ACELRX PHARMACEUTICALS INC
Form 10-K
March 23, 2012
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 10-K

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended 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: 001-35068

ACELRX PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	41-2193603
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

575 Chesapeake Drive

Redwood City, CA 94063

(650) 216-3500

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value	The NASDAQ Stock Market LLC

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

None

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

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 þ

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 þ 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 þ No ¨

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

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

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

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

The aggregate market value of the voting stock held by non-affiliates of the registrant on June 30, 2011 (the last business day of the registrant s most recently completed second fiscal quarter), based upon the last sale price reported on the NASDAQ Global Market on that date, was approximately $20,063,297. The calculation excludes 14,913,500 shares of the registrant s common stock held by current executive officers, directors and stockholders that the registrant has concluded are affiliates of the registrant. Exclusion of such shares should not be construed to indicate that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

As of January 31, 2012, the number of outstanding shares of the registrant s common stock was 19,567,778.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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ACELRX PHARMACEUTICALS, INC.

2011 ANNUAL REPORT ON FORM 10-K

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Unless the context indicates otherwise, the terms AcelRx, AcelRx Pharmaceuticals, we, us and our refer to AcelRx Pharmaceuticals, Inc. Th name ACELRX is our trademark. NANOTAB is a registered trademark of AcelRx Pharmaceuticals, Inc. We have received a notice of allowance for our tagline, ACCELERATE, INNOVATE, ALLEVIATE in the United States. This report also contains trademarks and trade names that are the property of their respective owners.

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Forward-Looking Statements

This Annual Report on Form 10-K, or Form 10-K, contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are subject to the safe harbor created by that section. The forward-looking statements in this Form 10-K are contained principally under Item 1. Business, Item 1A. Risk Factors and Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations. In some cases, you can identify forward-looking statements by the following words: may, will, could, would, should, expect, intend, plan, anticipate, believe, estimate, predict, project, potential, co of these terms or other comparable terminology, although not all forward-looking statements contain these words. These statements involve risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Form 10-K, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Many important factors affect our ability to achieve our objectives, including:

the success, cost and timing of our product development activities and clinical trials;

our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;

our ability to obtain funding for our operations;

our plans to research, develop and commercialize our product candidates;

our ability to attract collaborators with development, regulatory and commercialization expertise;

the size and growth potential of the markets for our product candidates, and our ability to serve those markets;

our ability to successfully commercialize our product candidates;

the rate and degree of market acceptance of our product candidates;

our ability to develop sales and marketing capabilities, whether alone or with potential future collaborators;

regulatory developments in the United States and foreign countries;

the performance of our third party suppliers and manufacturers;

the success of competing therapies that are or become available;

the loss of key scientific or management personnel;

the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing; and

our ability to obtain and maintain intellectual property protection for our product candidates.

In addition, you should refer to Item 1A. Risk Factors in this Form 10-K for a discussion of these and other important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Form 10-K will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. Also, forward-looking statements represent our estimates and assumptions only as of the date of this Form 10-K. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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PART I

Item 1. Business

Overview

We are a development stage specialty pharmaceutical company focused on the development and commercialization of innovative therapies for the treatment of acute and breakthrough pain. We were founded to solve the problems associated with post-operative intravenous patient-controlled analgesia, or IV PCA. Although widely used, IV PCA has been shown to cause harm to patients following surgery because of the side effects of morphine, the invasive IV route of delivery and the inherent potential for programming and delivery errors associated with the complexity of infusion pumps. In March 2012, we initiated the first of three Phase 3 clinical trials for our lead product candidate, the Sufentanil NanoTab PCA System, or ARX-01 System, or ARX-01. The remaining two Phase 3 studies are expected to start by the third quarter of 2012. The three planned Phase 3 clinical trials include two double-blind, placebo-controlled efficacy and safety trials and one active comparator study. The ARX-01 System is designed to address the problems of IV PCA by utilizing:

- sufentanil, a high therapeutic index opioid;
- NanoTabs, our proprietary, non-invasive sublingual dosage form; and
- our novel pre-programmed handheld PCA device that enables simple patient-controlled delivery of NanoTabs in the hospital setting and eliminates the risk of programming errors.

We have completed Phase 2 clinical development for two additional product candidates, the Sufentanil NanoTab BTP Management System, or ARX-02, for the treatment of cancer breakthrough pain, or BTP, and the Sufentanil/Triazolam NanoTab, or ARX-03, designed to provide mild sedation, anxiety reduction and pain relief for patients undergoing painful procedures in a physician s office. In addition, in May 2011, we announced that the US Army Medical Research and Material Command, or USAMRMC, awarded us a $5.6 million grant to support the development of a new product candidate, the Sufentanil Single-Dose NanoTab for the treatment of moderate-to-severe acute pain, or ARX-04. Under the terms of the grant, the USAMRMC will reimburse us for development, manufacturing and clinical expenses necessary to prepare for and complete the planned Phase 2 dose-finding trial in a study of moderate-to-severe acute pain, and to prepare to enter Phase 3 development.

We were originally incorporated as SuRx, Inc. in Delaware on July 13, 2005. We subsequently changed our name to AcelRx Pharmaceuticals, Inc. on August 13, 2006.

Sufentanil NanoTabs

Sufentanil, a high therapeutic index opioid, which has no active metabolites, is 5 to 10 times more potent than fentanyl and is used intravenously as a primary anesthetic to produce balanced general anesthesia for surgery, and for epidural administration during labor and delivery. Sufentanil has many pharmacological advantages over other opioids. Published studies demonstrate that sufentanil produces significantly less respiratory depressive effects relative to its analgesic effects compared to other opioids, including morphine, alfentanil and fentanyl. These third party clinical results correlate well with preclinical studies demonstrating sufentanil s high therapeutic index, or the ratio of the toxic dose to the therapeutic dose of a drug, used as a measure of the relative safety of the drug for a particular treatment. Accordingly, we believe that despite its potency, sufentanil can be developed to provide an effective and relatively safe solution for the treatment of acute and breakthrough pain. The following table illustrates the difference between the therapeutic index of different opioids.

Opioid	Therapeutic Index
Meperidine	5
Methadone	12
Morphine	71
Hydromorphone	232

Fentanyl	277
Sufentanil	26,716

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Although the analgesic efficacy of sufentanil has been well established, its use has been limited due to its short duration of action when delivered intravenously. The pharmaceutical attributes of sufentanil, including lipid solubility and ionization, result in rapid cell membrane penetration and onset of action, which we believe make sufentanil an optimal opioid for the treatment of both acute pain and breakthrough pain. In addition, its pharmacokinetic, or PK, profile when delivered sublingually avoids the high peak plasma levels and short duration of action of IV administration.

Sublingual Delivery of Sufentanil: Summary of Phase 1 Clinical Studies Results

We have completed four Phase 1 PK studies with our proprietary sublingual sufentanil NanoTabs to support our four product candidates under development. These studies demonstrated desirable and consistent PK parameters, including:

- relatively high bioavailability via the oral mucosa and very low gastrointestinal, or GI, bioavailability;
- prolonged plasma levels relative to IV delivery;
- PK parameters proportional to dose across a wide range of doses (2.5 mcg to 80 mcg);
- lower peak plasma concentration, or C_{max}, than IV delivery;
- time to maximum plasma concentrations, or T_{max}, range from 30 to 90 minutes;
- relatively low patient to patient variability in T_{max} and C_{max}; and
- repeat dosing PK that supports a 20 minute minimum re-dosing interval.

The chart below illustrates the PK profile of sublingual sufentanil NanoTab compared to IV delivery of sufentanil from one of our completed Phase 1 PK studies.

We have demonstrated that sublingual delivery of sufentanil avoids the high peak plasma levels and short duration of action of IV administration, enabling potential for broader use. Our proprietary NanoTab dosage form is a very small disc-shaped tablet with a bioadhesive excipient, or inactive ingredient, that enables the NanoTab to adhere to mucosal tissues. This allows sublingual delivery of sufentanil from the NanoTab by adherence to the

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sublingual mucosa, or tissues under the tongue. The NanoTab adheres within seconds after administration and full disintegration occurs within minutes. The small size of the NanoTab, pictured below, is designed to minimize the saliva response and amount of sufentanil swallowed, resulting in high oral transmucosal uptake, whereby a majority of the drug is absorbed via the oral tissues directly into the bloodstream, and consistent pharmacokinetics.

Our portfolio of product candidates leverages the inherent advantages of sufentanil that are underutilized in medical practice. We believe our non-invasive, proprietary NanoTab sublingual dosage form overcomes the limitations of the current treatment options available for both acute and breakthrough pain.

None of our product candidates have been approved by the United States Food and Drug Administration, or FDA. We have not generated any revenue from the sale of any of our product candidates.

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Our Product Candidates

The following table summarizes key information about our existing product candidates for which we currently hold worldwide commercialization rights.

Product Candidate	Description	Target Indication	Development Status
ARX-01	Sufentanil NanoTab PCA System	Acute post-operative pain	Three Phase 3 clinical trials are planned in 2012 as follows:
			A double-blind, placebo-controlled, efficacy and safety trial in patients following abdominal surgery was initiated in March 2012 and we expect top-line data for this trial in the second half of 2012.
			An open-label active-comparator trial is anticipated to begin by the second quarter of 2012. We expect top-line data for this trial in the second half of 2012.
			A second double-blind, placebo-controlled, efficacy and safety trial in patients following orthopedic surgery is anticipated to begin by the third quarter of 2012. We expect top-line data for this trial in late 2012 or early 2013.
ARX-02	Sufentanil NanoTab BTP Management System	Cancer breakthrough pain	Phase 2 clinical trial and End of Phase 2 meeting successfully completed
			Future development contingent upon additional funding or corporate partnership resources
ARX-03	Sufentanil/Triazolam NanoTab	Mild sedation for painful procedures in a physician s office	Phase 2 clinical trial and End of Phase 2 meeting successfully completed
			Future development contingent upon additional funding or corporate partnership resources
ARX-04	Sufentanil Single-Dose NanoTab	Moderate-to-severe acute pain	Phase 2 clinical trial expected to start in the second quarter of 2012

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ARX-01 Sufentanil NanoTab PCA System

This product candidate has not been approved by the FDA. We have not generated any revenue from the sale of any of our product candidates.

The Market Opportunity for ARX-01

The post-operative pain market in the United States, Europe and Japan is growing steadily and is expected to reach $6.5 billion by 2018. Despite its size, this market remains underserved. Studies report that up to 75% of patients experience inadequate pain relief after surgery. Inadequate pain relief can lead to decreased mobility, which increases the risks of other medical complications, including deep vein thrombosis and partial lung collapse, and can result in extended hospital stays. The 2010 Decision Resources Acute Pain report projects that in 2013, 24.6 million in-patient procedures performed in the United States, Europe and Japan will require post-operative treatment of pain, growing at a rate of approximately 1% per annum.

Market research among surgeons and anesthesiologists has identified a consistent positive response to the attributes of ARX-01 and indicates an interest in using ARX-01 in 85% of their eligible patients. Additionally, physicians expressed interest in using ARX-01 for patients who stay in the hospital for less than 24 hours and are not traditionally treated with IV PCA. Pharmacy and Therapeutics committees also indicate strong interest in ARX-01, with 91% of those interviewed indicating likely adoption to formulary.

How ARX-01 Addresses the Unmet Medical Need in Post-Operative Pain Management

There are many deficiencies associated with the current use of IV PCA, including:

- side effects associated with the most commonly used opioid, morphine, and its active metabolites;
- infection risk, analgesic gaps and decreased mobility associated with the invasive nature of IV delivery; and
- medication errors, which in some instances may be fatal, due to the complexity of IV PCA pumps, many of which arise from programming errors.

According to published literature, the estimated annual error rate is 407 errors per 10,000 people treated with IV PCA in the United States. Published analysis of Medmarx from 2000 to 2005 reveals that IV PCA errors represent a four-fold higher relative risk of harm compared to all other medication errors. The most recent published analysis of the FDA MAUDE database reports that 5% of IV PCA operator errors reported during a two-year index period, from 2002 to 2003, resulted in patient deaths. Approximately 56,000 adverse events were reported to the FDA between 2005 and 2009, prompting 70 Class II infusion pump recalls of devices that could cause temporary or reversible adverse effects and 14 Class I infusion pump recalls of devices that could cause serious injury or death. These issues with infusion pumps have resulted in the issuance of new draft guidance by the FDA, significantly increasing the data required to be submitted by manufacturers to address safety problems.

ARX-01 has the potential to address many of the key disadvantages of IV PCA, including:

reducing the incidence of drug related side effects;

eliminating the risk of IV PCA related infections, reducing analgesic gaps and enhancing mobility; and

eliminating the risk of programming errors.

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We believe that ARX-01 will provide a favorable safety, efficacy and tolerability profile, enabling ARX-01 to become the new standard of care for PCA. Further, we believe use of ARX-01 will result in increased patient satisfaction and reduced overall healthcare costs.

ARX-01 Description

ARX-01 allows patients to self-administer sublingual sufentanil NanoTabs as needed to manage their post-operative pain in the hospital setting, and provides the record-keeping attributes of a conventional IV PCA pump while avoiding some of the key issues, such as programming errors, associated with conventional IV PCA use.

Our Sufentanil NanoTab PCA System, ARX-01, consists of three components:

- sufentanil, a high therapeutic index opioid;
- NanoTabs, our proprietary, non-invasive sublingual dosage form; and
- our novel, pre-programmed, handheld PCA device that enables simple patient-controlled delivery of NanoTabs in the hospital setting and eliminates the risk of programming errors.

ARX-01 utilizes sufentanil, which has one of the highest therapeutic indices of all commercially available opioids, making it an attractive candidate for the management of post-operative pain. Formulated in our proprietary sublingual NanoTab dosage form, sufentanil provides for relatively high bioavailability, with lower peak drug levels and a longer duration of action compared to IV delivery.

Our handheld PCA device consists of a stack of 40 sufentanil 15 mcg NanoTabs (approximately a two-day supply) in a disposable radio frequency identification and bar-coded cartridge (see Figure 1); a disposable dispenser tip (see Figure 2); and a reusable, rechargeable handheld controller (see Figure 3).

Figure 1, Cartridge with NanoTab Tablets *Figure 2, Dispenser Tip* *Figure 3, Controller*

This product candidate has not been approved by the FDA. We have not generated any revenue from the sale of any of our product candidates.

Our novel handheld PCA device has the following safety features:

- a wireless system access key for the healthcare professional;
- a wireless, electronic, adhesive thumb tag that acts as a single-patient identification key;
- pre-programmed 20-minute lock-out to avoid overdosing;
- a security tether that is designed to prevent theft and misuse; and

fully automated inventory record of NanoTabs usage.

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To set up the handheld PCA device, the nurse or healthcare professional turns on the controller and follows the simple step-by-step instructions described below:

- retrieve the NanoTab cartridge from secure drug storage;
- lock the cartridge and dispenser into the controller; and
- set up the secure patient access system, which is comprised of a security tether and a wireless, electronic, adhesive thumb tag that acts as a single-patient identification key.

To use ARX-01, the patient would:

- confirm that the green indicator light is illuminated, meaning the device is available to dose;
- place dispenser tip under tongue and push the large button on the controller, which dispenses a single NanoTab;
- remove the device from mouth upon hearing a tone confirming delivery of the NanoTab; and
- see the blue indicator light illuminate, indicating no new dose can be dispensed for the next 20 minutes.

During our Phase 2 clinical study evaluating device functionality, 100% of patients reported that they could handle the ARX-01 System easily and that user instructions were clear.

Sufentanil NanoTab PCA System ARX-01 Clinical Program

Summary

We recently initiated the first of three Phase 3 clinical trials that we expect to conduct in 2012. Additionally, we expect to have top-line data from all three of these in late 2012 or early 2013. Prior to this, we completed three successful Phase 2 clinical trials of sufentanil NanoTabs in the post-operative setting. These studies demonstrated analgesic efficacy, a low adverse event profile and excellent device functionality. During our End of Phase 2 meeting with the FDA, the FDA stated that the demonstration of efficacy versus placebo in two Phase 3 studies with a total safety database of at least 600 patients exposed to the active drug should suffice to support a new drug application, or NDA. We have designed our Phase 3 trials based on the feedback from the FDA.

Planned Phase 3 Clinical Trials for ARX-01

We plan to conduct three Phase 3 trials in 2012 for ARX-01: two double-blind, placebo-controlled efficacy and safety trials and one Phase 3 open-label active-comparator study that will provide both incremental safety and marketing data.

