economic conditions may pose challenges to our business strategy, which relies on access to capital from the markets or collaborators, and creates other financial risks for us.

Negative conditions in the United States or global economy, including credit markets and the financial services industry, have generally made equity and debt financing more difficult to obtain, and may negatively impact our ability to complete financing transactions. The duration and severity of these conditions is uncertain, as is the extent to which they may adversely affect our business and the business of current and prospective vendors or our distributors, licensees and collaborators, which we sometimes refer to generally as our collaborators. If negative economic conditions persist or worsen, we may be unable to secure additional funding to sustain our operations or to find suitable collaborators to advance our internal programs, even if we achieve positive results from our research and development or business development efforts.

From time to time, we may maintain a portfolio of investments in marketable debt securities, which are recorded at fair value. Although we have established investment guidelines relative to diversification and maturity with the objectives of maintaining safety of principal and liquidity, we rely on credit rating agencies to help evaluate the riskiness of investments, and such agencies may not accurately predict such risk. In addition, such agencies may reduce the credit quality of our individual holdings, which could adversely affect their value. Lower credit quality and other market events, such as changes in interest rates and further deterioration in the credit markets, may have an adverse effect on the fair value of our investment holdings and cash position.

We and certain of our current and former employees and directors have been named as defendants in litigation that could result in substantial costs and divert management s attention.

Beginning in September 2010, a number of lawsuits were filed against us and certain of our employees and directors on behalf of certain purchasers of our common stock. The lawsuits in general include allegations that we and certain of our employees and directors violated laws by making materially false and misleading statements regarding our lorcaserin trials, thereby artificially inflating the price of our common stock. The plaintiffs are seeking unspecified monetary damages and other relief.

There is no guarantee that we will be successful in defending these lawsuits. Also, our insurance coverage may be insufficient, our assets may be insufficient to cover any amounts that exceed our insurance coverage, and we may have to pay damage awards or otherwise may enter into settlement arrangements in connection with such claims. A settlement of any of these lawsuits could involve the issuance of common stock or other equity, which may dilute your ownership interest. Any payments or settlement arrangements could have material adverse effects on our business, operating results, financial condition or your ownership interest. Even if the plaintiffs claims are not successful, this litigation could result in substantial costs and significantly and adversely impact our reputation and divert management s attention and resources, which could have a material adverse effect on our business, operating results or financial condition. In addition, such lawsuits may make it more difficult to finance our operations, obtain certain types of insurance (including directors and officers liability insurance), and attract and retain qualified executive officers, other employees and directors.

Our stock price could decline significantly based on the results and timing of clinical trials and preclinical studies of, and decisions affecting, our most advanced drug candidates.

The results and timing of clinical trials and preclinical studies can affect our stock price. Preclinical studies include experiments performed in test tubes, in animals, or in cells or tissues from humans or animals. These

Table of Contents

studies, which are sometimes referred to as nonclinical studies, include all drug studies except those conducted in human subjects, and may occur before or after initiation of clinical trials for a particular compound. Results of clinical trials and preclinical studies of lorcaserin or our other drug candidates may not be viewed favorably by us or third parties, including investors, analysts, current or potential collaborators, the academic and medical communities, and regulators. The same may be true of how we design the development programs of our most advanced drug candidates and regulatory decisions (including by us or regulatory authorities) affecting those development programs. Stock prices of companies in our industry have declined significantly when such results and decisions were unfavorable or perceived negatively or when a drug candidate did not otherwise meet expectations.

From time to time we have drug programs in clinical trials. In addition to successfully completing clinical trials, to conduct long-term clinical trials and gain regulatory approval to commercialize drug candidates, regulatory authorities require that all drug candidates complete short- and long-term preclinical toxicity and carcinogenicity studies. These preclinical, animal studies are required to help us and regulatory authorities assess the potential risk that drug candidates may be toxic or cause cancer in humans. The results of clinical trials and preclinical studies are uncertain and subject to different interpretations, and the design of these trials and studies (which may change significantly and be more expensive than anticipated depending on results and regulatory decisions) may also be viewed negatively by us, regulatory authorities or other third parties and adversely impact the development and opportunities for regulatory approval and commercialization of our drug candidates and those under collaborative agreements.

For example, we conducted long-term carcinogenicity preclinical studies of lorcaserin. In the CRL for lorcaserin, the FDA identified issues related to such studies. We provided in the lorcaserin NDA resubmission data and other information to support our view related to such issues, but the FDA may disagree with our view or impose conditions that could significantly delay or preclude approval of our lorcaserin NDA resubmission or limit the commercialization of lorcaserin.

We may not be successful in advancing our programs on our projected timetable, if at all. Failure to initiate or delays in the development programs for any of our drug candidates, or unfavorable results or decisions or negative perceptions regarding any of such programs, could cause our stock price to decline significantly. This is particularly the case with respect to lorcaserin.

We may report top-line data from time to time, which is based on a preliminary analysis of then-available efficacy and safety data, and such findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. In addition, we make assumptions, estimations and calculations as part of our analysis of data, and others, including regulatory agencies, may not accept or agree with our assumptions, estimations, calculations or analysis or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability of the particular drug candidate and our company in general.

We have significant indebtedness and other contractual obligations, which may adversely affect our cash flow, cash position and stock price.

In July 2009, we received under a facility agreement, or the Facility Agreement, a loan from Deerfield Private Design Fund, L.P., Deerfield Private Design International, L.P., Deerfield Partners, L.P., Deerfield International Limited, Deerfield Special Situations Fund, L.P., and Deerfield Special Situations Fund International Limited, or collectively Deerfield, which substantially increased our total debt and debt service obligations. This loan matures on June 17, 2013, and the outstanding principal, which is $17.3 million, accrues interest at a rate of 7.75% per annum on the stated principal balance, payable quarterly in arrears. Unless paid earlier, we are required to repay the outstanding principal at maturity and, under certain circumstances, we may be required to repay the outstanding debt earlier. For example, we are required to repay the loan upon certain changes of control. The Facility Agreement also places certain restrictions on our business, including our ability

Table of Contents

to incur additional indebtedness and to undertake certain business transactions. In addition, we have long term leases on real properties and other contractual obligations.

In the future, if we are unable to generate cash from operations sufficient to meet our debt and other contractual obligations, we will need to obtain additional funds from other sources, which may include one or more financings. However, we may be unable to obtain sufficient additional funds when we need them on favorable terms or at all. The sale of equity or convertible debt securities in the future may be dilutive to our stockholders, and debt-financing arrangements may require us to enter into covenants that would further restrict certain business activities or our ability to incur additional indebtedness, and may contain other terms that are not favorable to our stockholders or us.

Also, if we are unable to generate cash from operations or obtain additional funds from other sources sufficient to meet our debt and other contractual obligations, or we need to use existing cash to fund our debt and contractual obligations, we may have to delay or curtail some or all of our research, development and commercialization programs or sell or license some or all of our assets. Our debt and other contractual obligations could have significant additional negative consequences, including, without limitation:

- increasing our vulnerability to general adverse economic conditions;
- limiting our ability to obtain additional funds; and
- placing us at a possible competitive disadvantage to less leveraged competitors and competitors that have better access to capital resources.

If an event of default occurs under our loan documents with Deerfield, including in certain circumstances under the warrants issued in connection with the loan, the lenders may declare the outstanding principal balance and accrued but unpaid interest owed to them immediately due and payable, which would have a material adverse affect on our financial position. We may not have sufficient cash to satisfy this obligation. Also, if a default occurs under our secured loan, and we are unable to repay the lenders, the lenders could seek to enforce their rights under their security interests in our assets. If this were to happen, we may lose or be forced to sell some or all of our assets to satisfy our debt, which could cause our business to fail.

If we do not commercialize lorcaserin outside of the United States with one or more pharmaceutical companies or raise additional funds, we may have to commercialize lorcaserin outside of the United States on our own.

We expect to commercialize lorcaserin outside of the United States, following regulatory approval, with one or more collaborators or independently. We may not be able to enter into agreements to commercialize lorcaserin outside of the United States on acceptable terms, if at all. If we are unable to enter into such agreements, and we develop our own capabilities to commercialize lorcaserin outside of the United States, we may require additional capital to develop such capabilities and the marketing and sale of lorcaserin outside of the United States may be delayed or otherwise impeded by our lack of resources. We may not be successful in developing the requisite capabilities to commercialize lorcaserin outside of the United States. Even if we were able to do so, we have not previously commercialized a drug, and our limited experience may make us less effective at commercial planning, marketing and selling than a pharmaceutical company. Our lack of corporate experience and adequate resources may impede our efforts to successfully commercialize lorcaserin.

We face competition in our search for pharmaceutical companies to commercialize lorcaserin outside of the United States. In addition, if our competitors are able to establish commercialization arrangements with companies who have substantially greater resources than we have (or, with respect to commercializing lorcaserin in the United States, Eisai has), our competitors may be more successful in marketing and selling their drugs, and our ability to successfully commercialize lorcaserin will be limited.

Table of Contents

Our drug candidates are subject to extensive regulation, and we may not receive required regulatory approvals, or timely approvals, for any of our drug candidates.

The preclinical, clinical development, manufacturing, labeling, packaging, storage, recordkeeping, advertising, promotion, export, marketing and distribution, and other possible activities relating to our drug candidates are, and any resulting drugs will be, subject to extensive regulation by the FDA and other regulatory agencies. We are subject to periodic unannounced inspections by the FDA, the DEA, and other regulatory agencies, and are also subject to inspections at Arena GmbH by the FDA, Swissmedic and other regulatory agencies. Swissmedic, a public service organization of the Swiss federal government, is the central Swiss agency for the authorization and supervision of therapeutic products. Failure to comply with FDA and other applicable regulatory requirements may, either before or after product approval, if any, subject our company to administrative or judicially imposed sanctions that may delay the advancement or potential approval of our drug candidates or otherwise negatively impact our business. Regulatory agencies have in the past inspected certain aspects of our business in the United States and Switzerland, and we were provided with observations of objectionable conditions or practices with respect to our business in the United States. We believe we satisfactorily addressed such observations, but there is no assurance that regulatory agencies will not provide us with observations in future inspections or that we satisfactorily addressed observations provided to us in past inspections.

Neither collaborators nor we are permitted to market a drug candidate in the United States until the particular drug candidate is approved for marketing by the FDA. Specific preclinical data, chemistry, manufacturing and controls data, a proposed clinical trial protocol and other information must be submitted to the FDA as part of an investigational new drug, or IND, application, and clinical trials may commence only after the IND application becomes effective. None of our drug candidates has received marketing approval. To market a new drug in the United States, we must submit to the FDA and obtain FDA approval of an NDA. An NDA must be supported by extensive clinical and preclinical data, as well as extensive information regarding chemistry, manufacturing and controls to demonstrate the safety and effectiveness of the drug candidate. Following its review of an NDA or a response to a CRL, the FDA may approve the NDA or issue a CRL.

Obtaining approval of an NDA can be a lengthy, expensive and uncertain process. As part of the Prescription Drug User Fee Act, or PDUFA, the FDA has a goal to review and act on a percentage of all submissions in a given time frame. The FDA s review goals are subject to change, and it is unknown whether any particular FDA review will be completed within the FDA s review goals or will be delayed. Moreover, the duration of the FDA s review may depend on the number and types of other submissions with the FDA around the same time period. The review of such other submissions, such as VIVUS NDA resubmission for a drug candidate for the treatment of obesity, may impact the regulatory review of our submissions related to lorcaserin. Furthermore, any drug that acts on the CNS, such as lorcaserin, has the potential to be scheduled as a controlled substance by the DEA. DEA scheduling is an independent process that can delay drug launch beyond an NDA approval date. DEA scheduling ranges from I to V, with I being the most tightly controlled category. The FDA has expressed concern over the abuse potential of lorcaserin and the data included in our original NDA related to such potential. Pursuant to the FDA s recommendation, we modified and repeated two nonclinical studies to provide additional safety information for labeling and scheduling decisions, and included data from such studies in our resubmitted lorcaserin NDA. If lorcaserin were to be scheduled in a tightly controlled category, such scheduling could negatively impact the ability or willingness to prescribe or dispense lorcaserin, the likelihood that patients will use it and other aspects of our and Eisai s ability to commercialize it.

Regulatory approval of an NDA or NDA supplement is not guaranteed. The number and types of preclinical studies and clinical trials that will be required for FDA approval varies depending on the drug candidate, the disease or condition that the drug candidate is designed to target and the regulations applicable to any particular drug candidate. Despite the time and expense exerted in preclinical and clinical studies, failure can occur at any stage, and we could encounter problems that cause us to abandon clinical trials or to repeat or perform additional

Table of Contents

preclinical studies and clinical trials. The FDA can delay, limit or deny approval of a drug candidate for many reasons, including:

- a drug candidate may not be deemed adequately safe and effective;
- FDA officials may not find the data from preclinical studies and clinical trials sufficient;
- the FDA s interpretation and our interpretation of data from preclinical studies and clinical trials may differ significantly;
- our or our contractors or collaborators failure to comply with applicable FDA and other regulatory requirements, including those identified in other risk factors;
- the FDA may not approve the manufacturing processes or facilities;
- the FDA may change its approval policies or adopt new regulations; or
- the FDA may not accept an NDA or other submission due to, among other reasons, the content or formatting of the submission.

With respect to lorcaserin, the FDA draft guidance document Developing Products for Weight Management dated February 2007 provides two alternate benchmarks for the development of drugs for the indication of weight management. The guidance provides that, in general, a product can be considered effective for weight management if after one year of treatment either of the following occurs: (1) the difference in mean weight loss between the active-product and placebo-treated groups is at least 5% and the difference is statistically significant, or (2) the proportion of patients who lose at least 5% of baseline body weight in the active-product group is at least 35%, is approximately double the proportion in the placebo-treated group, and the difference between groups is statistically significant. While we believe the results of our Phase 3 clinical trials of lorcaserin satisfy the latter of the two alternate efficacy benchmarks, the FDA may disagree with our view, not follow its draft guidance or impose other approval conditions that could delay or preclude approval of our lorcaserin NDA. For example, the FDA stated in the CRL for lorcaserin that the weight loss efficacy of lorcaserin in obese and overweight individuals without type 2 diabetes is marginal and recommended that we submit the final study report of BLOOM-DM. The FDA also stated in the CRL that in the event evidence cannot be provided to alleviate the FDA s concern regarding the clinical relevance of certain tumor findings in rats, additional clinical studies may be required to obtain a more robust assessment of lorcaserin s benefit-to-risk profile. In addition, the FDA may revise its guidance document on obesity drugs and any new guidance may include recommendations or requirements that make it cost-prohibitive or otherwise difficult or impossible for us to continue seeking regulatory approval for lorcaserin in the United States. In addition, we believe that the regulatory review of NDAs for drug candidates intended for widespread use by a large proportion of the general population is becoming increasingly focused on safety. In this regard, it is possible that some of our drug candidates, including lorcaserin, will be subject to increased scrutiny to show adequate safety than would drug candidates for more acute or life-threatening diseases such as cancer. Even if approved, drug candidates may not be approved for all indications requested and such approval may be subject to limitations on the indicated uses for which the drug may be marketed, restricted distribution methods or other limitations, such as those required by a Risk Evaluation and Mitigation Strategies, or REMS.

With the exception of our regulatory submissions for lorcaserin, we have not previously submitted an application for marketing approval in the United States or any other jurisdiction or a response to a CRL. This lack of corporate experience may impede our ability to obtain regulatory approval in a timely manner, if at all, for lorcaserin or our other drug candidates for which development and commercialization are our responsibility. Our preclinical and clinical data, other information and procedures relating to a drug candidate may not be sufficient to support approval by the FDA or any other US or foreign regulatory authority, or regulatory interpretation of these data and procedures may be unfavorable. Our business and reputation may be harmed by any failure or significant delay in receiving regulatory approval for the sale of any drugs resulting from our drug

Table of Contents

candidates. As a result, we cannot predict when or whether regulatory approval will be obtained for any drug we or our collaborators develop.

To market any drugs outside of the United States, we and our current or future collaborators must comply with numerous and varying regulatory requirements of other countries. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks associated with FDA approval as well as additional risks, some of which may be unanticipated.

On March 2, 2012, we filed an application for EU approval of lorcaserin, and we expect to learn whether our filing has been accepted for review before the end of March 2012. The EU regulatory authorities could determine that our application is not sufficient to allow for review, which would prevent or delay the review of our application and negatively impact our business. In addition, even if our application is accepted for review, the data from our lorcaserin studies and trials may not be sufficient for EU approval. The approval requirements in the European Union are different than in the United States. For example, the EMA guidelines provide that clinical trials assessing drug candidates intended for weight control should subject patients to a weight reducing diet run-in period, and our Phase 3 clinical trials did not include a run-in period. Such EMA guidelines also provide primary and alternative primary efficacy criteria for weight loss drug candidates. We believe lorcaserin will satisfy the EMA s alternative primary efficacy criterion, which is the proportion of responders achieving more than 10% weight loss at the end of a 12-month period. However, we do not believe lorcaserin meets the more stringent EMA primary efficacy criterion, which requires demonstrating weight loss of at least 10% of baseline weight that is also at least 5% greater than that associated with placebo. We do not know whether the EMA will find our lorcaserin Phase 3 clinical trials or program, including with regard to lorcaserin s efficacy or safety, to be sufficient for approval.

Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. Failure to obtain regulatory approval in a country, any delay or setback in obtaining such approval, or our regulatory strategy or decisions could adversely affect the regulatory approval or commercialization of our drug candidates in other countries, including that our drug candidates may not be approved for all indications requested, that such approval may be subject to limitations on the indicated uses for which the drug may be marketed, and with regard to the pricing or reimbursement of our approved drugs, if any.

Even if any of our drug candidates receives regulatory approval, our drug candidates will still be subject to extensive post-marketing regulation.

If we or collaborators receive regulatory approval for our drug candidates in the United States or other jurisdictions, we and our collaborators will be subject to ongoing obligations and continued regulatory review from the FDA and other applicable regulatory agencies, such as continued adverse event reporting requirements. There may also be additional FDA post-marketing obligations, all of which may result in significant expense and limit the ability to commercialize such drugs in the United States or other jurisdictions.

If any of our drug candidates receives US regulatory approval or approval in other jurisdictions, the FDA or other regulatory agencies may also require that the sponsor of the NDA conduct additional clinical trials to further assess the drug after NDA approval under a post-approval commitment. Such additional studies may be costly and may impact the commercialization of the drug. The FDA or other regulatory agencies may also impose significant restrictions on the indicated uses for which such drug may be marketed.

If the FDA or other regulatory agencies approve any of our drug candidates, the labeling, packaging, adverse event reporting, storage, advertising and promotion for the drug will be subject to extensive regulatory requirements. We and the manufacturers of our products are also required to comply with Current Good

Table of Contents

Manufacturing Practices, or CGMPs, regulations, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Further, regulatory agencies must approve these manufacturing facilities before they can be used to manufacture our products, and these facilities are subject to ongoing regulatory inspections. In addition, regulatory agencies subject a drug, its manufacturer and the manufacturer s facilities to continual review and inspections. The subsequent discovery of previously unknown problems with a drug, including adverse events of unanticipated severity or frequency, or problems with the facility where the drug is manufactured, may result in restrictions on the marketing of that drug, up to and including withdrawal of the drug from the market. In the United States, the DEA and comparable state-level agencies also heavily regulate the manufacturing, holding, processing, security, recordkeeping and distribution of drugs that are considered controlled substances. If any of our drug candidates are scheduled by the DEA as controlled substances, we will also become subject to the DEA s regulations. The FDA has expressed concern over the abuse potential of lorcaserin and the data included in our original NDA related to such potential, and, pursuant to its recommendation, we, as part of our response to the CRL for lorcaserin, modified and repeated two nonclinical studies to provide additional safety information for labeling and scheduling decisions. If lorcaserin were to be scheduled in a tightly controlled category, such scheduling could negatively impact the ability or willingness to prescribe or dispense lorcaserin, the likelihood that patients will use it and other aspects of our and Eisai s ability to commercialize it. The DEA periodically inspects facilities for compliance with its rules and regulations. If our manufacturing facilities or those of our suppliers fail to comply with applicable regulatory requirements, such noncompliance could result in regulatory action and additional costs to us. Failure to comply with applicable FDA and other regulatory requirements may, either before or after product approval, if any, subject our company to administrative or judicially imposed sanctions, including:

- issuance of Form 483 notices or Warning Letters by the FDA or other regulatory agencies;
- imposition of fines and other civil penalties;
- criminal prosecutions;
- injunctions, suspensions or revocations of regulatory approvals;
- suspension of any ongoing clinical trials;
- total or partial suspension of manufacturing;
- delays in commercialization;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or collaborators;
- refusals to permit drugs to be imported into or exported from the United States;
- restrictions on operations, including costly new manufacturing requirements; and
- product recalls or seizures.

The FDA s and other regulatory agencies policies may change and additional government regulations may be enacted that could prevent or delay regulatory approval of our drug candidates or further restrict or regulate post-approval activities. We cannot predict the likelihood, nature or

extent of adverse government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are not able to maintain regulatory compliance, we or our collaborators might not be permitted to market our drugs and our business could suffer.

Table of Contents

Even if we receive regulatory approval to commercialize our drug candidates, our ability to generate revenues from any resulting products will be subject to a variety of risks, many of which are out of our control.

Even if our drug candidates obtain regulatory approval, resulting products may not gain market acceptance among physicians, patients, healthcare payers or the medical community. We believe that the degree of market acceptance and our ability to generate revenues from such products will depend on a number of factors, including:

- timing of market introduction of our drugs and competitive drugs;
- actual and perceived efficacy and safety of our drug candidates;
- incidence and severity of any side effects;
- potential or perceived advantages or disadvantages as compared to alternative treatments;
- strength of sales, marketing and distribution support;
- price of our future products, both in absolute terms and relative to alternative treatments;
- the effect of current and future healthcare laws on our drug candidates;
- availability of coverage and reimbursement from government and other third-party payers; and
- product labeling or product insert requirements of the FDA or other regulatory authorities.

If our approved drugs, if any, fail to achieve market acceptance, we may not be able to generate significant revenues to achieve or sustain profitability.

In addition, if lorcaserin is approved for marketing, regulatory authorities may determine that lorcaserin will be a scheduled drug if it is found to have abuse potential or for other reasons. If lorcaserin were to be scheduled in a tightly controlled category, such scheduling could negatively impact the ability or willingness to prescribe or dispense lorcaserin, the likelihood that patients will use it, and other aspects of our ability to commercialize it and generate revenues.

The development programs for our drug candidates are expensive, time consuming, uncertain and susceptible to change, interruption, delay or termination.

Drug development programs are very expensive, time consuming and difficult to design and implement. Our drug candidates are in various stages of research and development and are prone to the risks of failure inherent in drug development. Clinical trials and preclinical studies are needed to demonstrate that drug candidates are safe and effective to the satisfaction of the FDA and similar non-US regulatory authorities. These trials and studies are expensive and uncertain processes that may take years to complete. Failure can occur at any stage of the process, and successful early preclinical studies or clinical trials do not ensure that later studies or trials will be successful. In addition, the commencement or completion of our planned preclinical studies or clinical trials could be substantially delayed or prevented by several factors, including the following:

limited number of, and competition for, suitable patients required for enrollment in our clinical trials or animals to conduct our preclinical studies;

limited number of, and competition for, suitable sites to conduct our clinical trials or preclinical studies;

delay or failure to obtain FDA approval or agreement to commence a clinical trial or FDA approval of a study protocol;

delay or failure to obtain sufficient supplies of our drug candidates or other drugs or materials for the trial or study;

Table of Contents

delay or failure to reach agreement on acceptable agreement terms or protocols; and

delay or failure to obtain institutional review board, or IRB, approval to conduct a clinical trial at a prospective site.

Even if the results of our development programs are favorable, the development programs of our most advanced drug candidates, including those being developed by collaborators, may take significantly longer than expected to complete. In addition, the FDA, other regulatory authorities, collaborators, or we may suspend, delay or terminate our development programs at any time for various reasons, including:

lack of effectiveness of any drug candidate during clinical trials;

side effects experienced by study participants or other safety issues;

slower than expected rates of patient recruitment and enrollment or lower than expected patient retention rates;

delays or inability to manufacture or obtain sufficient quantities of materials for use in clinical trials;

inadequacy of or changes in our manufacturing process or compound formulation;

delays in obtaining regulatory approvals to commence a study, or clinical holds, or delays requiring suspension or termination of a study by a regulatory authority, such as the FDA, after a study is commenced;

changes in applicable regulatory policies and regulations;

delays in identifying and reaching agreement on acceptable terms with prospective clinical trial sites;

uncertainty regarding proper dosing;

unfavorable results from ongoing clinical trials and preclinical studies;

failure of our clinical research organizations to comply with all regulatory and contractual requirements or otherwise perform their services in a timely or acceptable manner;

scheduling conflicts with participating clinicians and clinical institutions;

failure to design appropriate clinical trial protocols;

insufficient data to support regulatory approval;

termination of clinical trials by one or more clinical trial sites;

inability or unwillingness of medical investigators to follow our clinical protocols;

difficulty in maintaining contact with subjects during or after treatment, which may result in incomplete data;

lack of sufficient funding to continue clinical trials and preclinical studies; or

changes in business priorities or perceptions of the value of the program.

There is typically a high rate of attrition from the failure of drug candidates proceeding through clinical trials, and many companies have experienced significant setbacks in advanced development programs even after promising results in earlier studies or trials. We have experienced setbacks in our internal and partnered development programs and may experience additional setbacks in the future. If we or our collaborators abandon or are delayed in our development efforts related to lorcaserin or any other drug candidate, we may not be able to generate sufficient revenues to continue our operations at the current level or become profitable, our reputation in the industry and in the investment community would likely be significantly damaged, additional funding may not be available to us or may not be available on terms we or others believe are favorable, and our stock price would likely decrease significantly.

Table of Contents

The results of preclinical studies and completed clinical trials are not necessarily predictive of future results, and our current drug candidates may not have favorable results in later studies or trials.

Preclinical studies and Phase 1 and Phase 2 clinical trials are not primarily designed to test the efficacy of a drug candidate, but rather to test safety, to study pharmacokinetics and pharmacodynamics, and to understand the drug candidate s side effects at various doses and schedules. Favorable results in early studies or trials may not be repeated in later studies or trials, including continuing preclinical studies and large-scale clinical trials, and our drug candidates in later-stage trials may fail to show desired safety and efficacy despite having progressed through earlier-stage trials. Unfavorable results from ongoing preclinical studies or clinical trials could result in delays, modifications or abandonment of ongoing or future clinical trials, or abandonment of a clinical program. Preclinical and clinical results are frequently susceptible to varying interpretations that may delay, limit or prevent regulatory approvals or commercialization. For example, in the CRL for lorcaserin, the FDA identified issues that indicate that the FDA disagreed with our interpretation of certain of the data from our clinical trials and preclinical studies. Negative or inconclusive results or adverse medical events during a clinical trial could cause a clinical trial to be delayed, repeated or terminated, or a clinical program to be abandoned.

Many of our research and development programs are in early stages of development, and may not result in the commencement of clinical trials.

Many of our research and development programs are in the discovery or preclinical stage of development. The process of discovering compounds with therapeutic potential is expensive, time consuming and unpredictable. Similarly, the process of conducting preclinical studies of compounds that we discover requires the commitment of a substantial amount of our technical and financial resources and personnel. We may not discover additional compounds with sufficient therapeutic potential, and any of our preclinical compounds may not result in the commencement of clinical trials. We cannot be certain that results sufficiently favorable to justify commencement of Phase 1 clinical trials will be obtained in these preclinical investigations. Even if such favorable preclinical results are obtained, our financial resources may not allow us to commence Phase 1 clinical trials. If we are unable to identify and develop new drug candidates, we may not be able to maintain a clinical development pipeline or generate revenues.

We may participate in new strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

From time to time we consider strategic transactions, such as out-licensing or in-licensing of compounds or technologies, acquisitions of companies and asset purchases. Additional potential transactions we may consider include a variety of different business arrangements, including strategic collaborations, joint ventures, spin-offs, restructurings, divestitures, business combinations and investments. In addition, another entity may pursue us as an acquisition target. Any such transactions may require us to incur non-recurring or other charges, may increase our near- and long-term expenditures and may pose significant integration challenges, require additional expertise or disrupt our management or business, which could harm our operations and financial results.

As part of an effort to enter into significant transactions, we conduct business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in the transaction. Despite our efforts, we ultimately may be unsuccessful in ascertaining or evaluating all such risks and, as a result, might not realize the intended advantages of the transaction. If we fail to realize the expected benefits from any transaction we may consummate, whether as a result of unidentified risks, integration difficulties, regulatory setbacks or other events, our business, results of operations and financial condition could be adversely affected.

Table of Contents

Drug discovery and development is intensely competitive in the therapeutic areas on which we focus. If our competitors develop treatments that are approved faster, marketed better, less expensive or demonstrated to be more effective or safer than our drug candidates, our commercial opportunities will be reduced or eliminated.

Many of the drugs we or our collaborators are or may attempt to discover and develop may compete with existing therapies. In addition, many companies are pursuing the development of new drugs that target the same diseases and conditions that we target. For example, with regard to lorcaserin, VIVUS Inc. and Orexigen Therapeutics, Inc., are seeking regulatory approval for drug candidates for the treatment of obesity. Many of our competitors, particularly large pharmaceutical companies, have substantially greater research, development and marketing capabilities and greater financial, scientific and human resources than we do. Companies that complete clinical trials, obtain required regulatory agency approvals and commence commercial sale of their drugs before we do for the same indication may achieve a significant competitive advantage, including certain patent and FDA marketing exclusivity rights. In addition, our competitors may develop drugs with fewer side effects, more desirable characteristics (such as route of administration or frequency of dosing) or better efficacy than our drug candidates or drugs, if any, for the same indication. Our competitors may also market generic or other drugs that compete with our drugs at a lower price than our drugs, which may negatively impact our drug sales, if any. Any results from our research and development efforts, or from our joint efforts with our existing or any future collaborators, may not compete successfully with existing or newly discovered products or therapies.

Collaborative relationships may lead to disputes and delays in drug development and commercialization, and we may not realize the full commercial potential of our drug candidates.

We may have conflicts with our prospective, current or past collaborators, such as conflicts concerning the interpretation of preclinical or clinical data, the achievement of milestone or other payments, the ownership of intellectual property, or research and development or commercialization strategy. Collaborators may stop supporting our drug candidates or drugs if they develop or obtain rights to competing drug candidates or drugs. In addition, collaborators may fail to effectively develop or commercialize our drug candidates, which may result in us not realizing the full commercial potential of our drug candidates. If any conflicts arise with Eisai or any other prospective, current or past collaborator, such collaborator may act in a manner that is adverse to our interests. Any such disagreement could result in one or more of the following, each of which could delay, or lead to termination of, development or commercialization of our drug candidates, and in turn prevent us from generating revenues:

- unwillingness on the part of a collaborator to pay us research funding, milestone payments, royalties or other payments that we believe are due to us under a collaboration;
- uncertainty regarding ownership of intellectual property rights arising from our collaborative activities, which could prevent us from entering into additional collaborations;
- unwillingness on the part of a collaborator to keep us informed regarding the progress of its development and commercialization activities or to permit public disclosure of the results of those activities;
- slowing or cessation of a collaborator s research, development or commercialization efforts with respect to our drug candidates; or
- litigation or arbitration.