In March 2012, we initiated our first Phase 3 efficacy and safety clinical study with ARX-01 in a double-blind, placebo-controlled trial for a minimum of 48 hours and up to 72 hours in adult patients undergoing open abdominal surgery. The objective is to compare the efficacy of ARX-01 to placebo for the management of acute post-operative pain. Approximately 150 patients will be randomly assigned to treatment with sufentanil or placebo. The primary endpoint will be the summed pain intensity difference over the first 48 hours of the study period, or SPID-48. We expect to receive top-line data from this study in the second half of 2012. Key secondary endpoints include a modified SPID-48, in which a series of different imputation strategies for the use of rescue opioids are analyzed, pain relief scores and total amount of rescue opioids utilized.

Our second Phase 3 study will be an open-label active comparator study of ARX-01 versus the current standard of care, morphine IV PCA, in patients undergoing orthopedic or abdominal surgery. Approximately 400 patients will be randomly assigned to treatment with our Sufentanil NanoTab PCA System or morphine IV PCA. The primary endpoint will be the demonstration of statistical non-inferiority between the two groups for global patient satisfaction over the course of the study by patient reporting on a 4-point rating scale of poor, fair, good and excellent. Important secondary endpoints for comparison to IV PCA morphine will be drop-out due to

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inadequate analgesia, level of sedation, ease of care for patients and nurses, reporting of analgesic gaps and interdosing intervals. We expect to initiate the active-comparator study in the second quarter of 2012 with top-line data expected in the second half of 2012.

Our third Phase 3 efficacy and safety clinical study will be a double-blind, placebo-controlled trial in patients who are undergoing a total hip or knee replacement under general or spinal anesthesia. The objective is to compare the efficacy of the Sufentanil NanoTab PCA System to placebo for the management of acute post-operative pain. Approximately 400 patients will be randomly assigned to treatment with sufentanil or placebo. The primary endpoint will be the SPID-48. We expect this study to start in the third quarter of 2012 with top-line data expected in late 2012 or early 2013. The planned initiation of our third planned Phase 3 clinical study is contingent upon the completion of a summative Human Factors study, as required by the FDA. In this study, nurses and patients will be asked to perform tasks to demonstrate that the Sufentanil NanoTab PCA System can be reliably used under a range of simulated use conditions to validate the usability of the ARX-01 System and the effectiveness of the Instructions for Use.

The ARX-01 Phase 3 device is an upgraded version of the Phase 2 device, with enhanced features, including a color graphical user interface screen, security features to allow only the patient to use the device and prevent unauthorized access to the drug, and improved industrial design for hospital use.

Phase 2 Clinical Results for ARX-01

We completed three Phase 2 studies in support of sufentanil NanoTabs. Across all studies, the average time interval between doses was approximately 80 minutes. This compares favorably to typical redosing intervals for IV PCA with average period between dosing of 20 to 40 minutes. No serious adverse events, or SAEs, were reported that were considered to be related to the study drug. Adverse events, or AEs, that were reported were similar to those reported for placebo-treated patients. These results demonstrate that sufentanil NanoTabs are effective and well tolerated by patients undergoing both major orthopedic and abdominal surgical procedures.

Phase 2 Clinical Results in Unilateral Knee Replacement (ARX-C-001)

In the first Phase 2 study, we conducted a randomized, double-blind, placebo-controlled, multicenter Phase 2 clinical study to evaluate the efficacy, safety and tolerability of sublingual sufentanil NanoTabs in patients undergoing elective unilateral knee replacement. The study enrolled 101 male and female patients 45 to 80 years of age who were undergoing elective knee replacement surgery. This procedure was chosen as it represents one of the most painful procedures patients undergo in the hospital setting. Patients were randomly assigned to treatment with sufentanil NanoTab 5 mcg, 10 mcg, 15 mcg, or placebo. Sufentanil NanoTabs were administered by study staff at the request of the patient with at least 20 minutes between doses. The primary endpoint was the sum of the pain intensity difference at each evaluation time point compared to baseline over the 12-hour study duration, or SPID-12.

The study results demonstrated that sufentanil NanoTab 15 mcg was effective, safe and well-tolerated for the treatment of acute post-operative pain in patients who had undergone unilateral knee replacement. The sufentanil NanoTab 15 mcg SPID-12 was higher than placebo ($p=0.018$) using the last observation carried forward, or LOCF, imputation method. A p-value is a probability with a value ranging from 0 to 1, which indicates the likelihood that a clinical study is different between treatment and control groups. P-values below 0.05 are typically referred to as statistically significant. The sufentanil NanoTab 5 mcg or 10 mcg dosage strengths did not achieve a statistically significant separation from placebo overall. However, the 10 mcg dose was statistically significant as compared with placebo for women ($p<0.05$). Throughout the study there were statistically significant differences in SPID-12 scores between the sufentanil NanoTab 15 mcg dose group and the placebo group, even at the earliest time point of 15 minutes ($p=0.038$). There were no clinically significant changes in laboratory variables, vital signs or oxygen saturation during the study. The five SAEs reported were all considered unrelated to study drug and occurred after the end of study drug dosing.

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The following figure shows the Summed Pain Intensity Difference over the 12-Hour Study Period for the placebo, 5 mcg, 10 mcg and 15 mcg groups.

* Intent-to-Treat Population: The intent-to-treat, or ITT, population includes all randomized patients regardless of whether they received or adhered to the allocated treatment group. ITT analysis provides unbiased comparisons among the treatment groups and is the primary statistical analysis used by the FDA.

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Phase 2 Clinical Results in Major Abdominal Surgery (ARX-C-005)

Our second Phase 2 study tested sufentanil NanoTabs 10 mcg, 15 mcg or placebo in patients undergoing major abdominal surgery. In all other respects this study was similar in design to our first study. Both dosage strengths were significantly more effective than placebo for SPID-12 ($p<0.001$) as well as for all measures of pain intensity and pain relief. Significant differences between the sufentanil NanoTab treatment groups and the placebo group were observed within 2 hours after the first dose of study drug and continued until the end of the 12-hour treatment period. There were no clinically significant changes in laboratory variables, vital signs or oxygen saturation during the study. There were no SAEs reported during the study drug treatment period. The following figure shows the SPID-12 for the placebo, 10 mcg and 15 mcg groups.

Phase 2 Clinical Results in Open-Label Device Functionality Study in Unilateral Knee Replacement (ARX-C-004)

We conducted an open-label functionality, safety and efficacy study of the ARX-01 NanoTab delivery System in patients undergoing elective unilateral knee replacement surgery. The study was a prospective, open-label, multicenter trial in 30 male and female patients 45 to 80 years of age with an average age of 66. All patients were treated with sufentanil NanoTab 15 mcg dosage strength. The primary endpoint was the percent of patients who completed the study without any Sufentanil NanoTab PCA System failures. The study also collected patient feedback on the design characteristics of the PCA System.

Patients self-administered sufentanil NanoTabs repeatedly over the 12-hour study using the ARX-01 Sufentanil NanoTab PCA System without any system failures or dosing errors for all 30 patients. Over 80% of the patients reported the two highest scores on the 5-point Likert scale of overall patient s satisfaction with the Sufentanil NanoTab PCA System 15 mcg. All 30 enrolled patients indicated that they could handle the Sufentanil NanoTab PCA System easily, that the user instructions were clear, that the dosing tone was loud enough and that the time required for dosing was just right. Ninety percent of the patients indicated that the size and the shape of the dosing tip were also just right. The majority of patients indicated that the other system features (weight, size, shape, dose button function) were acceptable.

The mean pain intensity scores decreased from 5.5 at baseline to the lowest score of 3.0 at 2 hours. Dropout due to inadequate analgesia was 6.7%. There were no clinically significant changes in laboratory variables or vital signs and no SAEs reported during the study drug treatment period.

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Summary of Phase 2 Adverse Events

Overall the AE profile for the three Phase 2 studies suggests that ARX-01 is well-tolerated compared to typical AE rates seen with post-operative opioids. Published data indicates a much higher rate of somnolence (approximately 50%) and oxygen desaturation (approximately 10%) during standard IV PCA use compared to results obtained in our Phase 2 studies. The high therapeutic index of sufentanil (26,716) in animal studies suggests that opioid-induced sedation and oxygen desaturation does not occur with sufentanil until doses much higher than required for analgesia are administered. We believe our Phase 2 AE data confirm the high safety index of sufentanil. The table below summarizes the investigator s rating of probably or possibly related AEs based on sufentanil NanoTab dosage strength.

Adverse Events	Placebo N=54	Sufentanil NanoTab (5 mcg) N=24	Sufentanil NanoTab (10 mcg) N=55	Sufentanil NanoTab (15 mcg) N=79
Nausea	17(31%)	7(29%)	22(40%)	23(29%)
Vomiting	3(6%)	2(8%)	6(11%)	9(11%)
Itching	0(0%)	1(4%)	4(8%)	6(8%)
Somnolence	1(2%)	1(4%)	0(0%)	2(3%)
Oxygen desaturation	0(0%)	0(0%)	1(2%)	1(1%)
Respiratory depression	1(2%)	0(0%)	2(4%)	0(0%)

ARX-02 Sufentanil NanoTab BTP Management System

This product candidate has not been approved by the FDA. We have not generated any revenue from the sale of any of our product candidates.

The Market Opportunity for ARX-02

According to published data, in 2006 more than 700,000 cancer patients in the United States experienced breakthrough pain. We estimate the prescription volume for oral transmucosal products for the management of cancer breakthrough pain to be 220,000 prescriptions per year. This suggests that less than 10% of cancer patients with cancer breakthrough pain are treated with approved transmucosal breakthrough pain medications. In addition, many physicians use immediate release oral opioids to treat cancer breakthrough pain. We believe that this market is significantly larger than the transmucosal product market.

Market research among physicians managing cancer patients indicates that ARX-02 could capture approximately a quarter of the cancer breakthrough pain prescriptions. In this research, ARX-02 was predicted to take share equally from both the immediate release oral products and the transmucosal products. Given the positive reaction to the product profile and the potential benefits of ARX-02 compared to currently available products, we believe that ARX-02 represents a significant commercial opportunity.

How ARX-02 Addresses the Unmet Medical Need in Cancer Breakthrough Pain

All products approved for the treatment of cancer breakthrough pain available today are fentanyl-based and have a number of limitations, including:

elimination half-lives of 6 to 14 hours to treat a cancer breakthrough pain event that typically lasts 15 to 60 minutes;

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- inconsistent T_{max} that ranges from 20 to 240 minutes, and can result in erratic onset of action and the potential for dose-stacking;
- local adverse events, such as dental caries and oral mucosal irritation; and
- drug packaging that lacks effective deterrence against abuse and misuse.

We designed ARX-02 to address these problems by:

- providing sufentanil, a shorter duration of action opioid with an elimination half-life ranging from 2 to 4 hours, which more closely matches the duration of a cancer breakthrough pain event;
- utilizing sufentanil, which provides for a consistent T_{max} with a narrow range of 30 to 90 minutes, thereby reducing the risk of dose-stacking;
- avoiding irritation of the oral mucosa, as demonstrated in our clinical studies; and
- packaging technology that enhances patient safety by reducing the possibility of misuse or abuse, while providing healthcare professionals with usage data.

In addition, continual use of any given opioid by a patient creates a risk of tolerance specific to that molecule, reducing the effectiveness of the drug. We believe the availability of ARX-02, as a non-fentanyl based product, will allow physicians to rotate opioids prescribed for cancer breakthrough pain, thereby maintaining the effectiveness of treatment.

ARX-02 Description

ARX-02 is a product candidate for the treatment of cancer patients who suffer from breakthrough pain. ARX-02 consists of a magazine containing 30 single dose applicators, or SDAs, loaded into a multiple SDA dispenser, or MSD. Each SDA includes a sufentanil NanoTab that a patient can self-administer to his or her sublingual space for oral transmucosal absorption. The MSD:

- protects and dispenses SDAs, one at a time;
- displays a recent dose indicator that is designed to mitigate overdosing;
- has child-resistant, elderly-friendly features; and
- provides electronic date and time stamping of each SDA removal event.

The date and time event log is designed to be retrieved from the MSD by a healthcare professional during an office visit to assist the prescriber in understanding the usage profile of the medication, including diversion or abuse. Overall, our goal is to improve the treatment of cancer breakthrough pain while adding a substantially heightened level of detection and deterrence around prescription opioid use, misuse and abuse. While the initial dispenser for outpatient use is designed for dispensing sufentanil NanoTabs for cancer breakthrough pain events, we believe this concept could be adapted into developing dispensers for other scheduled drugs in the future.

Sufentanil NanoTab BTP Management System ARX-02 Clinical Program

Summary

We held an End of Phase 2 meeting with the FDA in July 2010. The FDA stated that the demonstration of efficacy versus placebo in a single Phase 3 study with a total safety database of 300 to 500 patients exposed to active drug, with at least 100 patients treated for a minimum of three months, may support an indication for the treatment of cancer breakthrough pain with underlying chronic pain.

Planned Phase 3 Clinical Trials for ARX-02

Future development of ARX-02 is contingent upon additional funding or corporate partnership resources. Should such funds or resources become available, we could proceed with the planned trials and future development described below.

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We would plan to conduct one Phase 3 efficacy and safety study for ARX-02 for the management of cancer breakthrough pain in adult patients who are already taking opioids for their underlying persistent cancer pain. In addition, we would plan to conduct two open-label studies to demonstrate long term safety, which will include the use of the MSD.

The first planned Phase 3 clinical study for ARX-02 is a multi-center, randomized, double-blind, placebo-controlled crossover study for the evaluation of the safety and efficacy of the Sufentanil NanoTab BTP Management System in the treatment of cancer breakthrough pain. We plan to screen 170 patients in order to titrate approximately 140 patients, of which 110 patients will be randomized, such that at least 100 patients will generate primary efficacy data for analysis. The planned study consists of a screening visit, an open-label titration phase of up to three weeks to establish a dose of sufentanil (20, 30, 40, 60, 80 or 100 mcg) at home or in a hospice setting, that provides adequate relief of cancer breakthrough pain with tolerable side effects. This will be followed by a randomized, double-blind treatment phase of up to three weeks. Patients will be randomized to one of six sequences, each including nine doses of which six are active and three are placebo. Patients will use an electronic diary to record primary and secondary efficacy outcomes including pain intensity, pain relief, and global evaluation of treatment. The primary endpoint is the time-weighted summed pain intensity difference over 30 minutes, or SPID-30, following treatment.

Patients who complete our Phase 3 efficacy trial will be allowed to participate in an open-label extension study to continue evaluating the safety of ARX-02 for up to one year. During each month while participating in the study, patients will present to the clinical site for visits to assess their medical status and proper use of study medication. The primary objective is to determine the long-term safety of sufentanil NanoTabs in patients with cancer breakthrough pain.

The dispensing device that was used in the Phase 2 study for ARX-02 was a simple, mechanical single dose applicator, or SDA, designed for a single use. The design for Phase 3 device contains both mechanical and electronic components and is intended to be a multiple use device with a magazine containing smaller SDAs than those used in Phase 2. The magazine is loaded into a multiple SDA dispenser, or MSD, which will include software to electronically track removal of each SDA from the MSD. Several industrial models have been developed that depict the size and form factor of the smaller SDA and the MSD.

We also plan to conduct an additional open-label study to ensure there is adequate data for analysis of drug safety and device functionality. We plan to screen approximately 470 patients in order to titrate approximately 370 patients, such that at least 300 patients will enroll in this study. Patients will use the MSD that will contain a magazine holding 30 SDAs. Each SDA will contain a single sufentanil NanoTab. The MSD will electronically track removal of each SDA from the MSD in order to record dosing history in the outpatient setting. This study will be up to three months in duration and will utilize the same titration scheme as in the Phase 3 efficacy study. After patients achieve an efficacious and tolerable dose, they will use the MSDs to dispense the SDAs throughout the three-month study.

Phase 2 Clinical Results for ARX-02

We have completed a Phase 2 study of the analgesic efficacy of the sufentanil NanoTab in adult cancer patients who are opioid tolerant and suffering from breakthrough pain events. This study was a prospective, multicenter, randomized, placebo-controlled multicenter, crossover study for the evaluation of the safety, efficacy and tolerability of the Sufentanil NanoTab BTP Management System in the treatment of cancer breakthrough pain.

Patients were screened and, if qualified for the study, would titrate to an effective dose of sufentanil that provided adequate relief of cancer breakthrough pain without producing intolerable side effects. Patients self-administered a single sufentanil NanoTab using a single-dose applicator, starting with a 20 mcg dose, followed by titration with 30, 40, 60 and 80 mcg sufentanil NanoTabs. The primary objective during the titration phase was to assess the safety and efficacy of ARX-02. The primary endpoint during the randomized, double-blind phase was to assess the efficacy of ARX-02 compared to placebo in the management of cancer breakthrough pain as determined by SPID-30.