Setbacks, including those relating to drugs and drug candidates intended for weight management, and consolidation in the pharmaceutical and biotechnology industries and inadequate third-party coverage and reimbursement could make entering into agreements with pharmaceutical companies to collaborate or commercialize our drugs more difficult and diminish our revenues.

Setbacks in the pharmaceutical and biotechnology industries, such as those caused by safety concerns relating to drugs like Meridia, Avandia, Vioxx and Celebrex, or drug candidates, as well as competition from

42

Table of Contents

generic drugs, litigation, and industry consolidation, may have an adverse effect on us. For example, the FDA may be more cautious in approving our drug candidates based on safety concerns relating to these or other drugs or drug candidates, or pharmaceutical companies may be less willing to enter into new collaborations or continue existing collaborations if they are integrating a new operation as a result of a merger or acquisition or if their therapeutic areas of focus change following a merger.

Moreover, our and our collaborators ability to commercialize any of our drugs that may be approved will depend in part on government regulation and the availability of coverage and adequate reimbursement from third-party payers, including private health insurers and government payers, such as the Medicaid and Medicare programs, increases in government-run, single-payer health insurance plans and compulsory licenses of drugs. Government and third-party payers are increasingly attempting to contain healthcare costs by limiting coverage and reimbursement levels for new drugs. In addition, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, PPACA, was passed, which will significantly affect the pharmaceutical industry. In addition to extending coverage to patients otherwise uninsured, PPACA includes, among several other provisions relating to pharmaceuticals, measures that impose a new nondeductible fee on certain branded drugs based on market share in government health care programs, increases in rebates for government programs such as Medicaid, and the creation of a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research. Many of the details regarding the implementation of PPACA are yet to be determined, and we cannot predict with certainty whether or to what extent such implementation or adoption of reforms may impair our business. In addition, legal challenges to the PPACA are being made, and the ultimate outcome of such challenges and the impact on our business are unknown. Given the continuing discussion regarding the cost of healthcare, managed care, universal healthcare coverage and other healthcare issues, we also cannot predict with certainty what additional healthcare initiatives, if any, will be implemented or the effect any future legislation or regulation will have on our business. PPACA and any additional legislation or regulations may limit our commercial opportunities by reducing the amount a potential collaborator is willing to pay to license our programs or drug candidates in the future due to a reduction in the potential revenues from drug sales. Moreover, legislation and regulations affecting the pricing of pharmaceuticals may change before regulatory agencies approve our drug candidates for marketing. Adoption of such legislation and regulations could further limit pricing approvals for, and reimbursement of, drugs. A government or third-party payer decision not to approve pricing for, or provide adequate coverage and reimbursements of, our drugs, if any, could limit market acceptance of such drugs.

We rely on other companies, including third-party manufacturers, and we or such other companies may encounter failures or difficulties that could delay the clinical development or regulatory approval of our drug candidates, or their ultimate commercial production if approved.

We and third parties manufacture our drug candidates. We do not own, lease or operate manufacturing facilities that can produce sufficient quantities of active pharmaceutical ingredient, or API, and finished drug product for large-scale clinical trials. Accordingly, we must either develop such facilities, which will require substantial additional funds, or rely, at least to some extent, on third-party manufacturers for the production of drug candidates. Furthermore, should we obtain regulatory approval for any of our drug candidates, we expect to rely, at least to some extent, on third-party manufacturers for commercial production. Our dependence on others for the manufacture of our drug candidates may adversely affect our ability to develop and deliver such drug candidates on a timely and competitive basis.

Any performance failure on the part of us or a third-party manufacturer could delay clinical development, regulatory approval or, ultimately, sales of our drug candidates. We or third-party manufacturers may encounter difficulties involving production yields, regulatory compliance, lot release, quality control and quality assurance, as well as shortages of qualified personnel. Approval of our drug candidates could be delayed, limited or denied if the applicable regulatory authority does not approve our or a third-party manufacturer s processes or facilities. Moreover, the ability to adequately and timely manufacture and supply drug candidates is dependent on the

Table of Contents

uninterrupted and efficient operation of the manufacturing facilities, which is impacted by many manufacturing variables including:

- availability or contamination of raw materials and components used in the manufacturing process, particularly those for which we have no other source or supplier;
- capacity of our facilities or those of our contract manufacturers;
- facility contamination by microorganisms or viruses or cross contamination;
- compliance with regulatory requirements, including Form 483 notices and Warning Letters;
- changes in forecasts of future demand;
- timing and actual number of production runs;
- production success rates and bulk drug yields; and
- timing and outcome of product quality testing.

In addition, we or our third-party manufacturers may encounter delays and problems in manufacturing our drug candidates or drugs for a variety of reasons, including accidents during operation, failure of equipment, delays in receiving materials, natural or other disasters, political or governmental changes, or other factors inherent in operating complex manufacturing facilities. Supply chain management is complex, and involves sourcing from a number of different companies and foreign countries. Commercially available starting materials, reagents and excipients may become scarce or more expensive to procure, and we may not be able to obtain favorable terms in agreements with subcontractors. We or our third-party manufacturers may not be able to operate our respective manufacturing facilities in a cost-effective manner or in a time frame that is consistent with our expected future manufacturing needs. If we or our third-party manufacturers cease or interrupt production or if our third-party manufacturers and other service providers fail to supply materials, products or services to us for any reason, such interruption could delay progress on our programs, or interrupt the commercial supply, with the potential for additional costs and lost revenues. If this were to occur, we may also need to seek alternative means to fulfill our manufacturing needs.

We may not be able to enter into agreements for the manufacture of our drug candidates with manufacturers whose facilities and procedures comply with applicable law. Manufacturers are subject to ongoing periodic unannounced inspection by the FDA, the DEA and corresponding state and foreign authorities to ensure strict compliance with CGMP and other applicable government regulations and corresponding foreign standards. We do not have control over a third-party manufacturer s compliance with these regulations and standards. In addition, Arena GmbH has contracted with Siegfried Ltd, or Siegfried, to provide safety, health and environmental services and assess compliance, train personnel and oversee Arena GmbH s compliance with the applicable safety, health and environmental regulations. We are, therefore, relying at least in part on Siegfried s judgment, experience and expertise. If we or one of our manufacturers fail to maintain compliance, we or they could be subject to civil or criminal penalties, the production of our drug candidates could be interrupted or suspended, or our product could be recalled or withdrawn, resulting in delays, additional costs and potentially lost revenues.

We rely on third parties to conduct our clinical trials and many of our preclinical studies. If those parties do not comply with regulatory and contractual requirements, successfully carry out their contractual duties or meet expected deadlines, our drug candidates may not advance in a timely manner or at all.

In the course of our discovery, preclinical testing and clinical trials, we rely on third parties, including laboratories, investigators, clinical research organizations and manufacturers, to perform critical services for us. For example, we rely on third parties to conduct our clinical trials

and many of our preclinical studies. Clinical research organizations are responsible for many aspects of the trials, including finding and enrolling subjects for testing and administering the trials. Although we rely on these third parties to conduct our clinical trials, we are

Table of Contents

responsible for ensuring that each of our clinical trials is conducted in accordance with its investigational plan and protocol. Moreover, the FDA and foreign regulatory authorities require us to comply with regulations and standards, commonly referred to as good clinical practices, or GCPs, for conducting, monitoring, recording and reporting the results of clinical trials to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials. Our reliance on third parties does not relieve us of these responsibilities and requirements. These third parties may not be available when we need them or, if they are available, may not comply with all regulatory and contractual requirements or may not otherwise perform their services in a timely or acceptable manner, and we may need to enter into new arrangements with alternative third parties and our preclinical studies or clinical trials may be extended, delayed or terminated. These independent third parties may also have relationships with other commercial entities, some of which may compete with us. In addition, if such third parties fail to perform their obligations in compliance with regulatory requirements and our protocols, our preclinical studies or clinical trials may not meet regulatory requirements or may need to be repeated. As a result of our dependence on third parties, we may face delays or failures outside of our direct control. These risks also apply to the development activities of collaborators, and we do not control their research and development, clinical trial or regulatory activities.

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

Our success depends on the continued contributions of our principal management, development and scientific personnel, and the ability to hire and retain key and other personnel. We face competition for such personnel, and we believe that risks and uncertainties related to our regulatory filings, our available cash resources, pending and possible future litigation involving us, and our relatively low stock price may impact our ability to hire and retain key and other personnel. The loss of services of any principal member of our management or scientific staff or other personnel, particularly Jack Lief, our Chairman, President and Chief Executive Officer, and Dominic P. Behan, Ph.D., our Executive Vice President and Chief Scientific Officer, or a combination of different key employees, could adversely impact our operations and ability to raise additional capital. To our knowledge, neither Mr. Lief nor Dr. Behan plans to leave, retire or otherwise disassociate with us in the near future.

We may incur substantial liabilities for any product liability claims or otherwise as a drug product manufacturer.

We develop, test and manufacture drugs that are used by humans. We face an inherent risk of product liability exposure related to the testing of our drug candidates in clinical trials, and will face an even greater risk if we sell our own drugs commercially. In addition, under our marketing and supply agreement with Eisai, Arena GmbH has agreed to indemnify Eisai for certain losses resulting from product liability claims, except to the extent caused by Eisai s negligence, willful misconduct, or violation of law or Eisai s breach of such agreement.

Whether or not we are ultimately successful in any product liability or related litigation, such litigation would consume substantial amounts of our financial and managerial resources, and might result in adverse publicity, all of which would impair our business. In addition, damages awarded in a product liability action could be substantial and could have a negative impact on our financial condition.

An individual may bring a liability claim against us if one of our drug candidates or drugs causes, or merely appears to have caused, an injury. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for our drug;
- injury to our reputation;
- withdrawal of clinical trial subjects;
- costs of related litigation;

Table of Contents

substantial monetary awards to subjects or other claimants;

loss of revenues; and

the inability to commercialize our drug candidates.

We have limited product liability insurance that covers our clinical trials. We intend to expand our insurance coverage to include the sale of drugs if marketing approval is obtained for any of our drug candidates. We may not be able to obtain or maintain insurance coverage at a reasonable cost, and we may not have insurance coverage that will be adequate to satisfy any liability that may arise, which could have an adverse effect on our capital sources and financial condition.

Arena GmbH manufactures drug products for Siegfried and will manufacture lorcaserin for Eisai if lorcaserin is approved. In addition to product liability, Arena GmbH is subject to liability for non-performance, product recalls and breaches of the agreements with Siegfried and Eisai.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse and false claims laws and regulations. Prosecutions under such laws have increased in recent years and we may become subject to such litigation. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

If we obtain FDA approval to commercialize any of our drug candidates in the United States, our operations may be directly or indirectly subject to various state and federal fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and federal False Claims Act. These laws may impact, among other things, the sales, marketing and education programs for our drugs.

The federal Anti-Kickback Statute prohibits persons from knowingly and willingly soliciting, offering, receiving or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing or arranging for a good or service, for which payment may be made under a federal healthcare program such as the Medicare and Medicaid programs. Several courts have interpreted the statute s intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated. The Anti-Kickback Statute is broad and, despite a series of narrow safe harbors, prohibits many arrangements and practices that are lawful in businesses outside of the healthcare industry. Penalties for violations of the federal Anti-Kickback Statute include criminal penalties and civil sanctions such as fines, imprisonment and possible exclusion from Medicare, Medicaid and other federal healthcare programs. Many states have also adopted laws similar to the federal Anti-Kickback Statute, some of which apply to the referral of patients for healthcare items or services reimbursed by any source, not only the Medicare and Medicaid programs.

The federal False Claims Act prohibits persons from knowingly filing, or causing to be filed, a false claim to, or the knowing use of false statements to obtain payment from the federal government. Suits filed under the False Claims Act, known as qui tam actions, can be brought by any individual on behalf of the government and such individuals, commonly known as whistleblowers, may share in any amounts paid by the entity to the government in fines or settlement. The filing of qui tam actions has caused a number of pharmaceutical, medical device and other healthcare companies to have to defend a False Claims Act action. When an entity is determined to have violated the False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties for each separate false claim. Various states have also enacted laws modeled after the federal False Claims Act.

We are unable to predict whether we could be subject to actions under any of these or other fraud and abuse laws, or the impact of such actions. If we are found to be in violation of any of the laws described above and other applicable state and federal fraud and abuse laws, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from government healthcare reimbursement programs and the

Table of Contents

curtailment or restructuring of our operations, all of which could have a material adverse effect on our business and results of operations.

We may not be able to effectively integrate or manage our international operations and such difficulty could adversely affect our stock price, business operations, financial condition and results of operations.

The headquarters of our operations outside of the United States is in Switzerland. Activities conducted at this location include manufacturing, quality control, quality assurance, development of manufacturing processes, qualifying suppliers and otherwise managing the global supply chain, regulatory compliance, distribution of finished products, and European strategic planning and development. There are significant risks associated with foreign operations, including, but not limited to, compliance with local laws and regulations, the protection of our intellectual property, the ability to integrate our corporate culture with local customs and cultures, the distraction to our management, foreign currency exchange rates and the impact of shifts in the United States and local economies on those rates, and integration of our policies and procedures, including disclosure controls and procedures and internal control over financial reporting, with our international operations.

We use biological materials, hazardous materials, chemicals and radioactive compounds.

Our research and development and manufacturing activities involve the use of potentially harmful biological materials as well as materials, chemicals and various radioactive compounds that could be hazardous to human health and safety or the environment. These materials and various wastes resulting from their use are stored at our facility pending ultimate use and disposal. We cannot completely eliminate the risk of contamination, which could cause:

- interruption of our research and development or manufacturing efforts;
- injury to our employees and others;
- environmental damage resulting in costly clean up; and
- liabilities under domestic or foreign federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products.

In such an event, we may be held liable for any resulting damages, and any such liability could exceed our resources. Although we carry insurance in amounts and type that we consider commercially reasonable, we cannot be certain that the coverage or coverage limits of our insurance policies will be adequate and we do not have insurance coverage for losses relating to an interruption of our research and development efforts caused by contamination.

Our operations might be interrupted by the occurrence of a natural disaster or other event.

Our US operations, including laboratories, offices and a chemical development facility, are located in the same business park in San Diego. We also have a drug product facility in Zofingen, Switzerland, and we expect that, at least for the foreseeable future, this facility will be the sole location for the manufacturing of lorcaserin finished drug product. We depend on our facilities and on collaborators, contractors and vendors for the continued operation of our business, some of whom are located in Europe and Asia. Natural disasters or other catastrophic events, including interruptions in the supply of natural resources, political and governmental changes, severe weather conditions, wildfires and other fires, explosions, actions of animal rights activists, terrorist attacks, earthquakes and wars could disrupt our operations or those of our collaborators, contractors and vendors. Even though we believe we carry commercially reasonable business interruption and liability insurance, and our contractors may carry liability insurance that protect us in certain events, we might suffer losses as a result of business interruptions that exceed the coverage available under our and our contractors insurance policies or for which we or our contractors do not have coverage. For example, we are not insured against a terrorist attack. Any natural disaster or catastrophic event could have a significant negative impact on our

Table of Contents

operations and financial results. Moreover, any such event could delay our research and development programs and adversely affect, which may include stopping, our commercial production.