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Once a dosage strength that alleviated pain without producing intolerable side effects was identified, the patient was randomized to that dosage strength in the double-blind phase of the study. Patients were randomized to receive 10 doses, of which seven were active and three were placebo. Efficacy was assessed by patient data recorded and scored in an electronic diary, including pain intensity, pain relief and global medication performance assessment just prior to and after taking each of the ten doses of study drug in the double-blind phase of the study. Forty-two patients were enrolled and received titration study medication. Eighty-four percent of patients with a mean age of 53.5 years (range 25 to 73 years) were randomized to the double-blind treatment period. Thirty-three patients completed the study.

The primary endpoint of time-weighted SPID-30 for sufentanil NanoTab-treated episodes was greater than placebo-treated episodes ($p<0.001$) as shown in the figure below.

* Modified Intent-to-Treat Population: The modified intent-to-treat population is a subset of the ITT population and included all randomized patients who took at least one active dose and one placebo dose, and had pre-treatment and at least one post-treatment pain intensity score for each of these episodes.

Pain intensity and pain relief were included as secondary endpoints. Lower scores for pain intensity were reported at each evaluation time point for sufentanil-treated episodes compared to placebo-treated episodes ($p=0.027$ at 15 minutes and $p<0.001$ at all other time points). Time reported time-weighted total pain relief, or TOTPAR, was greater at all time points for sufentanil-treated episodes compared to placebo-treated episodes ($p=0.049$ and $p=0.009$ for the 10 and 15 minute time points, respectively, and $p=<0.001$ for the remaining time points).

Patient Global Medication Performance Assessment, or GMPA, at 60 minutes after each dose of study medication showed 59 (27.4%) and 37 (17.2%) of the sufentanil-treated episodes were rated as very good or excellent on the GMPA, respectively, compared with seven (7.5%) and nine (9.7%), respectively, in the placebo-treated episodes. There was a statistically significant difference for GMPA measurements between the sufentanil-treated episodes and the placebo-treated episodes ($p<0.001$).

Three patients reported an SAE; however, all SAEs were considered unrelated to study drug. The most common AEs during the titration period were nervous system disorders, general disorders, and gastrointestinal disorders. The most common nervous system disorder was dysgeusia, or altered sense of taste (four patients, 9.5%). The most common gastrointestinal disorder was dry mouth (three patients, 7.1%). The most common AEs during the

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double-blind period were nervous system disorders, general disorders, and gastrointestinal disorders. The most common nervous system disorder was headache (two patients, 5.9%). The most common gastrointestinal disorder was nausea (three patients, 8.8%). There was no statistical difference between sufentanil and placebo treatments for any AE.

There were a few statistically significant mean changes and no clinically significant changes from baseline in hematology and chemistry variables. During the safety monitoring period at the site, there were no statistically significant changes from baseline in heart rate or respiratory rate, and no clinically significant changes in oxygen saturation.

ARX-03 Sufentanil/Triazolam NanoTab

This product candidate has not been approved by the FDA. We have not generated any revenue from the sale of any of our product candidates.

The Market Opportunity for ARX-03

Each year in the United States, more than 100 million procedures take place in a physician s office that are known to be anxiety-inducing and painful. These procedures include diagnostic procedures such as breast and prostate biopsies, cosmetic procedures such as liposuction and dermal abrasions, interventional radiology procedures, and therapeutic procedures such as vasectomies and endometrial ablation procedures. IV sedative medications are typically not offered to these patients because of the high cost of the specialized personnel and monitoring equipment. Despite the high potential for pain and anxiety, most patients currently undergo these procedures with only a local anesthetic, causing unnecessary discomfort. We believe there is significant opportunity for a fast-acting, effective and safe product that can provide mild levels of sedation, anxiety reduction and analgesia for painful procedures conducted in a physician s office without the need for specialized personnel to monitor the patient.

How ARX-03 Addresses the Unmet Medical Need for Painful Procedures in a Physician s Office

The Joint Commission on the Accreditation of Healthcare Organizations, or JCAHO, mandates that IV sedation requires specialized monitoring, resuscitative equipment and appropriately trained staff. As a result, many practitioners do not provide any IV sedation to their patients prior to or during painful procedures that take place in a physician s office, and instead rely only on the analgesic benefit of local anesthetics.

The anxiety and pain that an individual experiences during painful procedures in a physician s office without sedation has been studied and reported in peer-reviewed journals. Ninety-six percent of men report moderate pain immediately after prostate biopsy, with only 4% of patients reporting no pain during the biopsy. Similarly, women undergoing breast biopsies have pre-procedural scores averaging 60 to 70 out of 100 for visual analog scale measurements of nervousness, tension and fearfulness. This data highlights the need for a mild sedative with analgesic and anxiety-reducing properties in addition to a local anesthetic for painful procedures in a physician s office.

We believe that ARX-03 can provide physicians with a non-invasive, rapid-acting product for mild sedation, anxiety reduction and pain relief during painful diagnostic and therapeutic procedures in a physician s office. We believe the availability of ARX-03 may increase the number of diagnostic and therapeutic procedures performed in a physician s office, resulting in cost savings because specialized personnel and equipment would not be necessary.

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ARX-03 Description

ARX-03 Sufentanil/Triazolam NanoTab is a single, fixed-dose sublingual product candidate designed to be administered by a healthcare professional prior to a painful procedure in a physician s office. An important advantage of sufentanil and triazolam over other drugs in their classes is their rapid uptake from the sublingual mucosa. Our Phase 2 clinical data showed that administering ARX-03 via sublingual route prior to a procedure results in a rapid onset of mild sedation and reduction in anxiety in 15 to 30 minutes. Sufentanil and triazolam have short half-lives compared to many other agents in the same class of compounds, enabling patients treated with ARX-03 to be discharged immediately following completion of the procedure. The sublingual route of administration avoids the high plasma concentrations associated with IV delivery, thereby obviating the need for specialized personnel and extensive monitoring.

Sufentanil/Triazolam NanoTab ARX-03 Clinical Program

Summary

We have completed a successful Phase 2 clinical trial of ARX-03 demonstrating rapid onset of mild sedation and anxiety reduction, with a low adverse event profile during an abdominal liposuction procedure. We held End of Phase 2 meeting with the FDA in May 2010 to discuss the Phase 3 clinical program and requirements for a NDA filing. Two four-arm factorial Phase 3 studies will be required with a minimum of 700 patients exposed to active drug.

Planned Phase 3 Clinical Trials for ARX-03

Future development of ARX-03 is contingent upon additional funding or corporate partnership resources. Should such funds or resources become available, we could proceed with the planned trials and future development described below.

We would plan to conduct two Phase 3 efficacy and safety studies in a range of painful procedures, such as prostate biopsy, breast biopsy, vasectomy and low-volume abdominal liposuction. In each study, approximately 720 patients will be randomized to treatment with one of the following: sufentanil/triazolam 15 mcg/200 mcg NanoTab, sufentanil 15 mcg NanoTab, triazolam 200 mcg NanoTab, or placebo NanoTab. We intend to evaluate the time-weighted summed Richmond Agitation-Sedation Scale, or RASS, score over the 4-hour study period, or SRS-4, compared to placebo as the primary efficacy endpoint. RASS is a ten-point scale to evaluate agitated behavior where unarousable is graded as -5 and combative is graded as a +4 and a score of 0 is alert and calm. Secondary endpoints are intended to include comparisons of SRS-4 among active comparator arms, patient report of procedural anxiety and pain intensity using an 11-point Numerical Rating Scale, or NRS, patient and physician global assessments of satisfaction with study drug and time to a modified Aldrete score of 8 (readiness for discharge measurement).

The design for Phase 3 device for ARX-03 consists of a simple mechanical dispenser or SDA. We have produced several working prototypes.

Phase 1 and Phase 2 Clinical Results for ARX-03

We completed an initial dose finding study for three different strengths of sublingual Sufentanil/Triazolam NanoTabs (10 mcg/100 mcg, 10 mcg/200 mcg and 15 mcg/200 mcg) in 24 subjects. The onset of sedation was approximately 40% faster with the sufentanil 15 mcg/triazolam 200 mcg NanoTab treatment compared to the sufentanil 10 mcg/triazolam 200 mcg NanoTab treatment in younger subjects. There were minimal differences between treatments for time to maximum sedation and for total duration of sedation, leading us to select the sufentanil 15 mcg/triazolam 200 mcg NanoTab dosage strength to study further in a Phase 2 trial.

We completed a Phase 2 study of analgesic and anxiety reducing efficacy of the sufentanil/triazolam NanoTab in patients undergoing an elective abdominal liposuction procedure. The study was a prospective, randomized,

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double-blind, placebo-controlled single center study in adult patients. Patients were randomly assigned to treatment with the sufentanil 15 mcg/triazolam 200 mcg NanoTab or placebo. Forty-one patients were randomized and 40 patients received study drug and underwent the procedure and completed the 4-hour study period. The mean age for all randomized patients was 36.7 years (range 19 to 55 years). The primary endpoint was the SRS-4 and the sufentanil/triazolam NanoTab demonstrated superiority over placebo ($p<0.001$). The sufentanil/triazolam NanoTab was more effective than placebo in reducing anxiety as measured by the secondary endpoint, the NRS anxiety scale. A significant difference ($p<0.05$) in anxiety score between the sufentanil/triazolam NanoTab and placebo was seen at 15 minutes, the first time point measured after study drug dosing.

The sufentanil/triazolam NanoTab did not show a statistical difference from placebo in providing analgesia as measured by the NRS pain intensity scale ($p=0.311$). The summed pain intensity score was lower for the sufentanil/triazolam NanoTab compared to placebo for all time points; however, the difference was not significant with the small number of patients.

There was a statistically significant difference between the sufentanil/triazolam NanoTab treatment group and placebo ($p<0.001$) in the proportion of patients for which the physician rated the treatment very good or excellent on the global assessment of effectiveness and tolerability. There was also a statistically significant difference between the sufentanil/triazolam NanoTab treatment group and placebo ($p=0.028$) for the proportion of patients who rated the treatment very good or excellent on the global assessment of effectiveness and tolerability. All patients in both the sufentanil/triazolam NanoTab treatment group and the placebo group were ready for discharge immediately following the procedure.

There were no SAEs reported during treatment or 12 hours after dosing. The most frequent AE was nervous system disorders, which were observed in two patients (9.5%) in the sufentanil/triazolam NanoTab treatment group and in two patients (10.5%) in the placebo group. Dizziness was also reported by two patients (9.5%) in the sufentanil/triazolam NanoTab treatment group and one patient (5.3%) in the placebo group. There were no significant differences between the treatment groups for any AEs. All events were mild or moderate in severity. There were no clinically significant changes in vital signs or oxygen saturation during the study.

There was no dispensing device used in the ARX-03 Phase 2 studies. Tablets were placed in the patients sublingual space through the use of forceps.

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ARX-04 ***Sufentanil Single-Dose NanoTab***

This product candidate has not been approved by the FDA. We have not generated any revenue from the sale of any of our product candidates.

The Market Opportunity for ARX-04

In addition to battlefield casualty treatment, if approved, we anticipate that ARX-04 could be useful in a variety of medically supervised settings including by paramedics during patient transport, in the emergency room, or for post-operative patients, following either short-stay or ambulatory surgery, who do not require more long-term patient-controlled analgesia. According to the Center for Disease Control, there were more than 123 million emergency room visits in 2008, and analgesics were provided or prescribed during more than 85 million of these visits. According to the American Hospital Association, there were 127 million emergency room, or ER, visits and 17 million hospital-based outpatient surgeries in the United States in 2009. In addition, according to the Ambulatory Surgery Center Association, over 22 million procedures were conducted in ambulatory surgery centers in the United States in 2008.

How ARX-04 Addresses the Unmet Medical Need for Moderate-to-Severe Acute Pain

ARX-04 is a non-invasive, fast-onset sufentanil product candidate for treatment of patients with moderate-to-severe acute pain, either on the battlefield or in civilian settings of trauma or injury. On the battlefield, in the emergency room and in ambulatory care environments, patients often do not have immediate IV access available. Intramuscular injections are a current standard of care on the battlefield, but they are invasive, painful and present an increased risk of infection to both patient and healthcare professional. In addition, in cases of severe trauma where the patient is often in hypovolemic shock and muscles are not well perfused, pain medication given by intramuscular injection may not readily reach the bloodstream to provide pain relief, rendering this route of delivery suboptimal. Oral pills and liquids generally have slow and erratic onset of analgesia. Even patients with IV access may have undesirable side effects with the commonly used IV opioids morphine and hydromorphone, such as sedation or oxygen desaturation. Moreover, IV dosing results in high peak plasma levels, thereby limiting the opioid dose and requiring frequent redosing intervals to titrate to satisfactory analgesia. Additional treatment options are needed which can safely and rapidly treat acute trauma pain, in both civilian and military settings. ARX-04 features sufentanil, a high therapeutic index opioid, in AcelRx s proprietary NanoTab technology that enables rapid sublingual absorption when the NanoTab is placed under the tongue. As a result, sufentanil NanoTabs can provide rapid onset of analgesia and display a consistent pharmacokinetic profile due to a high percentage of drug being absorbed sublingually instead of through the gastrointestinal tract.

ARX-04 Description

ARX-04 is a non-invasive, fast-onset sufentanil product candidate for treatment of patients with moderate-to-severe acute pain, either on the battlefield or in civilian settings of trauma or injury. ARX-04 features sufentanil, a high therapeutic index opioid, in our proprietary NanoTab technology that enables rapid sublingual absorption when the NanoTab is placed under the tongue. As a result, sufentanil NanoTabs can provide rapid onset of analgesia and display a consistent pharmacokinetic profile due to a high percentage of

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drug being absorbed sublingually instead of through the gastrointestinal tract. In addition to battlefield casualty treatment, if approved, we anticipate that ARX-04 could be useful in a variety of medically supervised settings, including by paramedics during patient transport, in the emergency room, for non-surgical patients experiencing pain in the hospital, or for post-operative patients, following either short-stay or ambulatory surgery, who do not require more long-term patient-controlled analgesia.

Sufentanil Single-Dose NanoTab ARX-04 Clinical Program

Summary

In May 2011, AcelRx received a grant from the US Army Medical Research and Materiel Command, or USAMRMC, to conduct a Phase 2 dose finding study, and to prepare to enter Phase 3. In the Phase 2 study of ARX-04, two different doses of sufentanil will be evaluated in patients suffering from moderate-to-severe acute pain, with the goal of determining an appropriate dose to take into Phase 3.

Planned Phase 2 Clinical Trial for ARX-04

Our ARX-04 Phase 2 dose-finding study will be a prospective, randomized, double-blind multicenter trial in patients 18 to 80 years of age that are undergoing primary, unilateral first metatarsal bunionectomy surgery alone or with ipsilateral hammertoe repair. The study will be conducted at sites that are experienced in running clinical trials of pain management treatment in a post-operative setting, and each patient randomized to treatment will have one-to-one nursing care throughout the 12-hour study period. Patients who meet all inclusion and exclusion criteria following surgery will be randomly assigned (2:2:1) to treatment with Sufentanil NanoTab 20 mcg, Sufentanil NanoTab 30 mcg, or placebo. Randomization will be stratified within each site by two age groups: 18 64 years and 65 80. At least 100 patients (40 patients in Sufentanil NanoTab 20 mcg group, 40 patients in Sufentanil NanoTab 30 mcg group and 20 patients in placebo treatment group) will receive study drug and provide primary efficacy data for analysis. Efficacy will be assessed as follows: 1) patient reports of pain intensity on an NRS, 2) pain relief on a 5-point pain relief scale, 3) percentage of patients requiring rescue analgesics due to inadequate analgesia, and 4) patient global assessment of effectiveness and tolerability. Also, a double stop-watch technique will be used to assess onset of perceived and meaningful analgesia after the first dose of study drug.

The primary endpoint is the time-weighted summed pain intensity difference (SPID) over the 12-hour study period (SPID-12). Secondary endpoints include: time-weighted total pain relief (TOTPAR) over the 12-hour study period (TOTPAR-12), proportion of patients requiring rescue analgesics due to inadequate analgesia over the 12-hour study period, proportion of patients who responded in each category of the Patient Global Assessment, time to onset of perceived and meaningful analgesia and time to first use of rescue analgesics and total number of doses of rescue analgesic used.

Other Potential Applications for Our NanoTab Technology

We believe that as a platform technology, the NanoTab, either as a standalone dosage form or in conjunction with various forms of dispensing mechanisms, has the potential to enable other product candidates utilizing a number of additional compounds to be delivered sublingually to the oral mucosa. There are numerous compounds used for the treatment of pain as well as other therapeutic indications which are dosed in microgram quantities and possess characteristics that we believe make them potential candidates for sublingual delivery via the NanoTab.

Our Strategy

Our strategy is to develop and commercialize a portfolio of sufentanil NanoTab-based products in specialty markets. We have designed and are developing product candidates that have clearly defined clinical development programs, target large commercial market opportunities and require modest commercial organizations in the

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United States. We selectively utilize third party contractors in order to maximize the capital efficiency of our development and commercialization efforts. We plan to enter into partnerships to market our product candidates outside the United States.

Our lead program, ARX-01, has recently initiated its first Phase 3 safety and efficacy trial and is focused on the management of post-operative pain in the hospital setting. The second ARX-01 phase 3 study is expected to begin in the second quarter of 2012 with the third and final planned ARX-01 Phase 3 study expected to begin in the third quarter of 2012. Top-line data from all three studies are expected by late 2012 or early 2013 and if clinical trial results are positive, we plan to submit an NDA in mid-2013 and, if approved, to commercialize ARX-01 ourselves in the United States. Our second program, ARX-02, is focused on the management of cancer breakthrough pain and has completed Phase 2 development. Based on the availability of financial resources, we plan to advance ARX-02 into Phase 3 trials, submit an NDA and, if approved, commercialize ARX-02 ourselves or with a partner in the United States. Further development of ARX-03 will depend on the identification of a partner to support this effort. Development of ARX-04 beyond the current grant supported activities is contingent upon additional funding from the USAMRMC or identification of a partner to support this effort.

Our specific strategy with respect to ARX-01 is to:

- complete two Phase 3 efficacy studies and one Phase 3 active comparator study and seek regulatory approval in the United States and other countries;
- establish at least one commercial relationship in North America for the manufacturing of the components of the Sufentanil NanoTab PCA System;
- build a targeted hospital-directed sales force in the United States; and
- partner with third parties for commercialization outside of the United States.

Sales and Marketing

We anticipate developing a distribution capability and commercial organization in the United States to market and sell our product candidates alone or with partners, while out-licensing commercialization rights outside of the United States. In executing our strategy, our goal is to have significant control over the development process and commercial execution for our product candidates, while retaining meaningful economics.

We plan to progressively build commercial capability to support introduction of ARX-01 to the United States market as we move towards NDA submission and approval. We foresee two stages of commercial execution to support successful introduction of ARX-01 in the United States:

In parallel with our Phase 3 clinical studies and the filing and review of a NDA for ARX-01, we plan to:

- highlight the clinical and health economic data identifying the limitations of IV PCA in use today;
- increase awareness of the development of ARX-01 through publication of our clinical data;
- create and deploy a focused scientific support team to gather a detailed understanding of individual hospital needs in order to be prepared to present ARX-01 effectively at the time of commercial launch;

establish advisory boards with anesthesiologists, surgeons and nurses to provide us with input on appropriate commercial positioning for ARX-01 for each of these key audiences; and

design a post-approval clinical development program, including potential head-to-head superiority studies with IV PCA.

Following FDA approval, we plan to:

create and deploy a high-quality, customer focused and experienced commercial organization dedicated to bringing innovative, highly-valued healthcare solutions to patients, payors and healthcare providers, including building a targeted hospital-directed sales force in the United States;

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establish ARX-01 on hospital formularies through deployment of an experienced team to describe the clinical and pharmacoeconomic benefits of ARX-01 in comparison to IV PCA;

conduct post-approval clinical program for ARX-01;

establish ARX-01 as the product of choice for traditional post-operative PCA; and

expand the market through deployment of ARX-01 for 24 hour stay patients, where IV PCA is not used today.

Intellectual Property

We seek patent protection in the United States and internationally for our product candidates. Our policy is to pursue, maintain and defend patent rights developed internally and to protect the technology, inventions and improvements that are commercially important to the development of our business. We cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents granted to us in the future will be commercially useful in protecting our technology. We also rely on trade secrets to protect our product candidates. Our commercial success also depends in part on our non-infringement of the patents or proprietary rights of third parties. For a more comprehensive discussion of the risks related to our intellectual property, please see Item 1A. Risk Factors Risks Related to Our Intellectual Property appearing elsewhere in this Form 10-K.

Our success will depend significantly on our ability to:

obtain and maintain patent and other proprietary protection for our product candidates;

defend our patents;

preserve the confidentiality of our trade secrets; and

operate our business without infringing the patents and proprietary rights of third parties.

We have established and continue to build proprietary positions for our product candidates and related technology in the United States and abroad. As of December 31, 2011, we held 16 pending United States utility patent applications, and 52 foreign national patent applications covering various aspects of our product candidates. We also hold a European Patent, EP2114383, granted on July 21, 2010, validated and translated in Switzerland, Germany, Denmark, Spain, France, the United Kingdom, Italy, the Netherlands, Portugal and Sweden, with an expiration date of December 28, 2027, excluding any additional term for patent term adjustments. We also hold two pending Patent Cooperation Treaty applications that have not yet been nationally filed.

We seek patent protection for both compositions of matter and delivery devices, as well as methods of treatment related to our ARX-01, ARX-02, ARX-03 and ARX-04 product candidates. In particular, we are pursuing patent protection for our ARX-01, ARX-02, ARX-03 and ARX-04 NanoTabs and formulations, our ARX-01 PCA devices, the combination of drugs and our ARX-01 PCA devices, our ARX-02, ARX-03 and ARX-04 SDAs, as well as to methods of treatment using such drug and device compositions.

Issued European Patent No. EP2114383 includes composition of matter claims directed to ARX-01, ARX-02, ARX-03 and ARX-04 NanoTabs for oral transmucosal delivery of sufentanil, alone and in combination with key features of the ARX-01 PCA device, the ARX-02, ARX-03 and ARX-04 SDAs, and use of the claimed compositions in the treatment of pain.

We have filed for patent coverage in the United States as well as many foreign jurisdictions including, Europe, Japan, China, India, Canada and Korea. If issued, and if the appropriate maintenance, renewal, annuity or other governmental fees are paid, we expect that these patents will

expire between 2027 and 2030, excluding any

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additional term for patent term adjustments or patent term extensions in the United States. We note that the patent laws of foreign countries differ from those in United States, and the degree of protection afforded by foreign patents may be different from the protection offered by U.S. patents.

Further, we seek trademark protection in the United States and internationally where available and when appropriate. We have registered our ACELRX mark in Class 5, Pharmaceutical preparations for treating pain; pharmaceutical preparations for treating anxiety, and Class 10, Drug delivery systems; medical device, namely, a mechanical and electronic device used to administer medications, perform timed medication delivery, and to provide secure access to and delivery of medications, in the United States. Our ACELRX mark has also been registered in the European Community and in Canada, and is pending in India. We have registered our NANOTAB mark and have received a notice of allowance for our tagline, ACCELERATE, INNOVATE, ALLEVIATE in Class 5, in the United States.

Competition

Our industry is highly competitive and subject to rapid and significant technological change. Our potential competitors include large pharmaceutical and biotechnology companies, specialty pharmaceutical and generic drug companies, and medical technology companies. We believe the key competitive factors that will affect the development and commercial success of our product candidates are the safety, efficacy and tolerability profile, reliability, convenience of dosing, price and reimbursement.

Many of our potential competitors, including many of the organizations named below, have substantially greater financial, technical and human resources than we do and significantly greater experience in the development of product candidates, obtaining FDA and other regulatory approvals of products and the commercialization of those products. Accordingly, our competitors may be more successful than we may be in obtaining FDA approval for drugs and achieving widespread market acceptance. Our competitors drugs may be more effective, or may be more effectively marketed and sold, than any drug we may commercialize, which may render our product candidates obsolete or non-competitive before we can recover our losses. We anticipate that we will face intense and increasing competition as new drugs enter the market and advanced technologies become available.

Potential Competition for ARX-01

We are developing ARX-01, the Sufentanil NanoTab PCA System, for the management of acute post-operative pain in adult patients during hospitalization. We believe that ARX-01 would compete with a number of opioid-based treatment options that are currently available. The market for opioids for post-operative pain is large and competitive. The primary competition for ARX-01 is the IV PCA pump, which is widely used in the post-operative setting. Leading manufacturers of IV PCA pumps include Hospira Inc., CareFusion Corporation, Baxter International Inc., Curlin Medical, Inc. and Smiths Medical. The most common opioids used to treat post-operative pain are morphine, hydromorphone and fentanyl, all of which are available as generics. Also available on the market is the Avancen Medication on Demand, or MOD, Oral PCA Device developed by Avancen MOD Corporation. Also in development is MoxDuo, an orally administered, fixed ratio combination of morphine and oxycodone being developed by QRx Pharma, an Australian company. This product is also in development as an IV product.

Additional potential competitors for ARX-01 include products in development, including the fentanyl iontophoretic transdermal system, IONSYS, originally developed by ALZA Corporation and Ortho-McNeil Pharmaceutical, Inc., both Johnson & Johnson subsidiaries, and currently under development by Incline Therapeutics, Inc.; and Rylomine, an intranasal morphine product developed by Javelin Pharmaceuticals, Inc.

Potential Competition for ARX-02

We are developing ARX-02, the Sufentanil NanoTab BTP Management System, for the treatment of breakthrough pain in opioid tolerant patients, with an initial indication in cancer patients. The market for opioids for treatment of cancer breakthrough pain is large and competitive; however, currently there are no sufentanil

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products approved by the FDA for this indication. Our potential competitors for ARX-02 include products approved in the United States for cancer breakthrough pain, including: ACTIQ and FENTORA, currently manufactured by Teva Pharmaceuticals; Onsolis, currently manufactured by BioDelivery Sciences International, Inc.; Abstral, currently manufactured by ProStrakan Group plc; Lazanda, currently manufactured by Archimedes Pharma Limited, as well as products approved in Europe, including Instanyl, currently manufactured by Nycomed International Management GmbH. The active ingredient in all approved products for cancer breakthrough pain is fentanyl. Additional potential competitors for ARX-02 include products in late stage development for cancer breakthrough pain, such as: Fentanyl TAIFUN, currently manufactured by Akela Pharma, Inc.; and SL Spray, currently manufactured by Insys Therapeutics, Inc.

Potential Competition for ARX-03

We are developing ARX-03, the Sufentanil/Triazolam NanoTab, for use in diagnostic or therapeutic painful procedures of short duration in a physician s office. For these procedures, many practitioners rely primarily on local anesthetics injected to the procedural area to reduce the pain of the procedure, and do not use IV sedatives to manage the anxiety of patients because of the cost of having additional trained staff to monitor the patients. Currently, we are not aware of any products on the market which combine an opioid with a benzodiazepine in a single dosage form to manage the anxiety and pain of procedures in a physician s office. We are not aware of any approved or development stage non-IV sedative/analgesic products that would present competition to ARX-03. In the future, there may be products developed or approved for this market which could directly compete with ARX-03.

Potential Competition for ARX-04

Competitors for ARX-04 within the military environment include intramuscular morphine injections which are marketed by a variety of generic manufacturers. Within the civilian environment, there are a wide variety of approved injectable and oral opioid products to treat moderate-to-severe acute pain, including IV opioids such as morphine, fentanyl, hydromorphone and meperidine or oral opioids such as oxycodone and hydrocodone.

Pharmaceutical Manufacturing and Supply

We currently rely on contract manufacturers to produce sufentanil and sufentanil/triazolam NanoTabs for our clinical studies under current Good Manufacturing Practices, or cGMP, with oversight by our internal managers. Equipment specific to the pharmaceutical manufacturing process was purchased and customized by us and is currently owned by us. We plan to continue to rely on contract manufacturers and, potentially, collaboration partners to manufacture commercial quantities of our product candidates if and when approved for marketing by the FDA. We currently rely on a single manufacturer for the preclinical and clinical supplies of our drug product for each of our product candidates and do not currently have agreements in place for redundant supply or a second source for any of our product candidates. We have identified other drug product manufacturers that could satisfy our clinical study requirements but this would require a significant delay in setting up the facility and moving equipment. Additionally, should a supplier or a manufacturer on whom we rely to produce a product candidate provide us with a faulty product or such product is later recalled, we would likely experience significant delays and material additional costs.

Device Manufacturing and Supply

The ARX-01 handheld PCA device is manufactured by contract manufacturers, component fabricators and secondary service providers. Suppliers of components, subassemblies and other materials are located in Korea, Japan, Germany, China, Taiwan, Canada and the United States. All contract manufacturers and component suppliers have been selected for their specific competencies in the manufacturing processes and materials that make up the ARX-01 System. FDA regulations require that materials be produced under cGMPs or Quality

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System Regulation, or QSR. We outsource injection molding of all the plastic parts for the cartridge and device and product sub-assemblies; NanoTab cartridge filling and packaging; and assembly, packaging and labeling of the dispenser and controller.

ARX-02 is manufactured by contract manufacturers, component fabricators and secondary service providers. Suppliers of components, subassemblies and other materials are located in Korea, Japan, China, Taiwan, Canada and the United States. All contract manufacturers and component suppliers have been selected for their specific competencies in the manufacturing processes and materials that make up the ARX-02 System. FDA regulations require that materials be produced under cGMPs or QSR, as required for the respective unit operation within the manufacturing process. We outsource injection molding of all the plastic parts for the SDA and MSD and product sub-assemblies; and filling, packaging and labeling of SDAs.

ARX-03 and ARX-04 both utilize SDAs in the delivery of the NanoTab. FDA regulations require that materials be produced under cGMPs or QSR, as required for the respective unit operation within the manufacturing process. We outsource injection molding of all the plastic parts for the SDA, and product sub-assemblies; and filling, packaging and labeling of SDAs.

Government Regulation

Government authorities in the United States at the federal, state and local level, and in other countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing, export and import of products such as those we are developing. Our product candidates must be approved by the FDA through the new drug application, or NDA, process before they may legally be marketed in the United States.

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and regulations. The process of obtaining regulatory approvals and complying with applicable laws and regulations requires the expenditure of substantial time and financial resources. Failure to comply at any time during the product development and approval process, or after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include the FDA s refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. The process required by the FDA before a drug product may be marketed in the United States generally involves the following:

- completion of non-clinical laboratory tests, animal studies and formulation studies according to Good Laboratory Practices regulations;
- submission to the FDA of an investigational new drug, or IND, application which must become effective before human clinical studies may begin;
- performance of adequate and well-controlled human clinical studies according to Good Clinical Practices, or GCP, to establish the clinical safety and efficacy of the proposed drug product for its intended use;
- submission to the FDA of an NDA for a new drug product;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug product and the drug substance(s) are produced to assess compliance with cGMP;
- FDA review and approval of the NDA; and
- payment of user and facility fees.

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

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Human clinical studies are typically conducted in three sequential phases that may overlap or be combined:

Phase 1. The product is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.

Phase 2. Involves studies in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted conditions and to determine dosage tolerance and optimal dosage and schedule.

Phase 3. Clinical studies are undertaken to further evaluate dosage, clinical safety and efficacy in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labeling.

Progress reports detailing the results of the clinical studies must be submitted at least annually to the FDA and safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events. The FDA or the sponsor may suspend or terminate a clinical study at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an institutional review board, or IRB, can suspend or terminate approval of a clinical study at its institution if the clinical study is not being conducted in accordance with the IRB s requirements or if the drug or biological product has been associated with unexpected serious harm to patients.

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

Our product candidates ARX-01, ARX-02, ARX-03 and ARX-04 are regulated under IND applications and in the case of ARX-01, all device related information is filed under the Chemistry, Manufacturing and Controls Section, or CMC, of an IND.

The results of product development, preclinical studies and clinical studies, along with descriptions of the manufacturing process, analytical tests conducted on our drug products, proposed labeling and other relevant information, will be submitted to the FDA as part of an NDA for a new drug product, requesting approval to market the product in the United States. The submission of an NDA is subject to the payment of a substantial user fee; a waiver of such fee may be obtained under certain limited circumstances.

In addition, under the Pediatric Research Equity Act of 2003, an NDA or supplement to an NDA must contain data to assess the safety and effectiveness of the drug product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers.

The approval process is lengthy and difficult and the FDA may refuse to approve an NDA if the applicable regulatory criteria are not satisfied or may require additional clinical data or other data and information. Even if such data and information is submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical studies are not always conclusive and the FDA may interpret data differently than we interpret the same data.

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If one or more of our product candidates receive regulatory approval, the approval may be limited to specific conditions and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Our product candidates, if approved, will also require Risk Evaluations and Mitigation Strategies, or REMS, that can include a medication guide, patient package insert, a communication plan, elements to assure safe use and implementation system, and must include a timetable for assessment of the REMS. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. In addition, the FDA may require post-approval testing which involves clinical studies designed to further assess a drug product s safety and effectiveness after the NDA.