Our executive officers and directors may sell shares of their stock, and these sales could adversely affect our stock price.

Sales of our stock by our executive officers and directors, or the perception that such sales may occur, could adversely affect the market price of our stock. Our executive officers and directors may sell stock in the future, either as part, or outside, of trading plans under SEC Rule 10b5-1.

Currency fluctuations may negatively affect our financial condition.

We primarily spend and generate cash in US dollars, and present our consolidated financial statements in US dollars. However, a portion of our expected and potential payments and receipts under our agreements are in foreign currencies, including Swiss francs. For example, payments and receipts under our agreements with Siegfried are required to be paid in Swiss francs. A fluctuation of the exchange rates of foreign currencies versus the US dollar may, thus, adversely affect our financial results, including cash balances, expenses and revenues. We may enter into hedging transactions to try to reduce our foreign currency exposure in the future, but there is no assurance that such transactions will occur or be successful.

Laws, rules and regulations relating to public companies may be costly and impact our ability to attract and retain directors and executive officers.

Laws and regulations affecting public companies, including rules adopted by the SEC and by NASDAQ, as well as the laws and regulations of foreign governments, may result in increased costs to us, particularly as we continue to develop the required capabilities in the United States and abroad to commercialize our products. These laws, rules and regulations could make it more difficult or costly for us to obtain certain types of insurance, including directors and officers liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on our board committees or as executive officers. We cannot estimate accurately the amount or timing of additional costs we may incur to respond to these laws, rules and regulations.

Risks Relating to Our Intellectual Property

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

Our success will depend on our own and on current or future collaborators abilities to obtain, secure and defend patents. In particular, the patents directed to our most advanced drug candidates and other compounds discovered using our technologies or that are otherwise part of our collaborations are important to commercializing drugs. We have numerous US and foreign patent applications pending for our technologies. There is no assurance that any of our patent applications will issue, or that any of the patents will be enforceable or will cover a drug or other commercially significant technology or method, or that the patents will be held to be valid for their expected terms.

The procedures for obtaining a patent in the United States and in most foreign countries are complex. These procedures require an analysis of the scientific technology related to the invention and many sophisticated legal issues. Obtaining patent rights outside the United States often requires the translation of highly technical documents and an improper translation may lead to the loss of, or otherwise jeopardize, the patent protection of our inventions. Ensuring adequate quality of translators and foreign patent attorneys is often very challenging. Consequently, the process for having our pending patent applications issue as patents will be difficult, complex

Table of Contents

and time consuming. Our patent position is very uncertain and we do not know when, or if, we will obtain additional patents for our technologies, or if the scope of the patents obtained will be sufficient to protect our drugs, or be considered sufficient by parties reviewing our patent positions pursuant to a potential licensing or financing transaction.

In addition, other entities may challenge the validity or enforceability of our patents and patent applications in litigation or administrative proceedings. Even the issuance of a patent is not conclusive as to its validity or enforceability. We cannot make assurances as to how much protection, if any, will be given to our patents if we attempt to enforce them or they are challenged. It is possible that a competitor or a generic pharmaceutical provider may successfully challenge our patents and those challenges may result in reduction or elimination of our patents coverage.

We also rely on confidentiality agreements and trade secrets to protect our technologies. However, such information is difficult to protect. We require our employees to contractually agree not to improperly use our confidential information or disclose it to others, but we may be unable to determine if our employees have conformed or will conform to their legal obligations under these agreements. We also enter into confidentiality agreements with prospective collaborators, collaborators, service providers and consultants, but we may not be able to adequately protect our trade secrets or other proprietary information in the event of any unauthorized use or disclosure or the lawful development by others of this information. Many of our employees and consultants were, and many of them may currently be, parties to confidentiality agreements with other pharmaceutical and biotechnology companies, and the use of our technologies could violate these agreements. In addition, third parties may independently discover our trade secrets or proprietary information.

Some of our academic institution licensors, research collaborators and scientific advisors have rights to publish data and information to which we have rights. We generally seek to prevent our collaborators from disclosing scientific discoveries before we have the opportunity to file patent applications on such discoveries. In some of our collaborations, we do not control our collaborators ability to disclose their own discoveries under the collaboration and in some of our academic collaborations we are limited to relatively short periods to review a proposed publication and file a patent application. If we cannot maintain the confidentiality of our technologies and other confidential information in connection with our collaborations, our ability to receive patent protection or protect our proprietary information will be impaired.

We believe that the United States is by far the largest single market for pharmaceuticals in the world. Because of the critical nature of patent rights to our industry, changes in US patent laws could have a profound effect on our future profits, if any. It is unknown which, if any, patent laws will change, how changes to the patent laws will ultimately be enforced by the courts and the impact on our business. For example, in September 2011 the America Invents Act was signed into US law, which changes include, among others, the awarding of a patent to the first inventor to file a patent as opposed to the first inventor to make an invention and the creation of new administrative procedures for challenging US patents. It may be several years before the impact of the America Invents Act on patent law is understood, and we cannot predict with certainty whether or to what extent the changes may impair our business.

A dispute regarding the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be costly and result in delays or termination of our future research, development, manufacturing and sales activities.

Our commercial success depends upon our ability to develop and manufacture our drug candidates and market and sell drugs, if any, and conduct our research and development activities without infringing or misappropriating the proprietary rights of others. There are many patents and patent applications filed, and that may be filed, by others relating to drug discovery and development programs that could be determined to be similar, identical or superior to ours or our licensors or collaborators. We may be exposed to future litigation by others based on claims that our drug candidates, technologies or activities infringe the intellectual property rights

Table of Contents

of others. Numerous US and foreign issued patents and pending patent applications owned by others exist in the area of G protein-coupled receptors, or GPCRs, including some which purport to allow the patent holder to control the use of all drugs that modulate a particular drug target or GPCR, regardless of whether the infringing drug bears any structural resemblance to a chemical compound known to the patent holder at the time of patent filing. Numerous US and foreign issued patents and pending patent applications owned by others also exist in the therapeutic areas in, and for the therapeutic targets for, which we are developing drugs. There are also numerous issued patents and patent applications to chemical compounds or synthetic processes that may be necessary or useful to use in our research, development, manufacturing or commercialization activities. These could materially affect our ability to develop our drug candidates or manufacture, import or sell drugs, and our activities, or those of our licensors or collaborators, could be determined to infringe these patents. Because patent applications can take many years to issue, there may be currently pending applications, unknown to us, which may later result in issued patents that our drug candidates or technologies may infringe. There also may be existing patents, of which we are not aware, that our drug candidates or technologies may infringe. Further, there may be issued patents or pending patent applications in fields relevant to our business, of which we are or may become aware, that we believe (i) are invalid or we do not infringe; (ii) relate to immaterial portions of our overall drug discovery, development, manufacturing and commercialization efforts; or (iii) in the case of pending patent applications, the resulting patent would not be granted or, if granted, would not likely be enforced in a manner that would materially impact such efforts. We cannot assure you that others holding any of these patents or patent applications will not assert infringement claims against us for damages or seek to enjoin our activities. We also cannot assure you that, in the event of litigation, we will be able to successfully assert any belief we may have as to non-infringement, invalidity or immateriality, or that any infringement claims will be resolved in our favor.

In addition, others may infringe or misappropriate our proprietary rights, and we may have to institute costly legal action to protect our intellectual property rights. We may not be able to afford the costs of enforcing or defending our intellectual property rights against others.

Other organizations, companies and individuals are seeking proprietary positions on genomics information that overlap with the government-sponsored project to sequence the human genome. Our activities, or those of our licensors or collaborators, could be affected by conflicting positions that may exist between any overlapping genomics information made available publicly as a result of the government-sponsored project and genomics information that other organizations, companies or individuals consider to be proprietary. There could also be significant litigation and other administrative proceedings in our industry that affect us regarding patent and other intellectual property rights. Any legal action or administrative action against us, or our collaborators, claiming damages or seeking to enjoin commercial activities relating to our drug discovery, development, manufacturing and commercialization activities could:

- require us, or our collaborators, to obtain a license to continue to use, manufacture or market the affected drugs, methods or processes, which may not be available on commercially reasonable terms, if at all;
- prevent us from importing, making, using, selling or offering to sell the subject matter claimed in patents held by others and subject us to potential liability for damages;
- consume a substantial portion of our managerial, scientific and financial resources; or
- be costly, regardless of the outcome.

Furthermore, because of the substantial amount of pre-trial document and witness discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the trading price of our common stock.

Table of Contents

We have been contacted from time to time by third parties regarding their intellectual property rights, sometimes asserting that we may need a license to use their technologies. If we fail to obtain any required licenses or make any necessary changes to our technologies, we may be unable to develop or commercialize some or all of our drug candidates.

We cannot protect our intellectual property rights throughout the world.

Filing, prosecuting, defending and enforcing patents on all of our drug discovery technologies and all of our potential drug candidates throughout the world would be prohibitively expensive. Competitors may use our technologies to develop their own drugs in jurisdictions where we have not obtained patent protection. These drugs may compete with our drugs, if any, and may not be covered by any of our patent claims or other intellectual property rights. The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. Many countries, including certain countries in Europe, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties (for example, the patent owner has failed to work the invention in that country or the third party has patented improvements). In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of the patent. Compulsory licensing of life-saving drugs is also becoming increasingly popular in developing countries either through direct legislation or international initiatives. Such compulsory licenses could be extended to include some of our drug candidates, which could limit our potential revenue opportunities. Moreover, the legal systems of certain countries, particularly certain developing countries, do not favor the aggressive enforcement of patents and other intellectual property protection, particularly those relating to biotechnology and/or pharmaceuticals, which makes it difficult for us to stop the infringement of our patents. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

Risks Relating to Our Securities

Our stock price will likely be volatile, and your investment in our stock could decline in value.

Our stock price has fluctuated historically. From January 1, 2010, to March 9, 2012, the market price of our stock was as low as $1.21 per share and as high as $8.00 per share.

Very few drug candidates being tested will ultimately receive regulatory approval, and companies in our industry sometimes experience a significant drop in stock price. Our stock price may fluctuate significantly depending on a variety of factors, including:

- legislation or regulatory actions or decisions affecting lorcaserin or other drug candidates or drugs;
- discussions or recommendations affecting lorcaserin or other drug candidates or drugs by FDA advisory committees or other reviewers of preclinical or clinical data or other information related to lorcaserin or other drug candidates or drugs;
- the success or failure of our clinical-stage development programs or other results or decisions affecting the development of our drug candidates;
- the timing of the discovery of drug leads and the development of our drug candidates;
- the modification or termination of an existing collaboration or the entrance into, or failure to enter into, a new collaboration;
- the timing and receipt by us of milestone or other payments or failing to achieve and receive the same;

changes in our research and development budget or the research and development budgets of our existing or potential collaborators;

Table of Contents

the introduction, development or withdrawal of drug candidates or drugs by others that target the same diseases and conditions that we or our collaborators target or the introduction of new drug discovery techniques;

the success, failure or setbacks of our or a perceived competitor s drug candidate or drug;

expenses related to, and the results of, litigation, other disputes and other proceedings;

financing strategy or decisions;

developments in intellectual property rights or related announcements;

capital market conditions; and

accounting changes.

We are not able to control many of these factors. If our financial or scientific results in a particular period do not meet stockholders or analysts expectations, our stock price may decline and such decline could be significant.

There are a substantial number of shares of our common stock eligible for future sale in the public market, and the sale of these shares could cause the market price of our common stock to fall.

There were 180,422,401 shares of our common stock outstanding as of March 9, 2012. We also had outstanding as of March 9, 2012, a seven-year warrant issued in June 2006 to purchase 1,467,405 shares of our common stock at an exercise price of $8.76 per share and a seven-year warrant issued in August 2008 to purchase 1,965,418 shares of our common stock at an exercise price of $4.34 per share. Such warrants were adjusted as a result of certain equity sales following their issuance to decrease the exercise price and increase the number of shares issuable upon exercise of the warrants. Certain future equity issuances below the pre-defined warrant adjustment price may result in additional adjustments to any such warrants then outstanding.

As of March 9, 2012, we had outstanding warrants we issued to Deerfield to purchase an aggregate of 23,000,000 shares of our common stock with a weighted-average exercise price of $1.70 per share and an expiration date of June 17, 2015.

Along with our outstanding warrants, as of March 9, 2012, there were (i) options to purchase 9,978,884 shares of our common stock outstanding under our equity incentive plans at a weighted-average exercise price of $5.41 per share, (ii) 5,997,721 additional shares of common stock remaining issuable under our 2009 Long-Term Incentive Plan, (iii) 545,921 shares of common stock remaining issuable under our 2009 Employee Stock Purchase Plan, and (iv) 79,169 shares of common stock remaining issuable under our Deferred Compensation Plan.

The shares described above, when issued, will be available for immediate resale in the public market. The market price of our common stock could decline as a result of such resales due to the increased number of shares available for sale in the market.

Any future equity or debt issuances by us may have dilutive or adverse effects on our existing stockholders.

We have primarily financed our operations, and we expect to continue to finance our operations, by issuing and selling our common stock or securities convertible into or exercisable for shares of our common stock. In light of our need for additional funding, we may issue additional shares of common stock or convertible securities that could dilute your ownership in our company and may include terms that give new investors rights that are superior to yours. Moreover, any issuances by us of equity securities may be at or below the prevailing market price of our common stock and in any event may have a dilutive impact on your ownership interest,

52

Table of Contents

which could cause the market price of our common stock to decline. In addition, we may also raise additional funds through the incurrence of debt, and the holders of any debt we may issue would have rights superior to your rights in the event we are not successful and are forced to seek the protection of bankruptcy laws. For example, in July 2009 we issued debt to Deerfield that is secured by our assets, and Deerfield s right to repayment would be senior to your rights to receive any proceeds from a liquidation in bankruptcy or otherwise.

The holders of our common stock and other securities may take actions that are contrary to your interests, including selling their stock.

A small number of our stockholders hold or have rights to acquire a significant amount of our outstanding stock. These stockholders may support competing transactions and have interests that are different from yours. In addition, sales of a large number of shares of our stock by these large stockholders or other stockholders within a short period of time could adversely affect our stock price.

We may also be involved with disagreements with the holders of our stock, warrants or other securities in the future. Such disagreements may lead to litigation which may be expensive and consume management s time, or involve settlements, the terms of which may not be favorable to us.

Our rights agreement and certain provisions in our charter documents and Delaware law could delay or prevent a change in management or a takeover attempt that you may consider to be in your best interest.

We have adopted certain anti-takeover provisions, including a stockholders rights agreement, dated as of October 30, 2002, between us and Computershare Trust Company, Inc., as Rights Agent, as amended. The rights agreement will cause substantial dilution to any person who attempts to acquire us in a manner or on terms not approved by our board of directors.

The rights agreement, as well as other provisions in our certificate of incorporation and bylaws and under Delaware law, could delay or prevent the removal of directors and other management and could make more difficult a merger, tender offer or proxy contest involving us that you may consider to be in your best interest. For example, these provisions:

- allow our board of directors to issue preferred stock without stockholder approval;
- limit who can call a special meeting of stockholders;
- eliminate stockholder action by written consent; and
- establish advance notice requirements for nomination for election to the board of directors or for proposing matters to be acted upon at stockholders meetings.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

As set forth in the below table, the principal facilities that we occupy include approximately 345,000 square feet of research, development, warehouse and office space located at various addresses in the same business park in San Diego, California and approximately 81,000 square feet of laboratory, manufacturing, warehouse and office space located in the same business park in Zofingen, Switzerland.