Post-Approval Requirements

Any drug products for which we receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product, providing the FDA with updated clinical safety and efficacy information, product sampling and distribution requirements, complying with certain electronic records and signature requirements and complying with FDA promotion and advertising requirements. The FDA strictly regulates labeling, advertising, promotion and other types of information on products that are placed on the market. Drug products may be promoted only for the approved indications and in accordance with the provisions of the approved label. Further, manufacturers of drug products must continue to comply with cGMP requirements, which are extensive and require considerable time, resources and ongoing investment to ensure compliance. In addition, changes to the manufacturing process generally require prior FDA approval before being implemented and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

Drug product manufacturers and other entities involved in the manufacturing and distribution of approved drug products 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 cGMP and other laws. The cGMP requirements apply to all stages of the manufacturing process, including the production, processing, packaging, labeling, storage and shipment of the drug product. Manufacturers must establish validated systems to ensure that products meet specifications and regulatory standards, and test each product batch or lot prior to its release. In the case of ARX-01, the device component must comply with 21 CFR 820.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products. Future FDA and state inspections may identify compliance issues at the facilities of our contract manufacturers that may disrupt production or distribution or may require substantial resources to correct.

The FDA may withdraw a product approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market. Further, the failure to maintain compliance with regulatory requirements may result in administrative or judicial actions, such as fines, warning letters, holds on clinical studies, product recalls or seizures, product detention or refusal to permit the import or export of products, refusal to approve pending applications or supplements, restrictions on marketing or manufacturing, injunctions or civil or criminal penalties.

Foreign Regulation

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

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Controlled Substances Regulations

Sufentanil, a Schedule II controlled substance, is the active pharmaceutical ingredient in the ARX-01, ARX-02, ARX-03 and ARX-04. NanoTab product candidates. Triazolam, a Schedule IV controlled substance, is also an active pharmaceutical ingredient in ARX-03. Controlled substances are governed by the Drug Enforcement Administration, or DEA, of the U.S. Department of Justice. The handling of controlled substances and/or drug product by us, our contract manufacturers, analytical laboratories, packagers and distributors, are regulated by the Controlled Substances Act and Title 21 CFR, Part 1300-1399. Our current supply chain is also subject to the regulations of Health Canada s Drug Strategy and Controlled Substances Programme, and specifically, the Office of Controlled Substances.

Unforeseen delays to the drug substance and drug product manufacture and supply chain may occur due to delays, errors or other unforeseen problems with the permitting process. Also, any one of our suppliers, contract manufacturers, laboratories, packagers and/or distributors could be the subject of DEA violations and enforcement could lead to delays or even loss of DEA license by the contractors.

Health Law Compliance

In addition to FDA laws and regulations, we must comply with a variety of federal and state laws governing, among other things, the privacy of healthcare information, our relationships with healthcare providers and the reimbursement of prescription drug products. Although the federal health care program anti-kickback statute has a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution, the exemptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchases, or recommendations may be subject to scrutiny if they do not qualify for an exemption or safe harbor. Federal false claims laws prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to get a false claim paid. The majority of states also have statutes or regulations similar to the federal anti-kickback law and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payer. Sanctions under these federal and state laws may include civil monetary penalties, exclusion of a manufacturer s products from reimbursement under government programs, criminal fines, and imprisonment. Because of the breadth of these laws and the narrowness of the safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of such laws. Such a challenge could have a material adverse effect on our business, financial condition and results of operations.

In March 2010, the Patient Protection and Affordable Health Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively the PPACA, was enacted, which includes measures to significantly change the way health care is financed by both governmental and private insurers. Many of the details regarding the implementation of the PPACA are yet to be determined, and at this time, it remains unclear the full effect that the PPACA would have on our business.

Research and Development

Conducting research and development is central to our business model. We have invested and expect to continue to invest significant time and capital in our research and development operations. Our research and development expenses were $13.6 million, $8.2 million and $15.5 million during the years ended December 31, 2011, 2010 and 2009, respectively. We plan to increase our research and development expenses for the foreseeable future as we seek to continue development of ARX-01 and ARX-04 and subsequently advance the development of ARX-02 and ARX-03.

Employees

As of December 31, 2011, we employed 21 full-time employees, all of whom are located at our headquarters in Redwood City, California. None of our employees are subject to a collective bargaining agreement. We consider our relationship with our employees to be good.

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Item 1A. Risk Factors

This Form 10-K contains forward-looking information based on our current expectations. Because our actual results may differ materially from any forward-looking statements made by or on behalf of us, this section includes a discussion of important factors that could affect our actual future results, including, but not limited to, our revenues, expenses, net loss and loss per share. We believe the risks described below are the risks that are material to us as of the date of this Form 10-K. If any of the following risks comes to fruition, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected.

Risks Related to Our Financial Condition and Need for Additional Capital

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

We are a development stage company with limited operating history. To date, we have focused primarily on developing our lead product candidate, the Sufentanil NanoTab PCA System, or ARX-01. We have three additional product candidates, the Sufentanil NanoTab BTP Management System, or ARX-02, the Sufentanil/Triazolam NanoTab, or ARX-03 and Sufentanil Single-Dose Acute Pain NanoTab, or ARX-04. We have incurred significant net losses in each year since our inception in July 2005 and as of December 31, 2011, we had an accumulated deficit of $88.7 million.

We have devoted most of our financial resources to research and development, including our non-clinical development activities and clinical trials. To date, we have financed our operations primarily through the sale of equity securities and debt. The size of our future net losses will depend, in part, on the rate of future expenditures and our ability to generate revenues. To date, none of our product candidates have been commercialized, and if our product candidates are not successfully developed or commercialized, or if revenues are insufficient following marketing approval, we will not achieve profitability and our business may fail. Even if we successfully obtain regulatory approval to market our product candidates in the United States, our revenues are also dependent upon the size of the markets outside of the United States, as well as our ability to obtain market approval and achieve commercial success.

We expect to continue to incur substantial and increased expenses as we expand our research and development activities and advance our clinical programs. We also expect an increase in our expenses associated with preparing for the potential commercialization of ARX-01. As a result of the foregoing, we expect to continue to incur significant and increasing operating losses and negative cash flows for the foreseeable future.

We have never generated any product or commercial revenue and may never be profitable.

Our ability to generate revenue from commercial sales and achieve profitability depends on our ability, alone or with collaborators, to successfully complete the development of, obtain the necessary regulatory approvals for, and commercialize our product candidates. Other than the revenue received from the US Army Medical Research and Material Command for research and development reimbursement under the terms of the grant for ARX-04, we do not anticipate generating revenues from sales of our product candidates for the foreseeable future, if ever. Our ability to generate future revenues from product sales depends heavily on our success in:

- completing the clinical development of ARX-01, initially for the treatment of post-operative pain in the hospital setting;
- obtaining regulatory approval for ARX-01;
- launching and commercializing ARX-01, including building a hospital-directed sales force in the U.S. and collaborating with third parties internationally; and
- completing the clinical development of, obtaining regulatory approval for, launching and commercializing ARX-02, ARX-03 and ARX-04, which will require additional funding.

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Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to predict the timing or amount of increased expenses, or when, or if, we will be able to achieve or maintain profitability. In addition, our expenses could increase beyond expectations if we are required by the United States Food and Drug Administration, or FDA, to perform studies in addition to those that we currently anticipate.

Even if one or more of our product candidates is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Even if we are able to generate revenues from the sale of our products, we may not become profitable and may need to obtain additional funding to continue operations.

We have a limited operating history that may make it difficult to predict our future performance or evaluate our business and prospects.

We were incorporated in 2005. Since inception, our operations have been primarily limited to organizing and staffing our company, developing our technology and undertaking preclinical studies and clinical trials for our product candidates. We have not yet obtained regulatory approval for any of our product candidates. Consequently, any predictions you make about our future success or viability or evaluation of our business and prospects may not be accurate.

If we fail to obtain additional financing, we would be forced to delay, reduce or eliminate our product development programs.

Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. We expect our research and development expenses to substantially increase in connection with our ongoing activities, particularly as we advance our clinical programs, including the start of our Phase 3 ARX-01 studies. As of December 31, 2011, we had working capital of $30.3 million.

We believe that our current cash, cash equivalents and investments will be sufficient to fund our current operations into the first quarter of 2013. We will need to raise substantial additional funds to support our future operations, and such funding may not be available to us on acceptable terms, or at all. Additionally, changing circumstances beyond our control may cause us to consume capital more rapidly than we currently anticipate. For example, we believe our existing cash resources are adequate to complete all three ARX-01 Phase 3 clinical trials; however, our clinical trials may encounter technical, enrollment or other difficulties that could increase our development costs more than we expected. In any event, we will require substantial additional capital to obtain regulatory approval for, and to commercialize, our product candidates. Raising funds in the current economic environment, when the capital markets have been affected by the global recession, may present additional challenges.

Securing additional financing may divert our management from our day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, we cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to:

- significantly delay, scale back or discontinue the development or commercialization of our product candidates;
- seek corporate partners for ARX-01 at an earlier stage than otherwise would be desirable or on terms that might be less favorable than might otherwise be available; or
- relinquish or license on unfavorable terms, our rights to technologies or product candidates that we otherwise would seek to develop or commercialize ourselves.

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If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we will not be able to continue our planned level of operations beyond the first quarter of 2013, complete the development activities required to submit a new drug application, or NDA, to the FDA, nor pursue commercialization efforts, all of which would have a material adverse effect on our business, operating results and prospects.

We may sell additional equity or debt securities to fund our operations, which may result in dilution to our stockholders and impose restrictions on our business.

In order to raise additional funds to support our operations, we may sell additional equity or debt securities, which would result in dilution to all of our stockholders or impose restrictive covenants that adversely impact our business. The sale of additional equity or convertible debt securities would result in the issuance of additional shares of our capital stock and dilution to all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and could also result in certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we are unable to expand our operations or otherwise capitalize on our business opportunities, our business, financial condition and results of operations could be materially adversely affected and we may not be able to meet our debt service obligations.

We might be unable to service our current debt due to a lack of cash flow and might be subject to default.

In June 2011, we entered into a loan and security agreement with Hercules Technology II, L.P. and Hercules Technology Growth Capital, Inc., collectively referred to as Hercules, under which we may borrow up to $20.0 million in two tranches of $10.0 million each, represented by secured convertible term promissory notes. We drew the first tranche of $10.0 million upon closing of the transaction in June 2011 and the second tranche of $10.0 million in December 2011. We used a portion of the proceeds from the first tranche to repay the remaining obligations under that certain Loan and Security Agreement between us and Pinnacle Ventures, L.L.C., dated September 2008. The interest rate is initially 8.50%, with 12 months of interest only payments. Any notes issued pursuant to the loan and security agreement mature on December 1, 2014. We granted to Hercules a first priority security interest in substantially all of our assets, with the exception of our intellectual property, where the security interest is limited to proceeds of intellectual property.

If we do not make the required payments when due, either at maturity, or at applicable installment payment dates, if we breach the agreement or become insolvent, Hercules could elect to declare all amounts outstanding, together with accrued and unpaid interest and penalty, to be immediately due and payable. Even if we were able to prepay the full amount in cash, any such repayment could leave us with little or no working capital for our business. If we are unable to repay those amounts, Hercules will have a first claim on our assets pledged under the loan agreement. If Hercules should attempt to foreclose on the collateral, it is unlikely that there would be any assets remaining after repayment in full of such secured indebtedness. Any default under the loan agreement and resulting foreclosure would have a material adverse effect on our financial condition and our ability to continue our operations.

Risks Related to Clinical Development and Regulatory Approval

We depend substantially on the success of our product candidate, ARX-01, which is still under clinical development, and may not obtain regulatory approval or be successfully commercialized.

We have not marketed, distributed or sold any products. The success of our business depends primarily upon our ability to develop and commercialize ARX-01, for the treatment of post-operative pain. In March 2012, we initiated the first of three Phase 3 clinical studies, with top-line data expected in the second half of 2012. We believe our existing capital resources will be adequate to support operations into the first quarter of 2013 and will be adequate to complete all three ARX-01 Phase 3 clinical trials. Contingent on our ability to raise additional

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funding, we intend to use these completed trials as a basis to submit an NDA for ARX-01 later in 2013. There is no guarantee that our Phase 3 clinical trials, or any of the remaining pharmacokinetic studies, or PK studies, or non-clinical studies to be included in the NDA, will be completed, or if completed, will be successful.

Any delay in obtaining, or inability to obtain, regulatory approval would prevent us from commercializing ARX-01, generating revenues and achieving profitability. If any of these events occur, we may be forced to abandon our development efforts for ARX-01, which would have a material adverse effect on our business and could potentially cause us to cease operations.

We depend substantially on the successful completion of Phase 3 clinical trials for our product candidates. The positive clinical results obtained for our product candidates in Phase 2 clinical studies may not be repeated in Phase 3.

While we have completed multiple Phase 2 clinical studies for ARX-01, ARX-02 and ARX-03, we have never completed a Phase 3 clinical trial. Our product candidates are subject to the risks of failure inherent in pharmaceutical and medical device development. Before obtaining regulatory approval for the commercial sale of any product candidate, we must successfully complete Phase 3 clinical trials. Negative or inconclusive results of a Phase 3 clinical study could cause the FDA to require that we repeat it or conduct additional clinical studies. The FDA could analyze our data using alternative imputation strategies and determine that the trial was negative or inconclusive. Furthermore, while we have obtained positive safety and efficacy results for our sufentanil-based product candidates during our prior clinical trials, we cannot be certain that these results will be duplicated when our product candidates are tested in a larger number of patients in our Phase 3 clinical trials.

Delays in clinical trials are common and have many causes, and any delay could result in increased costs to us and jeopardize or delay our ability to obtain regulatory approval and commence product sales.

We may experience delays in clinical trials of our product candidates. We plan to conduct three Phase 3 studies in 2012. We have successfully initiated the first of three Phase 3 studies. Our current and planned clinical trials may not begin on time, have an effective design, enroll a sufficient number of patients or be completed on schedule, if at all. Our clinical trials for any of our product candidates could be delayed for a variety of reasons, including:

- inability to raise funding necessary to initiate or continue a trial;
- delays in pharmacokinetic studies required to submit an NDA;
- delays in obtaining regulatory approval to commence a trial;
- delays in reaching agreement with the FDA on final trial design;
- delays in completing the required device Human Factor studies and software validation to the satisfaction of the FDA;
- imposition of a clinical hold following an inspection of our clinical trial operations or trial sites by the FDA or other regulatory authorities;
- delays in reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites;
- delays in obtaining required institutional review board approval at each site;

delays in recruiting suitable patients to participate in a trial;

delays in the testing, validation, manufacturing and delivery of the device components of our product candidates;

delays in having patients complete participation in a trial or return for post-treatment follow-up;

clinical sites dropping out of a trial to the detriment of enrollment;

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- time required to add new clinical sites; or

- delays by our contract manufacturers to produce and deliver sufficient supply of clinical trial materials.

If initiation or completion of the planned Phase 3 trials or Phase 2 trial are delayed for our product candidates for any of the above reasons, our development costs may increase, our approval process could be delayed and our ability to commercialize and commence sales of our product candidates could be materially harmed, which could have a material adverse effect on our business.

Our product candidates may cause adverse effects or have other properties that could delay or prevent their regulatory approval or limit the scope of any approved label or market acceptance.

Adverse events, or AEs, caused by our product candidates could cause us, other reviewing entities, clinical study sites or regulatory authorities to interrupt, delay or halt clinical studies and could result in the denial of regulatory approval. Phase 2 clinical studies conducted by us with our ARX-01, ARX-02 and ARX-03 product candidates have generated some AEs, but no serious adverse events, or SAEs, related to the study drug. For example, in ARX-01 clinical studies completed to date, 11% of the patients experienced vomiting and 8% experienced itching for 10 mcg and 15 mcg treated groups, as compared to the placebo treated subjects, of which 6% experienced vomiting and none experienced itching. If SAEs related to the study drug are observed in any of our clinical studies, our ability to obtain regulatory approval for our product candidates may be adversely impacted.

Further, if our products cause serious or unexpected side effects after receiving market approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product or impose restrictions on its distribution in a form of a modified Risk Evaluation and Mitigation Strategy, or REMS;

- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;

- we may be required to change the way the product is administered or conduct additional clinical studies;

- we could be sued and held liable for harm caused to patients; or

- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing our product candidates.

Additional time may be required to obtain regulatory approval for our ARX-01 product candidate because it is a drug/device combination.

ARX-01 is a drug/device combination product candidate with both drug and device components submitted in the investigational new drug application. Based on our discussions with the FDA, we believe that ARX-01 is viewed as a combination product by the FDA, and both drug and device components will be required for review as part of an NDA submission. There are very few examples of the FDA approval process for drug/device combination products such as ARX-01. As a result, we have in the past and may in the future experience delays for ARX-01 due to regulatory uncertainties in the product development and approval process, in particular as it relates to a drug/device product approval under an NDA.

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After the completion of our clinical trials, we cannot predict whether or when we will obtain regulatory approval to commercialize any of our product candidates, and we cannot, therefore, predict the timing of any future revenue.

We cannot commercialize any of our product candidates, including ARX-01, until the appropriate regulatory authorities, such as the FDA, have reviewed and approved the product candidate. The regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval for ARX-01. Additional delays may result if ARX-01 is taken before an FDA Advisory Committee which may recommend restrictions on approval or recommend non-approval. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory agency policy during the period of product development, clinical studies and the review process.

Even if we obtain regulatory approval for ARX-01 and our other product candidates, we will still face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even if we obtain regulatory approval in the United States, the FDA may still impose significant restrictions on the indicated uses or marketing of our product candidates, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. For example, the labeling ultimately approved for ARX-01 and our other product candidates will likely include restrictions on use due to the opioid nature of sufentanil. ARX-01 and our other product candidates will also be subject to ongoing FDA requirements governing the labeling, packaging, storage, distribution, safety surveillance, advertising, promotion, record-keeping and reporting of safety and other post-market information. The holder of an approved NDA is obligated to monitor and report AEs and any failure of a product to meet the specifications in the NDA. The holder of an approved NDA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, manufacturers of drug products and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with current good manufacturing practices, or cGMP, and adherence to commitments made in the NDA. If we, or a regulatory agency, discover previously unknown problems with a product, such as AEs of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions relative to that product or the manufacturing facility, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If we fail to comply with applicable regulatory requirements following approval of our product candidate, a regulatory agency may:

- issue a warning letter asserting that we are in violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending NDA or supplements to an NDA submitted by us;
- seize product; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our products and generate revenues.

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Even if we obtain FDA approval for ARX-01 or any of our product candidates in the United States, we may never obtain approval for or commercialize our products outside of the United States, which would limit our ability to realize their full market potential.

In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and costs for us and require additional non-clinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of our products will be harmed.

ARX-01 and our other product candidates will require Risk Evaluation and Mitigation Strategies, or REMS.

The FDA Amendments Act of 2007 implemented safety-related changes to product labeling and require the adoption of REMS. Our product candidates will require REMS. The REMS may include requirements for special labeling or medication guides for patients, special communication plans to health care professionals and restrictions on distribution and use. While we have received information from the FDA regarding certain aspects of the required REMS for ARX-01, we cannot predict the specific REMS to be required as part of the FDA s approval of ARX-01. Depending on the extent of the REMS requirements, our costs to commercialize ARX-01 may increase significantly. ARX-02, ARX-03 and ARX-04, if approved, will also require REMS programs that may increase our costs to commercialize these product candidates. Furthermore, risks of sufentanil that are not adequately addressed through proposed REMS for our product candidates may also prevent or delay their approval for commercialization.

Risks Related to Our Reliance on Third Parties

We rely on third party manufacturers to produce our preclinical and clinical drug supplies, and we intend to rely on third parties to produce commercial supplies of any approved product candidates.

Reliance on third party manufacturers entails many risks including:

- the inability to meet our product specifications and quality requirements consistently;
- a delay or inability to procure or expand sufficient manufacturing capacity;
- manufacturing and product quality issues related to scale-up of manufacturing;
- costs and validation of new equipment and facilities required for scale-up;
- a failure to comply with cGMP and similar foreign standards;
- the inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;

the reliance on a limited number of sources, and in some cases, single sources for product components, such that if we are unable to secure a sufficient supply of these product components, we will be unable to manufacture and sell our product candidates in a timely fashion, in sufficient quantities or under acceptable terms;

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- the lack of qualified backup suppliers for those components that are currently purchased from a sole or single source supplier;
- operations of our third party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- carrier disruptions or increased costs that are beyond our control; and
- the failure to deliver our products under specified storage conditions and in a timely manner.

Any of these events could lead to clinical study delays, failure to obtain regulatory approval or impact our ability to successfully commercialize our products. Some of these events could be the basis for FDA action, including injunction, recall, seizure, or total or partial suspension of production.

We rely on limited sources of supply for the drug component of our product candidates and any disruption in the chain of supply may cause delay in developing and commercializing our product candidates.

Currently, we use two established suppliers of sufentanil citrate for our NanoTabs. For each product candidate, only one of the two suppliers will be qualified as a vendor with the FDA. If supply from the approved vendor is interrupted, there could be a significant disruption in commercial supply. The alternative vendor would need to be qualified through an NDA supplement which could result in further delay. The FDA or other regulatory agencies outside of the United States may also require additional studies if a new sufentanil supplier is relied upon for commercial production. In addition, the Drug Enforcement Administration, or the DEA, may reduce, delay or refuse our quota for sufentanil, which would disrupt our supply of sufentanil citrate and cause delay in the development and commercialization of our product candidates.

Currently, we use one supplier of triazolam for our ARX-03 NanoTabs. Switching triazolam suppliers may involve substantial cost and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, cause us to incur higher costs and prevent us from commercializing them successfully. Furthermore, if our suppliers fail to deliver the required commercial quantities of active pharmaceutical ingredient on a timely basis and at commercially reasonable prices, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

Manufacture of sufentanil NanoTabs requires specialized equipment and expertise.

Ethanol, which is used in the manufacturing process, is flammable, and sufentanil is a highly potent, Schedule II compound. These factors necessitate the use of specialized equipment and facilities for manufacture of sufentanil NanoTabs. There are a limited number of facilities that can accommodate our manufacturing process and we need to use dedicated equipment throughout development and commercial manufacturing to avoid the possibility of cross-contamination. If our equipment breaks down or needs to be repaired or replaced, it may cause significant disruption in clinical or commercial supply, which could result in delay in the process of obtaining approval for or sale of our products. Furthermore, we are using one manufacturer to produce our sufentanil NanoTabs and have not identified a back-up commercial facility to date. Any problems with our existing facility or equipment may delay or impair our ability to complete our clinical trials or commercialize our product candidates and increase our cost.

Manufacturing issues may arise that could increase product and regulatory approval costs or delay commercialization.

As we scale up manufacturing of our product candidates and conduct required stability testing, product, packaging, equipment and process-related issues may require refinement or resolution in order to proceed with

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our planned clinical trials and obtain regulatory approval for commercial marketing. In the past we have identified impurities in our product candidates. In the future we may identify significant impurities, which could result in increased scrutiny by the regulatory agencies, delays in clinical program and regulatory approval, increases in our operating expenses, or failure to obtain or maintain approval for our products.

Historically, we have manufactured the majority of our NanoTab supplies at Patheon in Toronto, Canada. During the third quarter of 2011, we transferred our manufacturing capabilities to Patheon s facility in Cincinnati, Ohio where we have built out a suite within their existing buildings that will serve as a manufacturing facility for clinical and commercial supplies of NanoTabs. The new facility has been qualified; however, we have not yet produced clinical or commercial supplies out of this facility and issues may arise in production pertaining to the new facility, or otherwise, which may adversely affect our clinical and commercial plans. In addition, the FDA or other regulatory agencies may require that a bioequivalence study be conducted, which is designed to ensure that the Phase 3 drug lots made at Patheon, Toronto are equivalent to one of the registration drug lots made at Patheon, Cincinnati. There is risk that the study could fail the FDA's bioequivalence requirements which would adversely affect our clinical and commercial plans.

Our designs for the device components of our product candidates for Phase 3 clinical trials may not be fully functional or commercially viable.

The ARX-01 device we are using in Phase 3 clinical trials and plan to use commercially, or the Phase 3 device, has more features than the device used in Phase 2, including additional software. We have conducted multiple Design Validation, Software Verification and Validation, Reprocessing and Human Factors studies, which have informed the design of the Phase 3 device and we plan to conduct one or more summative Human Factors studies in 2012. However, we cannot predict if the Phase 3 device will be fully functional or acceptable throughout the Phase 3 clinical trials or for commercial use. If we need to modify the Phase 3 device either before, during or after the planned Phase 3 studies, we may incur higher costs and experience delay in regulatory approval and commercialization of ARX-01. Furthermore, if the changes to the device are substantial, we may need to conduct further clinical studies in order to have the commercial device approved by the FDA.

We have limited experience manufacturing the ARX-01 Phase 3 device on a clinical scale, no experience on a commercial scale and do not own or operate a manufacturing facility.

We have manufactured ARX-01 devices and supplies on a small scale, including those needed for the first Phase 3 clinical study. We continue to rely on contract manufacturers, component fabricators and secondary service providers to produce the necessary ARX-01 devices for the remaining Phase 3 clinical trials and the commercial marketplace. We currently outsource manufacturing and packaging of the controller, dispenser and cartridge components of the ARX-01 device to third parties and intend to continue to do so. These purchases of Phase 3 devices and components were made and will continue to be made utilizing short term purchase agreements and we may not be able to enter into long-term agreements for commercial supply of ARX-01 with third party manufacturers, or may be unable to do so on acceptable terms. We may encounter unanticipated problems in the scale-up and automation process that will result in delays in the manufacturing of the ARX-01 cartridge, dispenser or controller.

We may not be able to establish additional sources of supply for device manufacture. Such suppliers are subject to FDA regulations requiring that materials be produced under current Good Manufacturing Practices, or cGMPs, or Quality System Regulations, or QSR, and subject to ongoing inspections by regulatory agencies. Failure by any of our suppliers to comply with applicable regulations may result in delays and interruptions to our product candidate supply while we seek to secure another supplier that meets all regulatory requirements.

Reliance on third party manufacturers entails risks to which we would not be subject if we manufactured the product candidates ourselves, including the possible breach of the manufacturing agreements by the third parties because of factors beyond our control; and the possibility of termination or nonrenewal of the agreements by the third parties because of our breach of the manufacturing agreement or based on their own business priorities.

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We rely on third parties to conduct, supervise and monitor our clinical studies, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We have selected and executed agreements with our CRO to conduct our first two Phase 3 clinical studies for ARX-01 and for the Phase 2 study for ARX-04. We will rely on this CRO, along with other CROs, as well as clinical trial sites, to ensure the proper and timely conduct of our clinical trials. While we have agreements governing their activities, we have limited influence over their actual performance. We have relied and plan to continue to rely upon CROs to monitor and manage data for our ongoing clinical programs for ARX-01 and our other product candidates, as well as the execution of nonclinical studies. We control only certain aspects of our CROs activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with the FDA s current good clinical practices, or cGCPs, which are regulations and guidelines enforced by the FDA for all of our product candidates in clinical development. The FDA enforces these cGCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our marketing applications. Upon inspection, the FDA may determine that our Phase 3 clinical trials do not comply with cGCPs. In addition, our Phase 3 clinical trials will require a sufficiently large number of test subjects to evaluate the safety and effectiveness of ARX-01. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of patients, we may be required to repeat the Phase 3 clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and we cannot control whether or not they devote sufficient time and resources to our ongoing clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical studies, or other drug development activities which could harm our competitive position. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs, which may allow our potential competitors to access our proprietary technology. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize ARX-01, or our other product candidates. As a result, our financial results and the commercial prospects for ARX-01 and any future product candidates that we develop would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

Development of ARX-04 is dependent on funding from our government grant with the US Army Medical Research and Material Command, or USAMRMC.

In May 2011, we entered into an award contract with the USAMRMC, effective June 1, 2011, in which the USAMRMC granted approximately $5.6 million to us in order to support the development of ARX-04, a sufentanil NanoTab for the treatment of moderate-to-severe acute pain. Under the terms of the grant, the USAMRMC will reimburse us for development, manufacturing and clinical costs necessary to prepare for and complete the planned Phase 2 dose-finding trial in a study of acute moderate-to-severe pain, and to prepare to enter Phase 3 development. The period of research under the grant ends on August 31, 2012, with a final report due on September 30, 2012. The grant gives the USAMRMC the option to extend the term of the grant and provide additional funding for the research.

Development of ARX-04 is dependent on the continued performance by the USAMRMC of its responsibilities under this agreement, including adequate continued funding of USAMRMC programs as well as the prompt processing of USAMRMC s internal approvals necessary to initiate the Phase 2 clinical study. We have no control over the resources and funding that USAMRMC may devote to this or future agreements, which may be subject to annual renewal and which generally may be terminated by USAMRMC at any time.

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USAMRMC may fail to perform their responsibilities under the agreement, which may cause them to be terminated. In addition, we may fail to perform our responsibilities under the agreement. Our government agreement is subject to audits, which may occur several years after the period to which the audit relates. If an audit identifies significant unallowable costs, we could incur a material charge to our earnings or reduction in our cash position. As a result, we may be unsuccessful in entering, or ineligible to enter, into future government agreements.

There can be no assurances that this agreement will continue or that we will be able to enter into new contracts with USAMRMC or obtain funding from other sources to continue to support development of ARX-04 beyond the Phase 2 clinical study and preparation for Phase 3 activities. The process of obtaining USAMRMC contracts is lengthy and uncertain and we will have to compete with other companies for each contract. Further, changes in government budgets and agendas may result in a decreased and de-prioritized emphasis on supporting research and development programs, including ARX-04.

Risks Related to Commercialization of Our Product Candidates

The commercial success of ARX-01 and our other product candidates will depend upon the acceptance of these products by the medical community, including physicians, patients and health care payors.

The degree of market acceptance of any of our product candidates will depend on a number of factors, including:

- demonstration of clinical safety and efficacy compared to other products;
- the relative convenience, ease of administration and acceptance by physicians, patients and health care payors;
- the prevalence and severity of any AEs;
- overcoming the perception of sufentanil as a potentially unsafe drug due to its high potency;
- limitations or warnings contained in the FDA-approved label for ARX-01;
- availability of alternative treatments;
- pricing and cost-effectiveness;
- the effectiveness of our or any future collaborators sales and marketing strategies;
- our ability to obtain hospital formulary approval;
- our ability to obtain and maintain sufficient third party coverage or reimbursement; and
- the willingness of patients to pay out-of-pocket in the absence of third party coverage.

If ARX-01 is approved, but does not achieve an adequate level of acceptance by physicians, patients and health care payors, we may not generate sufficient revenue from ARX-01 and we may not become or remain profitable.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenue.

We currently do not have an organization for the sales, marketing and distribution of pharmaceutical products and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any products that may be approved, we must build our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. We intend to enter into strategic partnerships with third parties to commercialize our product candidates outside of the United States. We will also consider the option to enter into strategic partnerships for our product candidates in the United States.

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To date, we have not entered into any strategic partnerships for any of our product candidates. We face significant competition in seeking appropriate strategic partners, and these strategic partnerships can be intricate and time consuming to negotiate and document. We may not be able to negotiate strategic partnerships on acceptable terms, or at all. We are unable to predict when, if ever, we will enter into any strategic partnerships because of the numerous risks and uncertainties associated with establishing strategic partnerships. Our strategy for ARX-01 is to develop a hospital-directed sales force and/or collaborate with third parties to promote the product to healthcare professionals and third-party payors in the United States. Our future collaboration partners, if any, may not dedicate sufficient resources to the commercialization of our product candidates or may otherwise fail in their commercialization due to factors beyond our control. If we are unable to establish effective collaborations to enable the sale of our product candidates to healthcare professionals and in geographical regions, including the United States, that will not be covered by our own marketing and sales force, or if our potential future collaboration partners do not successfully commercialize our product candidates, our ability to generate revenues from product sales will be adversely affected.

Until we are able to negotiate a strategic partnership or obtain additional financial resources for ARX-02 or ARX-03, we will not progress development or generate any revenue from these product candidates. We are developing ARX-04 under a grant from USAMRMC and if a follow on grant from USAMRMC to cover Phase 3 costs is not obtained, we may be required to curtail all activities associated with ARX-04. In addition, without a partnership or additional grant funding, we would bear all the risk related to the development of ARX-02, ARX-03 or ARX-04. If we elect to increase our expenditures to fund development or commercialization activities ourselves, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. If we do not have sufficient funds, we will not be able to bring ARX-02, ARX-03 or ARX-04 to market or generate product revenue.

If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate sufficient product revenue and may not become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

If we obtain approval to commercialize our products outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

If our product candidates are approved for commercialization, we intend to enter into agreements with third parties to market ARX-01 outside the United States. We expect that we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;

workforce uncertainty in countries where labor unrest is more common than in the United States;

production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and

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business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

If we, or potential partners, are unable to compete effectively, our product candidates may not reach their commercial potential.

The market for our product candidates is characterized by intense competition and rapid technological advances. If our product candidates obtain FDA approval, they will compete with a number of existing and future pharmaceuticals and drug delivery devices developed, manufactured and marketed by others. We or potential partners will compete against fully integrated pharmaceutical companies and smaller companies that are collaborating with larger pharmaceutical companies, academic institutions, government agencies and other public and private research organizations.

The primary competition for ARX-01 is the IV PCA pump, which is widely used in the post-operative setting. Leading manufacturers of IV PCA pumps include Hospira Inc., CareFusion Corporation, Baxter International Inc., Curlin Medical, Inc. and Smiths Medical. The most common opioids used to treat post-operative pain are morphine, hydromorphone and fentanyl, all of which are available as generics. Also available on the market is the Avancen Medication on Demand, or MOD, Oral PCA Device developed by Avancen MOD Corporation. Also in development is MoxDuo, an orally administered, fixed ratio combination of morphine and oxycodone being developed by QRx Pharma, an Australian company. This product is also in development as an IV product.