Table of Contents

Location	Own/ Lease	Description
6114 Nancy Ridge Drive	Lease with option to purchase	This chemical development facility consists of approximately 40,000 square feet (which includes approximately 18,000 of internal square feet and approximately 22,000 square feet of integrated external space), of which approximately 5,000 square feet is office space. The remaining approximately 35,000 square feet of space is dedicated to process research and scale-up chemistry, the production of intermediates and other compounds for research and development purposes, and the production of active pharmaceutical ingredients to support our clinical trials. We commenced CGMP operations in this facility in 2004.
6118 Nancy Ridge Drive	Lease with option to purchase	This facility of approximately 30,000 square feet consists of approximately 50% laboratory space and 50% office space.
6122-6124-6126 Nancy Ridge Drive	Lease; option to purchase assigned	The portion of this facility we lease consists of approximately 40,000 square feet, of which approximately 24,000 square feet is laboratory space and 16,000 square feet is office space. In May 2007, we assigned our option to purchase the entire facility, which includes approximately 68,000 square feet. We expect that the assigned option will be exercised in the near term, and that we will thereafter lease this facility from the assignor and have an option to purchase the facility.
6138-6150 Nancy Ridge Drive	Lease with option to purchase	This facility of approximately 55,000 square feet consists of approximately 33,000 square feet of laboratory space and 22,000 square feet of office space.
6154 Nancy Ridge Drive	Lease with option to purchase	This facility of approximately 143,000 square feet consists of approximately 131,000 square feet of office space and 12,000 square feet of warehouse space.
6162 Nancy Ridge Drive	Own	This facility includes approximately 20,000 square feet of warehouse and office space, all of which is presently unoccupied.
6166 Nancy Ridge Drive	Lease	This facility of approximately 37,000 square feet consists of approximately 23,000 square feet of laboratory space and 14,000 square feet of office space.
Zofingen, Switzerland	Own	The portion of this facility we own consists of approximately 67,000 square feet, including approximately 39,000 square feet of manufacturing space, 21,000 square feet of warehouse space and 7,000 square feet of office space.
Zofingen, Switzerland	Lease	We lease from Siegfried a total of approximately 14,000 square feet, consisting of approximately 6,000 square feet of warehouse space, 5,000 square feet of office space and 3,000 square feet of laboratory space, in various facilities.

We expect these facilities to be sufficient for our needs for at least the near term. We have more space in San Diego than we expect to need for the foreseeable future, and are exploring subleasing some of our space and other options to reduce our expenses.

Table of Contents

Item 3. Legal Proceedings.

Beginning on September 20, 2010, a number of complaints were filed in the US District Court for the Southern District of California against us and certain of our current and former employees and directors on behalf of certain purchasers of our common stock. The complaints have been brought as purported stockholder class actions, and, in general, include allegations that we and certain of our current and former employees and directors violated federal securities laws by making materially false and misleading statements regarding our lorcaserin program, thereby artificially inflating the price of our common stock. The plaintiffs are seeking unspecified monetary damages and other relief. On November 19, 2010, eight prospective lead plaintiffs filed motions to consolidate, appoint a lead plaintiff, and appoint lead counsel. The Court took the motions to consolidate under submission on January 14, 2011. On August 8, 2011, the Court consolidated the actions and appointed a lead plaintiff and lead counsel. On November 1, 2011, the lead plaintiff filed a consolidated amended complaint. On December 30, 2011, we filed a motion to dismiss the consolidated amended complaint, and a hearing on the motion to dismiss has been scheduled for April 13, 2012. In addition to the class actions, a complaint involving similar legal and factual issues has been brought by at least one individual stockholder and is pending in federal court. On December 30, 2011, we filed a motion to dismiss the stockholder s complaint, and a hearing on the motion to dismiss has been scheduled for April 13, 2012. We intend to defend against the claims advanced and to seek dismissal of these complaints. Due to the early stage of these proceedings, we are not able to predict or reasonably estimate the ultimate outcome or possible losses relating to these claims.

On September 24, 2010, a stockholder derivative complaint was filed in the Superior Court of California for the County of San Diego against certain of our current and former employees and directors, and other stockholder derivative complaints were subsequently filed in state court. On October 19, 2010, the Superior Court ordered that the pending state derivative actions be consolidated. The Superior Court also ordered that later filed, related state derivative actions be consolidated as well. We refer to the consolidated state derivative actions as the State Derivative Action. In November 2010, plaintiffs in the State Derivative Action filed a consolidated stockholder derivative complaint. We filed a demurrer to the consolidated stockholder derivative complaint on February 15, 2011. On October 6, 2010, a stockholder derivative complaint was filed in the US District Court for the Southern District of California. Thereafter, a number of other stockholder derivative complaints were also filed in federal court. On March 3, 2011, the federal court ordered that the pending federal derivative actions be consolidated. The federal court also ordered that later filed, related federal derivative actions be consolidated as well. We refer to the consolidated federal derivative actions as the Federal Derivative Action. We refer to the State Derivative Action and the Federal Derivative Action collectively as the Derivative Actions. The Derivative Actions allege breaches of fiduciary duties by the defendants and other violations of law. In general, the Derivative Actions allege that certain of our current and former employees and directors caused or allowed for the dissemination of materially false and misleading statements regarding our lorcaserin program, thereby artificially inflating the price of our common stock. On September 9, 2011, we and lead counsel for the plaintiffs in the Derivative Actions entered into a stipulation of settlement to resolve the Derivative Actions. The current and former employees and directors named as individual defendants in the Derivative Actions have also entered into the stipulation of settlement. On October 19, 2011, the Superior Court of California entered an order preliminarily approving the proposed settlement. On December 16, 2011, the Superior Court of California issued its final order and judgment approving the settlement and dismissing the State Derivative Action with prejudice. On December 29, 2011, the US District Court issued an order dismissing the Federal Derivative Action with prejudice. In accordance with the terms of the settlement, and in exchange for a release of all claims by the plaintiffs, among others, we have agreed to adopt certain corporate governance measures and cause our insurers to pay the plaintiffs attorneys a total of $1.1 million.

Item 4. Mine Safety Disclosures.

Not applicable.

Table of Contents

PART II

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

Market information

Our common stock is listed on the NASDAQ Global Select Market under the symbol ARNA. The following table sets forth, for the periods indicated, the high and low sale prices for our common stock as reported by the NASDAQ Global Select Market.

	High	Low
Year ended December 31, 2010		
First Quarter	$ 3.85	$ 2.89
Second Quarter	$ 3.48	$ 2.70
Third Quarter	$ 8.00	$ 1.51
Fourth Quarter	$ 2.38	$ 1.26

	High	Low
Year ended December 31, 2011		
First Quarter	$ 2.23	$ 1.37
Second Quarter	$ 1.68	$ 1.21
Third Quarter	$ 1.75	$ 1.24
Fourth Quarter	$ 2.62	$ 1.23

Holders

As of March 9, 2012, there were approximately 132 stockholders of record of our common stock, one of which is Cede & Co., a nominee for Depository Trust Company, or DTC. Shares of common stock that are held by financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC, and are considered to be held of record by Cede & Co. as one stockholder.

Dividends

We have never paid cash dividends on our capital stock, and we are prohibited from doing so under the Facility Agreement, dated June 17, 2009, as amended, between us and Deerfield Private Design Fund, L.P., Deerfield Private Design International, L.P., Deerfield Partners, L.P., Deerfield International Limited, Deerfield Special Situations Fund, L.P., and Deerfield Special Situations Fund International Limited. We anticipate that we will retain earnings, if any, to support operations and finance the growth and development of our business and, therefore, do not expect to pay cash dividends in the foreseeable future.

Table of Contents

Item 6. Selected Financial Data.

The following Selected Financial Data should be read in conjunction with Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations and Item 8. Financial Statements and Supplementary Data included below in this Annual Report on Form 10-K.

	Years ended December 31,				
	2011	2010	2009	2008	2007
	(In thousands, except share and per share data)				
Revenues					
Manufacturing services	$ 5,338	$ 7,057	$ 6,579	$ 7,434	$ 0
Collaborative agreements	7,381	9,556	3,808	2,375	19,332
Total revenues	12,719	16,613	10,387	9,809	19,332
Operating Expenses					
Cost of manufacturing services	8,100	7,414	6,536	8,515	0
Research and development	58,706	75,459	110,159	204,374	149,524
General and administrative	24,248	27,936	25,247	30,535	26,571
Restructuring charges	3,467	0	3,324	0	0
Amortization of acquired technology and other intangibles	997	2,159	3,508	2,314	1,537
Total operating expenses	95,518	112,968	148,774	245,738	177,632
Interest and other income (expense), net	(26,425)	(28,179)	(14,817)	(1,644)	15,134
Net loss	(109,224)	(124,534)	(153,204)	(237,573)	(143,166)
Deemed dividends related to beneficial conversion feature of convertible preferred stock	(2,260)	0	0	0	0
Dividends on redeemable convertible preferred stock	0	0	0	(1,912)	(2,114)
Net loss allocable to common stockholders	$ (111,484)	$ (124,534)	$ (153,204)	$ (239,485)	$ (145,280)
Net loss per share allocable to common stockholders, basic and diluted	$ (0.80)	$ (1.14)	$ (1.82)	$ (3.24)	$ (2.31)
Shares used in calculating net loss per share allocable to common stockholders, basic and diluted	139,170,725	109,573,177	84,341,362	73,840,716	62,782,850

	As of December 31,				
	2011	2010	2009	2008	2007
	(In thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$ 57,632	$ 150,669	$ 94,733	$ 73,329	$ 386,989
Short-term investments, available-for-sale	0	0	20,716	36,800	11,196
Total assets	157,129	266,362	236,278	241,331	487,506
Total deferred revenues	44,682	48,077	4,086	4,049	4,049
Total lease financing obligations	75,771	76,769	77,486	63,067	62,307
Total derivative liabilities	1,617	2,271	6,642	0	0
Total notes payable	14,698	48,138	57,049	8,567	0
Redeemable convertible preferred stock	0	0	0	0	53,922
Accumulated deficit	(1,079,751)	(970,527)	(845,993)	(700,342)	(479,451)
Total stockholders equity	10,562	80,015	74,567	117,632	336,377

57

Table of Contents

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

You should read the following discussion and analysis in conjunction with Item 8. Financial Statements and Supplementary Data included below in this Annual Report on Form 10-K, or Annual Report. Operating results are not necessarily indicative of results that may occur in future periods.

This discussion and analysis contains forward-looking statements that involve a number of risks, uncertainties and assumptions. Actual events or results may differ materially from our expectations. Important factors that could cause actual results to differ materially from those stated or implied by our forward-looking statements include, but are not limited to, those set forth in Item 1A. Risk Factors in this Annual Report. All forward-looking statements included in this Annual Report are based on information available to us as of the time we file this Annual Report and, except as required by law, we undertake no obligation to update publicly or revise any forward-looking statements.

OVERVIEW AND RECENT DEVELOPMENTS

We have incurred net losses of $1.1 billion from our inception in April 1997 through December 31, 2011, and expect to incur significant net losses in the future as we seek regulatory approval of our most advanced drug candidate, lorcaserin, and advance certain research and development programs. Arena Pharmaceuticals GmbH, or Arena GmbH, our wholly owned subsidiary, has granted Eisai Inc., or Eisai, exclusive rights to market and distribute lorcaserin in the United States and its territories and possessions subject to US Food and Drug Administration, or FDA, approval of our New Drug Application, or NDA, for lorcaserin.

We have obtained cash and funded our operations to date primarily through the sale of common and preferred stock, the issuance of debt and related financial instruments, payments from collaborators and sale leaseback transactions. From our inception through December 31, 2011, we have generated $1.5 billion in cash from these sources, of which $1.1 billion was through sales of equity, $232.7 million was through payments from collaborators, $96.9 million was through the issuance of debt and related financial instruments to certain Deerfield entities and $77.1 million was from sale and leaseback transactions. At December 31, 2011, we had $57.6 million in cash and cash equivalents. Subsequent to December 31, 2011, we raised net proceeds totaling $52.6 million from two equity financings. We will continue to be opportunistic in our efforts to obtain cash, and expect to evaluate various financing alternatives on an ongoing basis.

Recent and 2011 highlights include:

In March 2012, filed a marketing authorization application for lorcaserin through the centralized procedure with the European Medicines Agency, or EMA. We were previously assigned the UK s Medicines and Healthcare products Regulatory Agency, or MHRA, as our application Rapporteur, and Sweden s Medical Products Agency, or MPA, as Co-rapporteur. We expect the EMA will accept the MAA later this month and confirm the filing is sufficient to permit a substantive review.

In December 2011, resubmitted the lorcaserin NDA with the FDA. The FDA has accepted the resubmission for filing and review, assigned a new Prescription Drug User Fee Act, or PDUFA, target date of June 27, 2012, and notified us that an Endocrinologic and Metabolic Drugs Advisory Committee meeting to discuss the resubmission is tentatively scheduled on May 10, 2012. The resubmission includes data and analyses that were not incorporated in the original NDA, including the results of our Phase 3 BLOOM-DM (Behavioral modification and Lorcaserin for Overweight and Obesity Management in Diabetes Mellitus) clinical trial, which evaluated lorcaserin for weight loss in patients with type 2 diabetes and was completed after we filed the original NDA. The new information also includes data and analyses from activities intended to address tumors observed in a two-year lorcaserin rat carcinogenicity study, as well as cell culture experiments intended to further refine serotonin subtype 2 receptor activity and rat studies designed to further assess abuse potential.

In July 2011, announced results from a Phase 1 clinical trial of APD811, an orally available agonist of the prostacyclin receptor that is intended for the treatment of pulmonary arterial hypertension. The randomized, double-blind and placebo-controlled trial evaluated the safety, tolerability and pharmacokinetics of single doses of APD811.

Table of Contents

We refer you to our previously filed SEC reports for a more complete discussion of these and related developments.

The drug development and approval process is long, uncertain and expensive, and our ability to achieve our goals, including obtaining regulatory approval for lorcaserin and other of our drug candidates, depends on numerous factors, many of which we do not control. We will continue to seek to balance the high costs of research, development and manufacturing against the need to sustain our operations long enough to commercialize the results of our efforts. To date, we have not generated any revenues from the sale of any of our drug candidates. We do not expect any of our drug candidates to be commercially available until at least late in 2012, if ever. We expect to continue to incur substantial losses, and do not expect to generate positive operating cash flows, for at least the short term. Accordingly, we will need to raise additional funds through equity, debt or other financing transactions or receive additional funds under our marketing and supply agreement with Eisai or under future collaborative agreements for one or more of our drug candidates or programs. We will continue to use substantial cash as we seek regulatory approval of lorcaserin, continue advancing certain earlier-stage research and development programs, continue maintaining our manufacturing capabilities and continue incurring general and administrative expenses.

SUMMARY OF REVENUES AND EXPENSES

We are providing the following summary of our revenues, research and development expenses and general and administrative expenses to supplement the more detailed discussion below. The dollar values in the following tables are in millions.

Revenues

	Years ended December 31,			% change from	% change from
Source of revenue	**2011**	**2010**	**2009**	**2010 to 2011**	**2009 to 2010**
Manufacturing services agreement	$ 5.3	$ 7.1	$ 6.6	(24.4)%	7.3%
Collaborative agreements	7.4	9.5	3.8	(22.8)%	151.0%
Total revenues	$ 12.7	$ 16.6	$ 10.4	(23.5)%	60.0%

Research and development expenses

	Years ended December 31,			% change from	% change from
Type of expense	**2011**	**2010**	**2009**	**2010 to 2011**	**2009 to 2010**
Salary and other personnel costs (excluding non-cash share-based compensation)	$ 24.9	$ 33.5	$ 35.5	(25.7)%	(5.4)%
Facility and equipment costs	12.0	14.2	15.4	(15.4)%	(7.5)%
Internal research and development manufacturing costs for Swiss facility	7.2	5.4	4.3	34.3%	24.3%
External clinical and preclinical study fees and expenses, including external manufacturing costs	6.6	10.6	41.4	(38.0)%	(74.4)%
Research supplies	3.5	3.9	4.6	(11.7)%	(15.1)%
Non-cash share-based compensation	1.9	3.4	4.1	(42.5)%	(16.6)%
Other	2.6	4.5	4.9	(42.0)%	(9.6)%
Total research and development expenses	$ 58.7	$ 75.5	$ 110.2	(22.2)%	(31.5)%

Table of Contents

General and administrative expenses

Type of expense	Years ended December 31, 2011	2010	2009	% change from 2010 to 2011	% change from 2009 to 2010
Salary and other personnel costs (excluding non-cash share-based compensation)	$ 9.1	$ 9.9	$ 9.1	(8.4)%	9.0%
Legal, accounting and other professional fees	7.6	9.7	7.9	(21.6)%	21.7%
Facility and equipment costs	4.2	3.8	3.5	12.1%	6.5%
Non-cash share-based compensation	1.7	2.1	2.8	(19.1)%	(24.0)%
Other	1.6	2.4	1.9	(33.5)%	30.6%
Total general and administrative expenses	$ 24.2	$ 27.9	$ 25.2	(13.2)%	10.7%

YEAR ENDED DECEMBER 31, 2011, COMPARED TO YEAR ENDED DECEMBER 31, 2010

Revenues. We recognized revenues of $12.7 million for the year ended December 31, 2011, compared to $16.6 million for the year ended December 31, 2010. Our revenues for the year ended December 31, 2011, included (i) $5.3 million under our amended manufacturing services agreement with Siegfried Ltd, or Siegfried, (ii) $3.5 million from amortization of the $50.0 million non-refundable, upfront payment we received in July 2010 from Eisai, (iii) $3.3 million under our marketing and supply agreement with Eisai in reimbursements for additional lorcaserin development work and (iv) $0.5 million, primarily for patent activities, related to our former collaboration with Ortho-McNeil-Janssen Pharmaceuticals, Inc., or Ortho-McNeil-Janssen, which was terminated effective December 28, 2010. Our revenues for the year ended December 31, 2010, included (i) $7.1 million under our manufacturing services agreement with Siegfried, (ii) $4.0 million of deferred non-cash revenues recognized from our license agreement with TaiGen Biotechnology Co., Ltd., or TaiGen, (iii) $3.2 million for patent activities, primarily related to our former collaboration with Ortho-McNeil-Janssen, (iv) $1.9 million from amortization of the $50.0 million non-refundable, upfront payment we received from Eisai and (v) $0.4 million related to a license agreement with GlaxoSmithKline LLC and GlaxoSmithKline Research & Development Limited, or collectively GSK, for their use of our Melanophore screening technology. The $1.8 million decrease in manufacturing services revenues comparing 2011 to 2010 is comprised of $1.4 million related to reductions in sales prices agreed to in the amended agreements with Siegfried, with the balance related to changes in volume and product mix.

When collaborators pay us before revenues are earned, we record such payments as deferred revenues until earned. As of December 31, 2011, we had a total of $44.7 million in deferred revenues. All of our deferred revenues are attributable to our marketing and supply agreement with Eisai and are being recognized as revenue ratably over the period in which we expect to have significant involvement. At inception of this agreement, we estimated the period of significant involvement at 13 years and, in 2011, based on revised expectations of the timing of regulatory approval for lorcaserin, if ever, we re-assessed such period to be 14.5 years. Absent any new collaborations, we expect our 2012 revenues will primarily consist of amortization of the $50.0 million non-refundable, upfront payment we received from Eisai and manufacturing services revenue from Siegfried. We expect the revenues we recognize in 2012 under this manufacturing services agreement will be lower than in 2011 due to further pricing discounts and decreased units of drug product manufactured under the amended agreements with Siegfried. If lorcaserin is approved for US marketing, and upon the delivery of product supply for launch, we will also receive a milestone payment from Eisai of $40.0 million or $60.0 million, depending on the approved drug label. In addition, if the FDA requires any development work following US approval of lorcaserin, Eisai will reimburse us for 90% of such expenses, which will be recognized as revenues.

Revenues for milestones that may be achieved in the future are difficult to predict, and our revenues may vary significantly from quarter to quarter and year to year. We expect that any significant revenues for at least the short term will depend on whether and when we enter into any agreements to commercialize lorcaserin outside of the United States, collaborate on or license any of our other drug candidates or intellectual property, and receive US marketing approval for lorcaserin, as well as revenues under our manufacturing services agreement with Siegfried.

Table of Contents

Cost of manufacturing services. Cost of manufacturing services is comprised of direct costs associated with manufacturing drug products for Siegfried under our manufacturing services agreement, including related salaries, other personnel costs and machinery depreciation costs. We recognized cost of manufacturing services of $8.1 million and $7.4 million for the years ended December 31, 2011, and 2010, respectively. The amount recognized in 2011 included $1.2 million representing the estimated contract loss provision for services expected to be rendered in 2012 under the amended manufacturing services agreement with Siegfried.

Research and development expenses. Research and development expenses, which account for the majority of our expenses, consist primarily of salaries and other personnel costs, clinical trial costs (including payments to contract research organizations, or CROs), preclinical study fees, manufacturing costs for non-commercial products, costs for the development of our earlier-stage programs and technologies, research supply costs and facility and equipment costs. We expense research and development costs as they are incurred when these expenditures have no alternative future uses. We generally do not track our earlier-stage, internal research and development expenses by project; rather, we track such expenses by the type of cost incurred.

Research and development expenses decreased by $16.8 million to $58.7 million for the year ended December 31, 2011, from $75.5 million for the year ended December 31, 2010. This was primarily due to decreases of (i) $8.6 million in salary and other personnel costs as a result of a 2011 reduction of our US workforce of approximately 25%, or 65 employees, which we refer to as our 2011 workforce reduction, (ii) $4.0 million in external clinical and preclinical study fees and expenses, including manufacturing costs, primarily due to completing our Phase 3 clinical trials for lorcaserin and (iii) $2.2 million in facility and equipment costs, primarily due to lower depreciation expense. These decreases were partially offset by a $1.8 million increase in internal research and development manufacturing costs at our Swiss drug product manufacturing facility, due to decreased units of drug product manufactured under the amended agreements with Siegfried that resulted in an increase in the unused manufacturing capacity. Our internal research and development manufacturing costs were primarily comprised of unused manufacturing capacity and, to a lesser extent, costs related to lorcaserin activities. We expect to continue to incur substantial research and development expenses in 2012. We also expect to incur manufacturing costs for lorcaserin and that such costs will be substantial if the FDA approves our NDA for lorcaserin. However, if the NDA for lorcaserin is approved, we will begin to record our lorcaserin manufacturing costs as cost of goods sold as the related inventory is sold, instead of as part of our research and development expenses. Pre-launch inventory manufactured is being charged to expense until we believe that the likelihood of approval is such that we should begin recording the production costs related to the inventory produced as an asset.

Included in the $6.6 million total external clinical and preclinical study fees and expenses noted in the table above for the year ended December 31, 2011, was $3.6 million related to our lorcaserin program, $1.7 million related to our APD811 program for the potential treatment of pulmonary arterial hypertension, $0.7 million related to our APD334 program for the potential treatment of autoimmune diseases, and $0.2 million related to our GPR119 program for the potential treatment of type 2 diabetes. Included in the $10.6 million total external clinical and preclinical study fees and expenses noted in the table above for the year ended December 31, 2010, was $7.5 million related to our lorcaserin program, $1.4 million related to our APD811 program, $1.1 million related to our APD334 program and $0.5 million related to APD916 (which we formerly studied for the potential treatment of narcolepsy with cataplexy and have since abandoned).

Cumulatively through December 31, 2011, we have recognized external clinical and preclinical study fees and other related expenses of $258.4 million for lorcaserin, $43.7 million for nelotanserin (formerly APD125), $7.3 million for temanogrel (formerly APD791), $4.5 million for APD811, $2.8 million for APD916 and $1.7 million for APD334. We previously studied nelotanserin for insomnia and temanogrel for the potential treatment of arterial thrombosis and other related conditions. While expenditures on current and future clinical development programs are expected to be substantial, they are subject to many uncertainties, including whether we have adequate funds and develop our drug candidates with one or more collaborators or independently. As a result of such uncertainties, we cannot predict with any significant degree of certainty the duration and

Table of Contents

completion costs of our research and development projects or whether, when and to what extent we will generate revenues from the commercialization and sale of any of our drug candidates. The duration and cost of clinical trials may vary significantly over the life of a project as a result of unanticipated events arising during clinical development and a variety of factors, including:

- the nature and number of trials and studies in a clinical program;
- the number of patients who participate in the trials;
- the number of sites included in the trials;
- the rates of patient recruitment and enrollment;
- the duration of patient treatment and follow-up;
- the costs of manufacturing drug candidates; and
- the costs, requirements, timing of, and the ability to secure regulatory approvals.

General and administrative expenses. General and administrative expenses decreased by $3.7 million to $24.2 million for the year ended December 31, 2011, from $27.9 million for the year ended December 31, 2010. This was primarily due to decreases of (i) $2.1 million in legal fees, including litigation and patent legal fees, (ii) $0.8 million in salary and other personnel costs and (iii) $0.7 million in marketing research expenses. We expect that our 2012 general and administrative expenses will be lower than in 2011, primarily as a result of lower salary and personnel costs and patent legal fees.

Restructuring charges. We recognized $3.5 million of restructuring charges for the year ended December 31, 2011, in connection with one-time employee termination costs, including severance and other benefits related to our 2011 workforce reduction, compared to no restructuring charges in the year ended December 31, 2010.

Amortization of acquired technology and other intangibles. We recognized $1.0 million for amortization of acquired technology and other intangibles for the year ended December 31, 2011, compared to $2.2 million for the year ended December 31, 2010. This $1.2 million decrease was primarily due to reaching the end of the 10-year estimated useful life of the Melanophore screening technology in the first quarter of 2011. The remaining amortization expense relates to the manufacturing facility production licenses we acquired in January 2008, which are being amortized over their estimated useful life of 20 years. Using the exchange rate in effect on December 31, 2011, we expect to record amortization expense of $0.7 million per year through 2027 for the manufacturing facility production licenses.

Interest and other expense, net. Interest and other expense, net, decreased by $1.8 million to $26.4 million for the year ended December 31, 2011, from $28.2 million for the year ended December 31, 2010. This was primarily due to (i) a $7.4 million decrease in interest expense primarily related to the Deerfield loan as a result of principal repayments totaling $67.7 million that we made in 2010 and early 2011 and (ii) a $1.8 million reduction in the non-cash loss on extinguishment of debt. These decreases were partially offset by a (i) $4.3 million reduction in the non-cash gain from revaluation of our derivative liabilities and (ii) a $2.0 million write-down of the balance of our investment in TaiGen. The interest expense recognized in 2010 included the non-cash correction of prior period errors which resulted in a $3.0 million decrease to interest expense.

We recognized interest expense of $6.6 million related to the Deerfield loan for the year ended December 31, 2011, which included $2.3 million we paid Deerfield in cash. For the year ended December 31, 2010, we recognized interest expense of $14.0 million on the Deerfield loan, which included $6.1 million we paid Deerfield in cash. Although the debt prepayments we made have reduced our future interest payments, we expect that our interest expense will continue to be substantial due to both the remaining principal balance and accretion on the Deerfield loan, as well

as payments on our lease financing obligations. At December 31, 2011, we expect interest expense of $2.6 million to be paid in cash over the remaining term of the Deerfield loan.

Table of Contents

Deemed dividend related to beneficial conversion feature of convertible preferred stock. We recorded a deemed dividend of $2.3 million for the year ended December 31, 2011, upon the issuance of our then-outstanding Series C Convertible Preferred Stock, or Series C Preferred, related to the beneficial conversion feature of the Series C Preferred. We did not record any such dividends for the year ended December 31, 2010.

YEAR ENDED DECEMBER 31, 2010, COMPARED TO YEAR ENDED DECEMBER 31, 2009

Revenues. We recognized revenues of $16.6 million for the year ended December 31, 2010, compared to $10.4 million for the year ended December 31, 2009. Our revenues for the year ended December 31, 2010, included (i) $7.1 million under our manufacturing services agreement with Siegfried, (ii) $4.0 million of deferred non-cash revenues recognized from our license agreement with TaiGen, (iii) $3.2 million for patent activities, primarily related to our former collaboration with Ortho-McNeil-Janssen, (iv) $1.9 million from amortization of the $50.0 million non-refundable, upfront payment we received from Eisai and (v) $0.4 million related to a technology license agreement with GSK. Our revenues for the year ended December 31, 2009, included $6.6 million under our manufacturing services agreement with Siegfried and $3.8 million for patent activities and additional sponsored research from our former collaborations with Ortho-McNeil-Janssen and Merck & Co., Inc., or Merck.

Cost of manufacturing services. We recognized cost of manufacturing services of $7.4 million and $6.5 million for the years ended December 31, 2010, and 2009, respectively.

Research and development expenses. Research and development expenses decreased by $34.7 million to $75.5 million for the year ended December 31, 2010, from $110.2 million for the year ended December 31, 2009. This difference was primarily due to decreases of (i) $30.8 million in external clinical and preclinical study fees and expenses, including manufacturing costs, primarily due to completing our lorcaserin Phase 3 clinical trials, (ii) $2.0 million in salary and other personnel costs as a result of a 2009 reduction of our US workforce of approximately 31%, or 130 employees, which we refer to as our 2009 workforce reduction, and (iii) $1.2 million in facility and equipment costs. Included in the $10.6 million total external clinical and preclinical study fees and expenses noted in the table above for the year ended December 31, 2010, was $7.5 million related to our lorcaserin program, $1.4 million related to our APD811 program, $1.1 million related to our APD334 program and $0.5 million related to APD916. Included in the $41.4 million total external clinical and preclinical study fees and expenses noted in the table above for the year ended December 31, 2009, was $38.9 million related to our lorcaserin program, $1.3 million related to our APD811 program and $0.5 million related to nelotanserin.

General and administrative expenses. General and administrative expenses increased by $2.7 million to $27.9 million for the year ended December 31, 2010, from $25.2 million for the year ended December 31, 2009. This was primarily due to increases of (i) $1.7 million in legal fees, including litigation and patent legal fees, (ii) $0.8 million in salary and other personnel costs and (iii) $0.7 million in non-cash share-based compensation.

Restructuring charges. We recognized no restructuring charge for the year ended December 31, 2010, compared to $3.3 million for the year ended December 31, 2009, which was in connection with our 2009 workforce reduction.

Amortization of acquired technology and other intangibles. We recognized $2.2 million for amortization of acquired technology and other intangibles for the year ended December 31, 2010, compared to $3.5 million for the year ended December 31, 2009. This decrease was primarily due to the workforce we acquired from Siegfried in January 2008, which was amortized over its estimated benefit of two years through the end of 2009.