Additional potential competitors for ARX-01 include products in development, including the fentanyl iontophoretic transdermal system, IONSYS, originally developed by ALZA Corporation and Ortho-McNeil Pharmaceutical, Inc., both Johnson & Johnson subsidiaries, and currently under development by Incline Therapeutics, Inc.; and Rylomine, an intranasal morphine product developed by Javelin Pharmaceuticals, Inc.

Our potential competitors for ARX-02 include products approved in the United States for cancer breakthrough pain, including: ACTIQ and FENTORA, currently manufactured by Teva Pharmaceuticals; Onsolis, currently manufactured by BioDelivery Sciences International, Inc.; Abstral, currently manufactured by ProStrakan Group plc; Lazanda, currently manufactured by Archimedes Pharma Limited, as well as products approved in Europe, including: Instanyl, currently manufactured by Nycomed International Management GmbH. The active ingredient in all approved products for cancer breakthrough pain is fentanyl. Additional potential competitors for ARX-02 include products in late stage development for cancer breakthrough pain, such as: Fentanyl TAIFUN, currently manufactured by Akela Pharma, Inc.; and SL Spray, currently manufactured by Insys Therapeutics, Inc.

We are not aware of any approved or development stage non-IV sedative/analgesic products that would present competition to ARX-03. In the future, there may be products developed or approved for this market which could directly compete with ARX-03.

Competitors for ARX-04 within the military environment include intramuscular morphine injections which are marketed by a variety of generic manufacturers. Within the civilian environment, there are a wide variety of approved injectable and oral opioid products to treat moderate-to-severe acute pain, including IV opioids such as morphine, fentanyl, hydromorphone and meperidine or oral opioids such as oxycodone and hydrocodone.

It is possible that any of these competitors could develop or improve technologies or products that would render our product candidates obsolete or non-competitive, which could adversely affect our revenue potential. Key competitive factors affecting the commercial success of our product candidates are likely to be efficacy, safety profile, reliability, convenience of dosing, price and reimbursement.

Many of our potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of drug candidates, obtaining FDA and other regulatory approval of products and the commercialization of those products. Accordingly, our competitors

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may be more successful than we are in obtaining FDA approval for drugs and achieving widespread market acceptance. Our competitors drugs or drug delivery systems may be more effective, have fewer adverse effects, be less expensive to develop and manufacture, or be more effectively marketed and sold than any product candidate we may commercialize. This may render our product candidates obsolete or non-competitive before we can recover our losses. We anticipate that we will face intense and increasing competition as new drugs enter the market and additional technologies become available. These entities may also establish collaborative or licensing relationships with our competitors, which may adversely affect our competitive position. Finally, the development of different methods for the treatment of post-operative pain or breakthrough pain could render ARX-01 and ARX-02, respectively, non-competitive or obsolete. These and other risks may materially adversely affect our ability to attain or sustain profitable operations.

Hospital formulary approval and reimbursement may not be available for ARX-01 and our other product candidates, which could make it difficult for us to sell our products profitably.

Obtaining formulary approval can be an expensive and time-consuming process. We cannot be certain if and when we will obtain formulary approval to allow us to sell our products into our target markets. Failure to obtain timely formulary approval will limit our commercial success.

Furthermore, market acceptance and sales of ARX-01, or any future product candidates that we develop, will depend on reimbursement policies and may be affected by future healthcare reform measures. Government authorities and third party payors, such as private health insurers, hospitals and health maintenance organizations, decide which drugs they will pay for and establish reimbursement levels. We cannot be sure that reimbursement will be available for ARX-01, or any future product candidates. Also, reimbursement amounts may reduce the demand for, or the price of, our products. If reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize ARX-01, or any future product candidates that we develop.

There have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions that could affect our ability to sell our products profitably. These legislative and/or regulatory changes may negatively impact the reimbursement for our products, following approval. The availability of numerous generic pain medications may also substantially reduce the likelihood of reimbursement for ARX-01. The potential application of user fees to generic drug products may expedite the approval of additional pain medication generic drugs. We expect to experience pricing pressures in connection with the sale of ARX-01 and any other products that we develop, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. If we fail to successfully secure and maintain reimbursement coverage for our products or are significantly delayed in doing so, we will have difficulty achieving market acceptance of our products and our business will be harmed.

Risks Related to Our Business Operations and Industry

Failure to comply with the Drug Enforcement Administration regulations, or the cost of compliance with these regulations, may adversely affect our business.

Our sufentanil-based products are subject to extensive regulation by the DEA, due to their status as scheduled drugs. Sufentanil is a Schedule II opioid, considered to present the highest risk of abuse. The manufacture, shipment, storage, sale and use of controlled substances are subject to a high degree of regulation, including security, record-keeping and reporting obligations enforced by the DEA. This high degree of regulation can result in significant costs in order to comply with the required regulations, which may have an adverse effect on the development and commercialization of our product candidates.

The DEA limits the availability and production of all Schedule II substances, including sufentanil, through a quota system. The DEA requires substantial evidence and documentation of expected legitimate medical and scientific needs before assigning quotas to manufacturers. Our contract manufacturers have applied annually for a quota on our behalf. In future years, we may need greater amounts of sufentanil to sustain and complete our Phase 3 development program for ARX-01, and we will need significantly greater amounts of sufentanil to

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implement our commercialization plans if the FDA approves ARX-01. Any delay or refusal by the DEA in establishing the procurement quota or a reduction in our quota for sufentanil or a failure to increase it over time to meet anticipated increases in demand could delay or stop the clinical development or commercial sale of ARX-01. This could have a material adverse effect on our business, results of operations, financial condition and prospects.

In addition, historically we have purchased sufentanil in the United States and have shipped it to our third party manufacturer, Patheon Inc. in Toronto, Canada, where much of our clinical trial manufacturing has been completed to date. While we transferred manufacturing responsibilities to Patheon s facility in Cincinnati, Ohio in the third quarter of 2011, we may elect or need to use Patheon s facility in Toronto, Canada at some point in the future. Shipping across international borders is a bureaucratic process that takes a minimum of three months and requires permits for both import and export. If we fail to comply with applicable regulatory requirements or fail to submit permit applications in a timely manner, the government could refuse to permit sufentanil to be exported and imported between Canada and the United States. Our failure to comply with these requirements could result in increased costs, delayed shipments, the loss of DEA registration for one of our suppliers, significant restrictions on ARX-01 or any of our product candidates, civil penalties or criminal prosecution and delays in conducting our clinical trials.

Drug Enforcement Administration regulations require that sufentanil be manufactured in the United States if sufentanil-based products are to be marketed in the United States, and there is no guarantee that we will secure a commercial supply agreement with a manufacturer based in the United States.

A substantial portion of our clinical trial manufacturing to date has been completed at Patheon Inc. in Toronto, Canada. Because the DEA requires that sufentanil be manufactured in the United States if our product candidates are marketed in the United States, we transferred our manufacturing capability in the third quarter of 2011 from Patheon in Toronto, Canada to Patheon s production facility in Cincinnati, Ohio. There can be no assurance that the technology transfer process will be completed in a timely manner which could result in a delay in submitted an NDA.

In addition, we do not yet have a commercial supply contract in place. If we cannot establish a supply contract on commercially reasonable terms, or if equipment manufacture or modifications do not meet expected deadlines, the timing for NDA submission may be delayed.

Switching or adding commercial manufacturing capability can involve substantial cost and require extensive management time and focus, as well as additional regulatory filings. In addition, there is a natural transition period when a new manufacturing facility commences work. As a result, delays may occur, which can materially impact our ability to meet our desired commercial timelines, thereby increasing our costs and reducing our ability to generate revenue.

The facilities of any of our future manufacturers of sufentanil-containing NanoTabs must be approved by the FDA after we submit our NDA and before approval of ARX-01 and our other product candidates. We do not control the manufacturing process of sufentanil NanoTabs and are completely dependent on these third party manufacturing partners for compliance with the FDA s requirements for manufacture. In addition, although our third party manufacturers are well established commercial manufacturers, we are dependent on their continued adherence to cGMP manufacturing and acceptable changes to their process. If our manufacturers do not meet the FDA s strict regulatory requirements, they will not be able to secure FDA approval for their manufacturing facilities. If the FDA does not approve these facilities for the commercial manufacture of sufentanil NanoTabs, we will need to find alternative suppliers, which would result in significant delays in obtaining FDA approval for ARX-01. These challenges may have a material adverse impact on our business, results of operations, financial condition and prospects.

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Business interruptions could delay us in the process of developing our products and could disrupt our sales.

Our headquarters is located in the San Francisco Bay Area, near known earthquake fault zones and is vulnerable to significant damage from earthquakes. We are also vulnerable to other types of natural disasters and other events that could disrupt our operations. We do not carry insurance for earthquakes or other natural disasters and we may not carry sufficient business interruption insurance to compensate us for losses that may occur. Any losses or damages we incur could have a material adverse effect on our business operations.

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

We are highly dependent on principal members of our executive team, the loss of whose services may adversely impact the achievement of our objectives. While we have entered into offer letters with each of our executive officers, any of them could leave our employment at any time, as all of our employees are at will employees. Recruiting and retaining other qualified employees for our business, including scientific and technical personnel, will also be critical to our success. There is currently a shortage of skilled executives in our industry, which is likely to continue. As a result, competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical companies for individuals with similar skill sets. In addition, failure to succeed in clinical studies may make it more challenging to recruit and retain qualified personnel. The inability to recruit or loss of the services of any executive or key employee might impede the progress of our research, development and commercialization objectives.

We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2011, we had 21 full-time employees. As our company matures, we expect to expand our employee base to increase our managerial, scientific and engineering, operational, sales, marketing, financial and other resources and to hire more consultants and contractors. Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize ARX-01 and our other product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

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

The use of our product candidates in clinical studies and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- withdrawal of clinical study participants;

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costs due to related litigation;

distraction of management s attention from our primary business;

substantial monetary awards to patients or other claimants;

the inability to commercialize our product candidates; and

decreased demand for our product candidates, if approved for commercial sale.

Our current product liability insurance coverage may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for our product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Risks Related to Our Intellectual Property

We have numerous pending patent applications in the United States, and one issued patent in Europe. If our pending patent applications fail to issue, our business will be adversely affected.

Our commercial success will depend in part on obtaining and maintaining patent protection for our product candidates, as well as successfully defending our current and future patents against third party challenges. To protect our proprietary technology, we rely on patents as well as other intellectual property protections, including trade secrets, nondisclosure agreements and confidentiality provisions.

In addition, there can be no assurance that our pending patent applications will result in issued patents. As of December 31, 2011, we are the owner of record of one issued European patent which expires in 2027, and we are pursuing 16 U.S. non-provisional patent applications, two pending international Patent Cooperation Treaty applications and 52 foreign national applications, including six European Regional Phase applications directed to our product candidates. The patent applications that we have filed and have not yet been granted may fail to result in issued patents in the United States or in foreign countries. Even if the patents do successfully issue, third parties may challenge the patents.

The patent positions of pharmaceutical companies, including us, can be highly uncertain and involve complex and evolving legal and factual questions. No consistent policy regarding the breadth of claims allowed in pharmaceutical patents has emerged to date in the United States. Legal developments may preclude or limit the scope of available patent protection.

Litigation involving patents, patent applications and other proprietary rights is expensive and time consuming. If we are involved in such litigation, it could cause delays in bringing our product candidates to market and interfere with our business.

Our commercial success depends in part on not infringing patents and proprietary rights of third parties. Although we are not currently aware of litigation or other proceedings or third party claims of intellectual property infringement related to our product candidates, the pharmaceutical industry is characterized by extensive litigation regarding patents and other intellectual property rights.

As we enter our target markets, it is possible that competitors or other third parties will claim that our products and/or processes infringe their intellectual property rights. These third parties may have obtained and may in the future obtain patents covering products or processes that are similar to, or may include compositions or methods that encompass our technology, allowing them to claim that the use of our technologies infringes these patents.

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In a patent infringement claim against us, we may assert, as a defense, that we do not infringe the relevant patent claims, that the patent is invalid or both. The strength of our defenses will depend on the patents asserted, the interpretation of these patents, and our ability to invalidate the asserted patents. However, we could be unsuccessful in advancing non-infringement and/or invalidity arguments in our defense. In the United States, issued patents enjoy a presumption of validity, and the party challenging the validity of a patent claim must present clear and convincing evidence of invalidity, which is a high burden of proof. Conversely, the patent owner need only prove infringement by a preponderance of the evidence, which is a lower burden of proof.

If we were found by a court to have infringed a valid patent claim, we could be prevented from using the patented technology or be required to pay the owner of the patent for the right to license the patented technology. If we decide to pursue a license to one or more of these patents, we may not be able to obtain a license on commercially reasonable terms, if at all, or the license we obtain may require us to pay substantial royalties or grant cross licenses to our patent rights. For example, if the relevant patent is owned by a competitor, that competitor may choose not to license patent rights to us. If we decide to develop alternative technology, we may not be able to do so in a timely or cost-effective manner, if at all.

In addition, because patent applications can take years to issue and are often afforded confidentiality for some period of time there may currently be pending applications, unknown to us, that later result in issued patents that could cover one or more of our products.

It is possible that we may in the future receive, particularly as a public company, communications from competitors and other companies alleging that we may be infringing their patents, trade secrets or other intellectual property rights, offering licenses to such intellectual property or threatening litigation. In addition to patent infringement claims, third parties may assert copyright, trademark or other proprietary rights against us. We may need to expend considerable resources to counter such claims and may not be able to successful in our defense. Our business may suffer if a finding of infringement is established.

It is difficult and costly to protect our proprietary rights, and we may not be able to ensure their protection.

The patent positions of pharmaceutical companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in pharmaceutical patents has emerged to date in the United States. The pharmaceutical patent situation outside the United States is even more uncertain. Changes in either the patent laws or in interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. The United States Patent Office is currently developing regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act will not become effective until one year or 18 months after its enactment. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in the patents that may be issued from the applications we currently or may in the future own or license from third parties. Further, if any patents license we obtain is deemed invalid and/or unenforceable, it could impact our ability to commercialize or partner our technology.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- we were the first to make the inventions covered by each of our pending patent applications;

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we were the first to file patent applications for these inventions;

others will not independently develop similar or alternative technologies or duplicate any of our technologies;

any patents issued to us or our collaborators will provide a basis for commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties; or

the patents of others will not have an adverse effect on our business.

If we do not adequately protect our proprietary rights, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could materially harm our business, negatively affect our position in the marketplace, limit our ability to commercialize our product candidates and delay or render impossible our achievement of profitability.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary know-how and technological advances, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights. Failure to obtain or maintain trade secret protection could enable competitors to use our proprietary information to develop products that compete with our products or cause additional, material adverse effects upon our competitive business position.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the United States Patent and Trademark Office and various foreign governmental patent agencies in several stages over the lifetime of the patents and/or applications.

We have systems in place, including use of third party vendors, to manage payment of periodic maintenance fees, renewal fees, annuity fees and various other patent and application fees. The United States Patent and Trademark Office, or the USPTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. There are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If this occurs, our competitors might be able to enter the market, which would have a material adverse effect on our business.

We may not be able to enforce our intellectual property rights throughout the world.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to life sciences. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit.

Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to protect our intellectual

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property rights in such countries may be inadequate. In addition, changes in the law and legal decisions by courts in the United States and foreign countries may affect our ability to obtain adequate protection for our technology and the enforcement of intellectual property.

We have not yet registered our trademarks in all of our potential markets, and failure to secure those registrations could adversely affect our business.

We have registered our ACELRX mark in Class 5, Pharmaceutical preparations for treating pain; pharmaceutical preparations for treating anxiety, and Class 10, Drug delivery systems; medical device, namely, a mechanical and electronic device used to administer medications, perform timed medication delivery, and to provide secure access to and delivery of medications, in the United States. Our ACELRX mark has also been registered in the European Community and in Canada, and is pending in India. We have registered our NANOTAB mark and have received a notice of allowance for our tagline, ACCELERATE, INNOVATE, ALLEVIATE in Class 5, in the United States. Although we are not currently aware of any oppositions to or cancellations of our registered trademarks or pending applications, it is possible that one or more of the applications could be subject to opposition or cancellation after the marks are registered. The registrations will be subject to use and maintenance requirements. It is also possible that we have not yet registered all of our trademarks in all of our potential markets, and that there are names or symbols other than ACELRX that may be protectable marks for which we have not sought registration, and failure to secure those registrations could adversely affect our business. Opposition or cancellation proceedings may be filed against our trademarks and our trademarks may not survive such proceedings.

Risks Related to Ownership of Our Common Stock

The market price of our common stock may be highly volatile.