Interest and other expense, net. Interest and other expense, net, increased by $13.4 million to $28.2 million for the year ended December 31, 2010, from $14.8 million for the year ended December 31, 2009. This increase was primarily due to increases of (i) $9.9 million in non-cash loss on extinguishment of debt and (ii) $3.0 million in interest expense related to the loan we received from Deerfield in July 2009. This increase was partially offset by (i) a $1.0 million decrease in the non-cash gain from revaluation of our derivative liabilities and (ii) a $0.9 million gain on investments.

Table of Contents

LIQUIDITY AND CAPITAL RESOURCES

We have accumulated a large deficit since inception that has primarily resulted from the significant research and development expenditures we have made in seeking to identify and validate new drug targets and develop compounds that could become marketed drugs. We expect that our losses and operating expenses will continue to be substantial, even if we are successful in advancing our most advanced drug candidate, lorcaserin, including under our marketing and supply agreement with Eisai, or our other compounds and drug candidates, with one or more collaborators or independently.

Short term

As of December 31, 2011, we had $57.6 million in cash and cash equivalents. In March 2012, we received net proceeds of $24.7 million from the sale of common shares under an equity line of credit agreement with Azimuth Opportunity, L.P. In January 2012, we received net proceeds of $27.9 million from the sale of common and preferred shares and a warrant exchange with certain Deerfield entities, after deducting the $5.0 million of loan principal, originally scheduled to be repaid in June 2013, we prepaid to Deerfield. We believe our cash and cash equivalents will be sufficient to fund our operations for at least the next 12 months. Other potential sources of liquidity in the short term include (i) entering into new collaborative, licensing or commercial agreements for one or more of our drug candidates or programs or our patent portfolios, (ii) equity, debt or other financing, (iii) the sale of facilities or other assets we own and (iv) payments from current collaborators.

To date, we have obtained cash and funded our operations primarily through equity financings, the issuance of debt and related financial instruments, payments from collaborators and sale leaseback transactions. We will continue to be opportunistic in our efforts to obtain cash, and expect to evaluate various funding alternatives on an ongoing basis. There is no guarantee that additional funding will be available or that, if available, such funding will be adequate or available on terms that we or our stockholders view as favorable.

In December 2011, we resubmitted the NDA for lorcaserin, and the FDA has assigned a new PDUFA target date of June 27, 2012, for review of the application. Our marketing and supply agreement with Eisai provides that Eisai and we will share equally the cost of certain additional development work required by the FDA prior to US approval of lorcaserin and that Eisai will pay 90% of any required post-approval development work. We are also seeking regulatory approval for lorcaserin in the European Union. We expect to continue to incur expenses for lorcaserin development activities in 2012. If we receive regulatory approval of lorcaserin in the United States, and upon the delivery of product supply for launch, we will receive a milestone payment from Eisai of $40.0 million or $60.0 million, depending on the approved drug label.

In January 2008, Arena GmbH acquired from Siegfried certain drug product manufacturing assets under an asset purchase agreement, and, in connection with such purchase, also entered into a manufacturing services agreement and a technical services agreement with Siegfried. In October 2011, Arena GmbH paid Siegfried the final payment under the asset purchase agreement, as amended. Under the agreements, as amended, Siegfried agreed (i) to use its reasonable commercial effort to order from Arena GmbH 200 million units of drug product for manufacture by Arena GmbH from January 1, 2012, to June 30, 2012, (ii) to order 80% of its requirements of certain drug products from Arena GmbH for the calendar year 2012 at agreed upon sales prices, which are generally below Arena GmbH s cost and reduced from prior years and (iii) to reduce its fees for providing Arena GmbH with certain technical and business services. We expect the cash we receive from Siegfried in 2012 will be lower than in previous years due to decreases in drug product prices and units manufactured.

We are continuing to fund activities in support of obtaining regulatory approval of lorcaserin, and, at the same time, selectively advancing certain of our research and development programs. If our NDA is approved

Table of Contents

on or near the PDUFA target date of June 27, 2012, we expect that our research and development expenditures will be higher in 2012 than in 2011 as we continue to selectively advance certain of our research and development programs, as well as incur other development expenses for lorcaserin. If our NDA is not approved on or near the PDUFA date, we expect to postpone or reduce our research, development, manufacturing or other expenses.

We will continue to monitor and evaluate the level of our research, development and manufacturing expenditures, and may further adjust such expenditures based upon a variety of factors, such as our available cash, our ability to obtain additional cash, the results and progress in our lorcaserin and earlier-stage programs, the time and costs related to clinical trials, nonclinical studies and regulatory decisions, as well as the US and global economic environment.

Long term

We will need substantial cash to achieve our objectives of discovering, developing and commercializing drugs, which typically take many years and potentially several hundreds of millions of dollars to develop. We do not have adequate internal liquidity to meet these objectives in the long term. To do so, we will need to obtain significant funds under our marketing and supply agreement with Eisai, under new collaborative, licensing or commercial agreements for our drug candidates and programs and patent portfolios, or from other potential sources of liquidity, which may include the public and private financial markets.

With respect to lorcaserin, we expect to continue to incur substantial costs, including manufacturing costs, prior to and after we receive marketing approval for lorcaserin, if ever. If lorcaserin is approved for marketing in the United States, we expect Eisai to commercialize lorcaserin under our marketing and supply agreement. With respect to commercializing lorcaserin outside of the United States, we will need additional funds or a collaborative or other agreement with one or more pharmaceutical companies.

In addition to the public and private financial markets, potential sources of liquidity in the long term include revenues based on Eisai s annual net sales of lorcaserin and milestone and other payments under our marketing and supply agreement, if we receive marketing approval, as well as milestone and royalty payments from future collaborators or licensees and revenues from sales of any drugs we commercialize on our own. The length of time that our current cash and cash equivalents and any available borrowings will sustain our operations will be based on, among other things, our prioritization decisions regarding funding for our programs, progress in our clinical and earlier-stage programs, the time and costs related to current and future clinical trials, nonclinical studies and regulatory decisions, our research, development, manufacturing and commercialization costs (including personnel costs), our progress in any programs under collaborations, costs associated with intellectual property, our capital expenditures, and costs associated with securing any in-licensing opportunities. Any significant shortfall in funding may result in us further reducing our development and/or research activities, which, in turn, would affect our development pipeline and ability to obtain cash in the future. If we determine it is advisable to raise additional funds, we do not know whether adequate funding will be available to us or, if available, that such funding will be available on acceptable terms.

Although our December 31, 2011, condensed consolidated balance sheet reflects a total balance of $14.7 million for our note payable to Deerfield due to the requirement to separately value the components of the note, warrants and related financial instruments, the principal balance outstanding on this loan was $22.3 million at December 31, 2011. As part of our January 2012 equity financing with Deerfield, we prepaid $5.0 million of the loan principal, resulting in a remaining principal balance of $17.3 million that is due in June 2013. At any time we may prepay any or all of the outstanding principal at par.

Table of Contents

We evaluate from time to time potential acquisitions and in-licensing and other opportunities. Any such transaction may impact our liquidity as well as affect our expenses if, for example, our operating expenses increase as a result of such license or acquisition or we use our cash to finance the license or acquisition.

Sources and Uses of Our Cash

Net cash used in operating activities increased by $26.0 million to $78.3 million in 2011. This was primarily due to changes in our operating assets and liabilities. Net cash used in operating activities decreased by $103.6 million in 2010 to $52.3 million. This decrease resulted from our lower net loss from 2009 to 2010, primarily due to completing our BLOOM (Behavioral modification and Lorcaserin for Overweight and Obesity Management) and BLOSSOM (Behavioral modification and LOrcaserin Second Study for Obesity Management) Phase 3 clinical trials for lorcaserin in 2009, as well as changes in our operating assets and liabilities, primarily receipt of the $50.0 million payment from Eisai. Net cash used in operating activities decreased by $35.5 million to $155.9 million in 2009. This decrease resulted from our lower net loss from 2008 to 2009, primarily due to completing BLOOM and BLOSSOM in 2009, offset by changes in our operating assets and liabilities.

Net cash of $0.7 million was used in investing activities in 2011, primarily for purchases of equipment and improvements to our facilities. Net cash of $16.3 million was provided by investing activities in 2010, and was primarily attributable to net proceeds of $20.4 million from our short-term investments, which were partially offset by $4.2 million used for equipment and improvements to our facilities, primarily for our manufacturing facility in Switzerland. Net cash of $11.4 million was provided by investing activities in 2009, and was primarily attributable to net proceeds of $16.3 million from our short-term investments, which were partially offset by $5.3 million used for equipment and improvements to our facilities. We expect that our 2012 capital expenditures will increase over the 2011 amount due to deferments of capital spending in previous years.

Net cash of $14.2 million was used in financing activities in 2011, primarily due to principal repayments to Deerfield of $20.0 million and $17.7 million in January 2011 and March 2011, respectively, and $11.1 million paid to Siegfried in 2011. These repayments were partially offset by net proceeds of $35.3 million from the sale of 12,150,000 shares of common stock and 12,150 shares of then-outstanding Series C Preferred to Deerfield in March 2011. Net cash of $89.7 million was provided by financing activities in 2010, primarily due to net proceeds of $35.5 million from the sale of 11.0 million shares of common stock and the exchange of warrants to Deerfield, net proceeds of $30.0 million, after the $30.0 million principal prepayment, from the sale of approximately 9.0 million shares of common stock to Deerfield, and net proceeds of $24.2 million from the sale of approximately 8.3 million shares of common stock under an equity financing commitment we had with Azimuth Opportunity Ltd., or Azimuth Ltd. Net cash of $166.7 million was provided by financing activities in 2009, and was primarily attributable to net financing proceeds of $96.9 million from the issuance of a note, warrants and related financial instruments to Deerfield, net proceeds of $49.7 million from the sale of 12.5 million shares of common stock, $15.0 million in reimbursements for improvements made to one of our leased facilities and net proceeds of $14.7 million from the sale of approximately 5.7 million shares of common stock under the equity financing commitment we had with Azimuth Ltd. Such proceeds were partially offset by the $10.0 million of principal we repaid to Deerfield in 2009.

Table of Contents

CONTRACTUAL OBLIGATIONS

The following table summarizes our contractual obligations as of December 31, 2011, in thousands:

		Payments due by period			
Contractual Obligations	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
Financing obligations	$ 137,021	$ 7,700	$ 17,417	$ 18,298	$ 93,606
Note payable to Deerfield	24,846	1,796	23,050	0	0
Purchase obligations	4,544	4,535	9	0	0
Operating leases	1,138	882	256	0	0
Total	$ 167,549	$ 14,913	$ 40,732	$ 18,298	$ 93,606

In December 2003, we completed the sale and leaseback of one of our properties for total consideration of $13.0 million, and, in May 2007, we completed the sale and leaseback of three of our properties and assigned an option to purchase a fourth property for total consideration of $50.1 million. Our option to repurchase these properties in the future is considered continued involvement under the applicable accounting rules and, therefore, we have applied the financing method which requires that the book value of the properties and related accumulated depreciation remain on our balance sheet with no sale recognized. Instead, the sales price of the properties is recorded as a financing obligation and a portion of each lease payment is recorded as interest expense. As of December 31, 2011, we expect interest expense over the term of these leases to total $71.2 million. We have included our lease obligations related to these properties in the above table as financing obligations. The aggregate residual value of the facilities at the end of the lease terms is $10.0 million.

In July 2009, we received net proceeds of $95.6 million from the issuance of a note, warrants and related financial instruments to Deerfield. At December 31, 2011, the outstanding principal balance on the Deerfield loan was $22.3 million. In January 2012, as part of a registered direct public offering to Deerfield, we prepaid $5.0 million of the loan principal that was originally scheduled to be repaid in June 2013, resulting in a remaining outstanding principal balance on the Deerfield loan of $17.3 million, which is due on June 17, 2013. At any time we may prepay any or all of the outstanding principal at par, and we may be required to make the remaining repayment earlier in connection with certain changes of control. Our consolidated balance sheet at December 31, 2011, reflects a balance of $14.7 million for our note payable to Deerfield due to the requirement to separately value the components of the note, warrants and related financial instruments. As of December 31, 2011, we expect interest expense of $2.6 million to be paid in cash over the remaining term of the loan. After deducting the $5.0 million of principal we prepaid in January 2012, the interest expense expected to be paid to Deerfield in cash over the remaining term of the loan decreased to $2.0 million.

Off-Balance Sheet Arrangements

We do not have, and did not have as of December 31, 2011, any off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

COLLABORATIONS

Eisai Inc.

In July 2010, our wholly owned subsidiary, Arena GmbH, entered into a marketing and supply agreement with Eisai. Under this agreement, Arena GmbH granted Eisai exclusive rights to commercialize lorcaserin in the United States and its territories and possessions subject to FDA approval of the lorcaserin NDA. As part of the agreement, Arena GmbH is obligated to manufacture lorcaserin at our facility in Switzerland, and Eisai is obligated to purchase all of its requirements of lorcaserin from Arena GmbH. Under this agreement, Eisai and we will share equally the development expenses for certain additional development work required by the FDA prior

Table of Contents

to approval of our NDA for lorcaserin. If the FDA requires development work following approval of lorcaserin, Eisai will bear 90% and we will bear 10% of such expenses, except that Eisai and we will share equally the costs of certain pediatric or adolescent studies.

We received a non-refundable, upfront payment of $50.0 million from Eisai, and, following US regulatory approval of lorcaserin and upon the delivery of product supply for launch, will receive an additional $40.0 million or $60.0 million, depending on the approved drug label. We recorded the $50.0 million upfront payment as deferred revenues and were originally recognizing it as revenue ratably over 13 years, which represented the period in which we expected to have significant involvement. In 2011, based on revised expectations of the timing of regulatory approval for lorcaserin, if ever, we re-assessed such period and are now recognizing this revenue ratably over 14.5 years. Accordingly, at December 31, 2011, our consolidated balance sheet included $3.5 million and $41.2 million for the current and non-current portion, respectively, of such deferred revenues.

From the inception of the Eisai collaboration through December 31, 2011, we have recognized revenues of $5.4 million from amortization of the $50.0 million upfront payment we received in 2010 and $3.3 million for reimbursement of additional development expenses. In 2011, we recognized revenues totaling $6.8 million, of which $3.5 million was from amortization of the upfront payment and $3.3 million was for reimbursement of additional development expenses. In 2010, we recognized revenues of $1.9 million, all of which was from amortization of the upfront payment.

We are obligated to sell lorcaserin to Eisai for a purchase price starting at 31.5% of Eisai s annual net product sales, and the purchase price will increase on a tiered basis to 36.5% on the portion of annual net product sales exceeding $750.0 million, subject to reduction in the event of generic competition and certain other circumstances. We are also eligible to receive up to an aggregate of $1.19 billion in purchase price adjustment payments based on Eisai s annual net sales of lorcaserin, with the first and last amounts payable with annual net sales of $250.0 million and $2.5 billion, respectively. Of these purchase price adjustment payments, Eisai is obligated to pay us a total of $330.0 million for annual net sales of up to $1.0 billion. We are also eligible to receive up to an additional $70.0 million in regulatory and development milestone payments.

Eisai and we have agreed to not commercialize outside of our marketing and supply agreement any product that competes with lorcaserin in the United States. Our marketing and supply agreement includes a stand-still provision limiting Eisai s ability to acquire our securities and assets.

Unless terminated earlier, our marketing and supply agreement will continue in effect until terminated by Eisai following the later of the expiration of all issued lorcaserin patents for the United States and 12 years after the first commercial sale of lorcaserin in the United States. Either party has the right to terminate this agreement early in certain circumstances, including (i) if the other party is in material breach, (ii) for certain commercialization concerns and (iii) for certain intellectual property infringement. Eisai also has the right to terminate this agreement early in certain circumstances, including (a) if sales of generic equivalents of lorcaserin in the United States exceed sales of lorcaserin in the United States (based on volume) and (b) if Eisai is acquired by a company that has a product that competes with lorcaserin.

Ortho-McNeil-Janssen Pharmaceuticals, Inc.

Our collaboration and license agreement with Ortho-McNeil-Janssen terminated in December 2010. Upon termination, all rights to the compounds developed under the collaboration, and related intellectual property and other information (including the investigational new drug, or IND, application relating to APD597) reverted to us. We entered into the collaboration in December 2004 to further develop compounds for the potential treatment of type 2 diabetes and other disorders. Under the collaboration, Ortho-McNeil-Janssen advanced APD668 and APD597, first and second generation GPR119 agonists for the treatment of type 2 diabetes, respectively, into clinical trials.

Table of Contents

From the inception of this collaboration through December 31, 2011, we received $27.5 million from Ortho-McNeil-Janssen in upfront and milestone payments, $7.2 million in research funding and $21.0 million for patent activities and additional sponsored research. In 2011, we recognized revenues of $0.5 million under this agreement, primarily for patent activities. In 2010, we recognized $3.2 million of revenues, all of which was reimbursement for patent activities. In 2009, we recognized revenues of $3.8 million, of which $3.7 million was reimbursement for patent activities and $0.1 million was for additional sponsored research.

CRITICAL ACCOUNTING POLICIES AND MANAGEMENT ESTIMATES

The SEC defines critical accounting policies as those that are, in management s view, important to the portrayal of our financial condition and results of operations and demanding of management s judgment. Our discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with US generally accepted accounting principles, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosures. We base our estimates on historical experience and on various assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ significantly from those estimates.

While our significant accounting policies are described in more detail in Note 1 to our consolidated financial statements, we believe the following accounting policies are critical in the preparation of our financial statements:

Revenue recognition. Our revenues to date have been generated primarily through collaborative agreements and a manufacturing services agreement. Our collaborative agreements can include multiple elements including licenses, research services and manufacturing. Consideration we receive under these arrangements may include upfront payments, research funding and milestone payments. For our multiple element transactions, if fair value exists for the undelivered and delivered elements whereby such elements have stand-alone value, we allocate the consideration to the elements based on their relative fair values. In cases where fair value exists for the undelivered elements but does not exist for the delivered elements, we use the residual method to allocate the arrangement consideration. In cases where fair value does not exist for the undelivered elements in an arrangement, we account for the transaction as a single unit of accounting. We typically defer non-refundable upfront payments under our collaborations and recognize them over the period in which we have significant involvement or perform services, using various factors specific to each collaboration. Amounts we receive for research funding for a specified number of full-time researchers are recognized as revenue as the services are performed. Revenue from a milestone payment is recognized when earned, as evidenced by acknowledgment from our collaborator, provided that (i) the milestone event is substantive and its achievability was not reasonably assured at the inception of the agreement, (ii) the milestone represents the culmination of an earnings process, (iii) the milestone payment is non-refundable and (iv) our performance obligations after the milestone achievement will continue to be funded by our collaborator at a level comparable to the level before the milestone achievement. If all of these criteria are not met, the milestone payment is recognized over the remaining minimum period of our performance obligations under the agreement. Any advance payments we receive in excess of amounts earned are classified as deferred revenues until earned.

We manufacture drug products under a manufacturing services agreement for a single customer, Siegfried. Upon Siegfried s acceptance of drug products manufactured by us, we recognize manufacturing services revenues at agreed upon prices for such drug products. We have also contracted with Siegfried for them to provide us with administrative and other services in exchange for a fee paid to Siegfried. We determined that we are receiving an identifiable benefit for these services from Siegfried, and are recording such fees in the operating expense section of our consolidated statement of operations.

Clinical trial expenses. We accrue clinical trial expenses based on work performed. In determining the amount to accrue, we rely on estimates of total costs incurred based on the enrollment of subjects, the completion

Table of Contents

of trials and other events. We follow this method because we believe reasonably dependable estimates of the costs applicable to various stages of a clinical trial can be made. However, the actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending on a number of factors. Differences between the actual clinical trial costs and the estimated clinical trial costs that we have accrued in any prior period are recognized in the subsequent period in which the actual costs become known. Historically, these differences have not been material; however, material differences could occur in the future.

Derivative liabilities. We account for our warrants and other derivative financial instruments as either equity or liabilities based upon the characteristics and provisions of each instrument. Warrants classified as equity are recorded as additional paid-in capital on our consolidated balance sheet and no further adjustments to their valuation are made. Some of our warrants were determined to be ineligible for equity classification because of provisions that may result in an adjustment to their exercise price. Warrants classified as derivative liabilities and other derivative financial instruments that require separate accounting as liabilities are recorded on our consolidated balance sheet at their fair value on the date of issuance and will be revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense. We estimate the fair value of these liabilities using option pricing models that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for expected volatility, expected life and risk-free interest rate. Changes in the assumptions used could have a material impact on the resulting fair value.

Share-based compensation. We recognize compensation expense for all of our share-based awards based on the grant-date fair value. We determine the grant-date fair value of share-based awards by using the Black-Scholes option pricing model, which is affected by our stock price on the date of grant, as well as assumptions regarding other subjective variables. These assumptions include, but are not limited to, our expected stock price volatility over the term of the awards, the risk-free interest rate and the expected term of awards. Changes in the assumptions used could have a material impact on the compensation expense we recognize.

Share-based compensation expense recognized is based on awards ultimately expected to vest, and, therefore, is reduced by expected forfeitures. We estimate forfeitures based upon historical forfeiture rates, and will adjust our estimate of forfeitures if actual forfeitures differ, or are expected to differ, from such estimates. Changes in estimated forfeitures will be recognized through a cumulative adjustment in the period of the change and will also impact the amount of stock-based compensation expense in future periods.

The above listing is not intended to be a comprehensive list of all of our accounting policies. In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP. See our audited consolidated financial statements and notes thereto included elsewhere in this Annual Report, which contain additional accounting policies and other disclosures required by GAAP.

NEW ACCOUNTING GUIDANCE

In June 2011, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, No. 2011-05, Presentation of Comprehensive Income, which amends the presentation requirements for comprehensive income. Under ASU 2011-05, we will have the option to present the components of net income and comprehensive income as one single continuous statement or in two separate but consecutive statements. The current option to present other comprehensive income in the statement of stockholders equity has been eliminated. ASU 2011-05 does not change the items that must be reported in comprehensive income. In December 2011, the FASB issued ASU 2011-12, Presentation of Comprehensive Income, which defers the requirement to present reclassification adjustments on the face of the financial statements for items that are reclassified from other comprehensive income to net income in the statement(s) where the components of net income and the components of other comprehensive income are presented. These amendments are effective for us in the first quarter of 2012, and the impact will be presentation only.

Table of Contents

In September 2011, the FASB issued ASU No. 2011-09, Disclosures about an Employer s Participation in a Multiemployer Plan, which requires additional disclosures about an employer s participation in a multiemployer pension plan. ASU 2011-09 does not change the current measurement and recognition guidance. This guidance is effective for us for the year ended December 31, 2011. The adoption of ASU 2011-09 did not have a material impact on our consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Our primary market risk exposure as it affects our cash equivalents is interest rate risk. Our management establishes and oversees the implementation of a board-approved policy covering our investments. We manage our interest rate risk in accordance with our investment guidelines which (i) emphasize preservation of principal over other portfolio considerations, (ii) require our investments to be placed in US government, agency and government-sponsored enterprise obligations and in corporate debt instruments that are rated investment grade, (iii) establish parameters for diversification in our investment portfolio, and (iv) require investments to be placed with maturities that maintain safety and liquidity. We target our portfolio to have an average duration of no more than two years, however, due to our financial condition and the current interest rate environment, our average duration is significantly shorter than two years. We do not invest in derivative instruments or auction rate securities, or any financial instruments for trading purposes. We monitor our interest rate risk on a periodic basis and we ensure that our cash equivalents and short-term investments are invested in accordance with our investments guidelines. We also monitor credit ratings and the duration of our financial investments, which we believe enhances the preservation of our capital.

We model interest rate exposure by a sensitivity analysis that assumes a hypothetical parallel shift downward in the US Treasury yield curve of 100 basis points. Under these assumptions, if the yield curve were to shift lower by 100 basis points from the level existing at December 31, 2011, we would expect future interest income from our portfolio to decline by approximately $0.6 million over the next 12 months. As of December 31, 2010, this same hypothetical reduction in interest rates would have resulted in a $1.5 million decline in interest income over the following 12 months. The model we use is not intended to forecast actual losses in interest income, but is used as a risk estimation and investment management tool. These hypothetical changes and assumptions are likely to be different from what actually occurs in the future. Furthermore, such computations do not incorporate any actions our management may take if the hypothetical interest rate changes actually occur. As a result, the impact on actual earnings may differ from those quantified herein.

Our note payable to Deerfield is not subject to market risk due to its fixed interest rate.

We have a wholly owned subsidiary in Switzerland, which exposes us to foreign currency exchange risk. The functional currency of our subsidiary in Switzerland is the Swiss franc. Accordingly, all assets and liabilities of our subsidiary are translated to US dollars based on the applicable exchange rate on the balance sheet date. Revenue and expense components are translated to US dollars at weighted-average exchange rates in effect during the period. Gains and losses resulting from foreign currency translation are reported as a separate component of accumulated other comprehensive gain or loss in the stockholders equity section of our consolidated balance sheets. Foreign currency transaction gains and losses, which have not been material for us to date, are included in our results of operations. We have not hedged exposures denominated in foreign currencies, but may do so in the future.

Table of Contents

Item 8. Financial Statements and Supplementary Data.

ARENA PHARMACEUTICALS, INC.

INDEX TO FINANCIAL STATEMENTS

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

Arena Pharmaceuticals, Inc.:

We have audited the accompanying consolidated balance sheets of Arena Pharmaceuticals, Inc. and subsidiaries (the Company) as of December 31, 2011 and 2010, and the related consolidated statements of operations, stockholders equity and comprehensive loss, and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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 the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Arena Pharmaceuticals, Inc. and subsidiaries as of December 31, 2011 and 2010, and the results of their operations and their cash flows for the years then ended, 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), Arena Pharmaceuticals, Inc. s internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 15, 2012, expressed an unqualified opinion on the effectiveness of the Company s internal control over financial reporting.

/s/ KPMG LLP

San Diego, California

March 15, 2012

Table of Contents

Report of Independent Registered Public Accounting Firm

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

We have audited the accompanying consolidated statements of operations, stockholders equity and comprehensive loss, and cash flows of Arena Pharmaceuticals, Inc. for the year ended December 31, 2009. 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 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 the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated results of Arena Pharmaceuticals, Inc. s operations and its cash flows for the year ended December 31, 2009, in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

San Diego, California

March 16, 2010

Table of Contents

ARENA PHARMACEUTICALS, INC.

Consolidated Balance Sheets

(In thousands, except share and per share data)

	December 31, 2011	December 31, 2010
Assets		
Current assets:		
Cash and cash equivalents	$ 57,632	$ 150,669
Accounts receivable	607	3,499
Prepaid expenses and other current assets	2,021	2,638
Total current assets	60,260	156,806
Land, property and equipment, net	82,066	91,533
Acquired technology and other intangibles, net	11,032	12,031
Other non-current assets	3,771	5,992
Total assets	$ 157,129	$ 266,362
Liabilities and Stockholders Equity		
Current liabilities:		
Accounts payable and other accrued liabilities	$ 4,864	$ 5,017
Accrued compensation	4,280	4,427
Accrued clinical and preclinical study fees	430	1,236
Current portion of deferred revenues	3,473	3,846
Current portion of derivative liabilities	0	607
Current portion of note payable to Siegfried	0	3,560
Current portion of note payable to Deerfield [1]	0	17,175
Current portion of lease financing obligations	1,313	998
Total current liabilities	14,360	36,866
Deferred rent	225	412
Deferred revenues, less current portion	41,209	44,231
Derivative liabilities, less current portion	1,617	1,664
Note payable to Siegfried, less current portion	0	6,801
Note payable to Deerfield, less current portion [1]	14,698	20,602
Lease financing obligations, less current portion	74,458	75,771
Commitments and contingencies and subsequent events		
Stockholders equity:		
Series A preferred stock, $.0001 par value: 350,000 shares authorized at December 31, 2011, and 2010; no shares issued and outstanding at December 31, 2011, and 2010	0	0
Common stock, $.0001 par value: 242,500,000 shares authorized at December 31, 2011, and 2010; 146,092,819 and 121,515,805 shares issued and outstanding at December 31, 2011, and 2010, respectively	15	12
Additional paid-in capital	1,108,625	1,068,634
Treasury stock, at cost 3,000,000 shares at December 31, 2011, and 2010	(23,070)	(23,070)
Accumulated other comprehensive income	4,743	4,966
Accumulated deficit	(1,079,751)	(970,527)
Total stockholders equity	10,562	80,015
Total liabilities and stockholders equity	$ 157,129	$ 266,362

[1] The outstanding principal balance of the note payable to Deerfield was $22.3 million and $60.0 million at December 31, 2011, and 2010, respectively. See Note 7.

See accompanying notes to consolidated financial statements.

Table of Contents

ARENA PHARMACEUTICALS, INC.

Consolidated Statements of Operations

(In thousands, except share and per share data)

	Years ended December 31,		
	2011	2010	2009
Revenues:			
Manufacturing services	$ 5,338	$ 7,057	$ 6,579
Collaborative agreements	7,381	9,556	3,808
Total revenues	12,719	16,613	10,387
Operating Expenses:			
Cost of manufacturing services	8,100	7,414	6,536
Research and development	58,706	75,459	110,159
General and administrative	24,248	27,936	25,247
Restructuring charges	3,467	0	3,324
Amortization of acquired technology and other intangibles	997	2,159	3,508
Total operating expenses	95,518	112,968	148,774
Loss from operations	(82,799)	(96,355)	(138,387)
Interest and Other Income (Expense):			
Interest income	117	469	689
Interest expense	(14,309)	(21,681)	(18,718)
Gain from valuation of derivative liabilities	47	4,371	5,418
Loss on extinguishment of debt	(10,514)	(12,354)	(2,479)
Other	(1,766)	1,016	273
Total interest and other expense, net	(26,425)	(28,179)	(14,817)
Net loss	(109,224)	(124,534)	(153,204)
Deemed dividend related to beneficial conversion feature of convertible preferred stock	(2,260)	0	0
Net loss allocable to common stockholders	$ (111,484)	$ (124,534)	$ (153,204)
Net loss per share allocable to common stockholders:			
Basic	$ (0.80)	$ (1.14)	$ (1.82)
Diluted	$ (0.80)	$ (1.14)	$ (1.82)
Shares used in calculating net loss per share allocable to common stockholders:			
Basic	139,170,725	109,573,177	84,341,362
Diluted	139,170,725	109,573,177	84,341,362

See accompanying notes to consolidated financial statements.

76

Table of Contents

ARENA PHARMACEUTICALS, INC.

Consolidated Statements of Stockholders Equity and Comprehensive Loss

(In thousands, except share data)

	Convertible Preferred Stock		Common Stock						
	Shares	Amount	Shares	Amount	Additional Paid-In Capital	Treasury Stock	&nbs	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders Equity