Prior to our initial public offering, or IPO, in February 2011, there was no public market for our common stock. An active public trading market may not develop or, if developed, may not be sustained. Moreover, the trading price of our common stock is likely to be volatile. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

- adverse results or delays in clinical trials;
- inability to obtain additional funding, including funding necessary to complete the third ARX-01 Phase 3 clinical trial required to submit an NDA;
- any delay in submitting an NDA for any of our product candidates and any adverse development or perceived adverse development with respect to the FDA s filing or review of that NDA;
- failure to successfully develop and commercialize our product candidates;
- changes in laws or regulations applicable to our products;
- inability to obtain adequate product supply for our product candidates, or the inability to do so at acceptable prices;
- adverse regulatory decisions;
- introduction of new products, services or technologies by our competitors;

failure to meet or exceed financial projections we provide to the public;

failure to meet or exceed the estimates and projections of the investment community;

the perception of the pharmaceutical industry by the public, legislatures, regulators and the investment community;

announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;

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disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;

additions or departures of key scientific or management personnel;

significant lawsuits, including patent or stockholder litigation;

changes in the market valuations of similar companies;

sales of our common stock by us or our stockholders in the future; and

trading volume of our common stock.

In addition, the stock market in general, and the NASDAQ Global Market in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance.

Our common stock is thinly traded and in the future, may continue to be thinly traded, and our stockholders may be unable to sell at or near ask prices or at all if they need to sell their shares to raise money or otherwise desire to liquidate such shares.

To date, we have a low volume of daily trades in our common stock on the NASDAQ Global Market. For example, the average daily trading volume in our common stock on the NASDAQ Global Market during the fourth quarter of 2011 was approximately 6,000 shares per day. Our stockholders may be unable to sell their common stock at or above their respective purchase prices if at all, which may result in substantial losses to our stockholders.

The market for our common shares may be characterized by significant price volatility when compared to seasoned issuers, and we expect that our share price will be more volatile than a seasoned issuer for the indefinite future. As noted above, our common shares may be sporadically and/or thinly traded. As a consequence of this lack of liquidity, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the price of those shares in either direction. The price for our shares could, for example, decline significantly in the event that a large number of our common shares are sold on the market without commensurate demand, as compared to a seasoned issuer that could better absorb those sales without adverse impact on its share price.

Our principal stockholders and management own a significant percentage of our stock and are able to exert significant control over matters subject to stockholder approval.

Our executive officers and directors, together with the stockholders with whom our executive officers and directors are affiliated or associated, beneficially owned approximately 83% of our outstanding voting stock as of December 31, 2011. Therefore, these stockholders have the ability to influence us through this ownership position. These stockholders are able to determine all matters requiring stockholder approval. For example, these stockholders, acting together, are able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may believe are in your best interest as one of our stockholders.

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

As a public company, we incur significant legal, accounting and other expenses. In addition, the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, as well as rules subsequently implemented by the SEC and the NASDAQ Stock Market have imposed various requirements on public companies. Our management and

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other personnel need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations increase our legal and financial compliance costs and make some activities more time-consuming and costly. For example, these rules and regulations make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain our current levels of such coverage.

As a public company, we are subject to the requirements of Section 404 of the Sarbanes-Oxley Act. If we are unable to comply with Section 404 in a timely manner, it may affect the reliability of our internal control over financial reporting. Assessing our staffing and training procedures to improve our internal control over financial reporting is an ongoing process.

We plan to continue to assess our internal controls and procedures and intend to take further action as necessary or appropriate to address any other matters we identify. In addition, our independent registered public accounting firm will also be required to deliver an attestation report on the effectiveness of our internal control over financial reporting beginning with the year ending December 31, 2012, unless we qualify for an exemption as a non-accelerated filer under the applicable SEC rules and regulations.

We have been and will continue to be involved in a substantial effort to implement appropriate processes, document the system of internal control over key processes, assess their design, remediate any deficiencies identified and test their operation. We cannot be certain at this time whether our measures to improve internal controls will be successful, that we will be able to successfully complete the procedures, certification and attestation requirements of Section 404 or that we or our independent registered public accounting firm will not identify material weaknesses in our internal control over financial reporting. If we fail to comply with the requirements of Section 404, it may affect the reliability of our internal control over financial reporting and negatively impact the quality of disclosure to our investors. If we or our independent registered public accounting firm identify and report a material weakness, it could adversely affect our stock price.

Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. As of December 31, 2011, we had 19.6 million shares of common stock outstanding.

Substantially all of our stockholders that held stock prior to our IPO were subject to lock-up agreements with the underwriters of our IPO that restrict the stockholders ability to transfer shares of our common stock until August 10, 2011. Upon the expiration of the lock-up period, approximately 16.2 million of the shares outstanding as of August 10, 2011 became eligible for sale in the public market, subject in some cases to the volume limitations and manner of sale requirements of Rule 144 under the Securities Act of 1933, as amended, or the Securities Act. In addition, shares issued or issuable upon exercise of options and warrants vested as of August 10, 2011 are also eligible for sale. Sales of stock by our existing stockholders could have a material adverse effect on the trading price of our common stock.

Certain holders of our securities are entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up arrangement described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

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Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plans, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. These sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

Pursuant to our 2011 Equity Incentive Plan, or the 2011 Incentive Plan, our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. The number of shares available for future grant under our 2011 Incentive Plan will automatically increase each year by 4% of all shares of our capital stock outstanding as of December 31 of the prior calendar year, subject to the ability of our board of directors to take action to reduce the size of the increase in any given year. Currently, we plan to register the increased number of shares available for issuance under our 2011 Incentive Plan each year. If our board of directors elects to increase the number of shares available for future grant by the maximum amount each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

We are at risk of securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because pharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management s attention and resources, which could harm our business.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an ownership change, generally defined as a greater than 50% change (by value) in its equity ownership over a three year period, the corporation s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income may be limited. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset United States federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us.

We do not intend to pay dividends on our common stock so any returns will be limited to the value of our stock.

We have never declared or paid any cash dividend on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock.

Provisions in our amended and restated certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders or remove our current management.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management. These provisions include:

- authorizing the issuance of blank check preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;

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limiting the removal of directors by the stockholders;

creating a staggered board of directors;

prohibiting stockholder action by written consent, thereby requiring all stockholder actions to be taken at a meeting of our stockholders;

eliminating the ability of stockholders to call a special meeting of stockholders; and

establishing advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon at stockholder meetings.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, we are subject to Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with an interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder, unless such transactions are approved by our board of directors. This provision could have the effect of delaying or preventing a change of control, whether or not it is desired by or beneficial to our stockholders. Further, other provisions of Delaware law may also discourage, delay or prevent someone from acquiring us or merging with us.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease approximately 11,305 square feet of space for our headquarters in Redwood City, California under an agreement that expires on April 8, 2012. In December 2011, we entered into a lease agreement for approximately 13,787 square feet of space in Redwood City, California, which expires in May 2016. We are scheduled to move into our new facilities in April 2012, upon expiration of the lease for our current facilities. We believe that our facilities, including our newly leased facility, are adequate to meet our current needs.

Item 3. Legal Proceedings

From time to time we may be involved in legal proceedings arising in the ordinary course of business. We believe there is no litigation currently pending that could have, individually or in the aggregate, a material adverse effect on our results of operations or financial condition.

Item 4. Mine Safety Disclosures

Not Applicable.

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PART II

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

Market Information

Our common stock has been trading on the NASDAQ Global Market under the symbol ACRX since our IPO on February 11, 2011. Prior to this date, there was no public market for our common stock. The following table sets forth the high and low intraday sales prices of our common stock for the periods indicated as reported by the NASDAQ Global Market:

	Price	
	High	**Low**
Year ended December 31, 2011		
First Quarter (beginning February 11, 2011)	$ 5.09	$ 2.97
Second Quarter	$ 5.00	$ 2.90
Third Quarter	$ 4.70	$ 2.90
Fourth Quarter	$ 3.32	$ 1.76

Stock Price Performance Graph

The following graph illustrates a comparison of the total cumulative stockholder return on our common stock since February 11, 2011, which is the date our common stock first began trading on the NASDAQ Global Market, to two indices: the NASDAQ Composite Index and the NASDAQ Biotechnology Index. The stockholder return shown in the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder returns.

The above Stock Price Performance Graph and related information shall not be deemed soliciting material or to be filed with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

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Holders of Record

As of January 31, 2012, there were approximately 30 holders of record of our common stock.

Dividend Policy

We have never declared or paid any cash dividend on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future.

Use of Proceeds

On February 10, 2011, our registration statement on Form S-1 (File No. 333-170594) was declared effective for our IPO, pursuant to which we sold 8,000,000 shares of common stock at a public offering price of $5.00 per share for an aggregate offering price of $40.0 million.

As a result of the IPO, we received net proceeds of $34.9 million, after deducting underwriting discounts and commissions and other offering expenses totaling $5.1 million. None of the expenses associated with the IPO were paid to directors, officers or persons owning ten percent or more of our common stock or to their associates, nor to our affiliates.

Approximately $28 million of the net proceeds are expected to be used to fund two of our three planned ARX-01 Phase 3 clinical trials, with the balance to be used for general corporate purposes. As of December 31, 2011, the net offering proceeds have been invested in high credit quality U.S. government agency obligations and commercial paper. There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus filed with the SEC pursuant to Rule 424(b) on February 11, 2011.

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Item 6. Selected Financial Data

The selected financial data set forth below should be read together with the financial statements and related notes, Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations, and the other information contained in this Form 10-K. The selected financial data is not intended to replace our audited financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

	Year Ended December 31,					Period from July 13, 2005 (Inception) Through December 31,
	2011	2010	2009	2008	2007	2011
	(in thousands, except share and per share data)					
Statements of Operations Data:						
Research grant revenues	$ 1,072	$	$	$	$	$ 1,072
Operating Expenses:						
Research and development	$ 13,624	$ 8,193	$ 15,502	$ 18,325	$ 8,209	$ 67,421
General and administrative	6,800	3,993	3,529	2,365	2,082	19,294
Total operating expenses	20,424	12,186	19,031	20,690	10,291	86,715
Loss from operations	(19,352)	(12,186)	(19,031)	(20,690)	(10,291)	(85,643)
Interest income	52	4	33	484	687	1,607
Interest expense	(2,309)	(1,397)	(1,242)	(404)	(25)	(5,439)
Other income (expense), net	1,508	(765)	121	(52)	(1)	811
Net loss	$ (20,101)	$ (14,344)	$ (20,119)	$ (20,662)	$ (9,630)	$ (88,664)
Net loss per share of common stock, basic and diluted	$ (1.16)	$ (21.84)	$ (34.93)	$ (43.69)	$ (26.45)	
Shares used in computing net loss per share of common stock, basic and diluted	17,344,727	656,650	576,021	472,914	364,039	

	As of December 31,				
	2011	2010	2009	2008	2007
			(in thousands)		
Balance Sheet Data:					
Cash, cash equivalents and short-term investments	$ 35,785	$ 3,682	$ 12,546	$ 20,207	$ 7,699
Working capital (deficit)	30,301	(7,632)	6,931	16,450	6,959
Total assets	40,835	6,830	14,491	22,679	10,038
Total debt, net, including convertible notes	19,079	12,009	9,734	12,334	525
Convertible preferred stock warrant liability		2,529	169	240	
Convertible preferred stock		55,941	55,871	41,156	21,016
Total stockholders equity (deficit)	17,468	(65,892)	(52,994)	(33,335)	(13,189)

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

The following discussion and analysis should be read in conjunction with our audited financial statements and the related notes that appear elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. Such forward-looking statements involve risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under Item 1A. Risk Factors and elsewhere in this Annual Report on Form 10-K. Please refer to the section entitled Forward-Looking Statements in this Annual Report on Form 10-K.

Overview

We are a development stage specialty pharmaceutical company focused on the development and commercialization of innovative therapies for the treatment of acute and breakthrough pain. We were founded to solve the problems associated with post-operative intravenous patient-controlled analgesia, or IV PCA. Although widely used, IV PCA has been shown to cause harm to patients following surgery because of the side effects of morphine, the invasive IV route of delivery and the inherent potential for programming and delivery errors associated with the complexity of infusion pumps. In March 2012, we initiated the first of three Phase 3 clinical trials for our lead product candidate, the Sufentanil NanoTab PCA System, or ARX-01 System, or ARX-01. The second Phase 3 trial, an open-label active-comparator study is expected to start in the second quarter of 2012. The final planned Phase 3 efficacy and safety study, a double-blind, placebo-controlled trial is expected to begin in the third quarter of 2012. We expect top-line data from all three Phase 3 trials in late 2012 or early 2013.

The ARX-01 System is designed to address the problems associated with IV PCA by utilizing:

- sufentanil, a high therapeutic index opioid;
- NanoTabs, our proprietary, non-invasive sublingual dosage form; and
- our novel handheld PCA device that enables simple patient-controlled delivery of NanoTabs in the hospital setting and eliminates the risk of programming errors.

We have completed Phase 2 clinical development for two additional product candidates, the Sufentanil NanoTab BTP Management System, or ARX-02, for the treatment of cancer breakthrough pain, or BTP, and the Sufentanil/Triazolam NanoTab, or ARX-03, designed to provide mild sedation, anxiety reduction and pain relief for patients undergoing painful procedures in a physician s office. In May 2011, we announced that the US Army Medical Research and Material Command, or USAMRMC, awarded us a $5.6 million grant to support the development of a new product candidate, ARX-04, a Sufentanil NanoTab for the treatment of moderate-to-severe acute pain. Under the terms of the grant, the USAMRMC will reimburse us for development, manufacturing and clinical expenses necessary to prepare for and complete the planned Phase 2 dose-finding trial in a study of acute moderate-to-severe pain, and to prepare to enter Phase 3 development.

Development of therapeutic products is costly and is subject to a lengthy and uncertain regulatory process by the United States Food and Drug Administration, or FDA. Adverse events in both our own clinical program and other programs may have a negative impact on regulatory approval, the willingness of potential commercial partners to enter into agreements and the perception of the public.

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Product Development

ARX-01

We continue to make progress in the development of our lead product candidate, ARX-01. Planned 2012 activities include the following:

- Completion of the first of three Phase 3 clinical trials, a double-blind, placebo-controlled efficacy and safety study of post-operative pain following open-abdominal surgery, which was initiated in March 2012;
- Initiation and completion of our second planned Phase 3 clinical study, an open-label active-comparator study comparing ARX-01 to the current standard of care, IV PCA morphine and;
- Initiation, and planned completion in late 2012 or early 2013, of our third planned Phase 3 clinical study, a double-blind, placebo-controlled efficacy and safety study of post-operative pain following hip and knee replacement surgeries, subject to completion of the final planned summative Human Factors study.

ARX-04

We continue to make progress towards the initiation of our planned ARX-04 Phase 2 dose-finding clinical trial. In October 2011, we filed an Investigational New Drug application for ARX-04, our product candidate for management of moderate-to-severe acute pain, with the FDA, and we plan to initiate the Phase 2 study in the second quarter of 2012, contingent on approval from the USAMRMC, with top-line results anticipated in the second half of 2012.

Future development of ARX-02 and ARX-03 is contingent upon additional funding or establishing corporate partnerships.

Financial Overview

We are a development stage company with a limited operating history. We have incurred net losses since inception and expect to incur losses in the future as we continue our research and development activities. To date, we have funded our operations primarily from the private placement of convertible preferred stock, proceeds from our initial public offering, or IPO, and proceeds received from our debt financings.

From inception through December 31, 2011, we have received net proceeds of $54.9 million from the sale of convertible preferred stock and $41.4 million from our debt financings. In February 2011, we completed our IPO, pursuant to which we sold 8,000,000 shares of our common stock at a public offering price of $5.00 per share for an aggregate offering price of $40.0 million. As a result of the offering, we received net proceeds of $34.9 million, after underwriting discounts, commissions and offering expenses totaling $5.1 million. In June 2011, we entered into a loan and security agreement with Hercules Technology II, L.P. and Hercules Technology Growth Capital, Inc., collectively referred to as Hercules, under which we may borrow up to $20.0 million in two tranches of $10.0 million each, represented by secured convertible term promissory notes. We drew the first tranche of $10.0 million upon the closing of the transaction on June 29, 2011 and the second tranche of $10.0 million in December 2011. The interest rate is initially 8.50%, with 12 months of interest only payments. We used a portion of the proceeds from the first tranche to repay the remaining obligations under that certain loan and security agreement between us and Pinnacle Ventures, L.L.C, or Pinnacle, dated September 2008.

Since our inception in July 2005, we have not generated any revenue from the sale of our products and do not anticipate generating any product revenues for the foreseeable future. We have recognized revenue associated with our grant from the USAMRMC of $1.1 million since inception of the grant, but continued funding from the USAMRMC is contingent upon their review and approval of our continued research and development activities

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associated with the grant. In addition, there can be no assurance that we will receive other research-related grant awards or produce other collaborative agreement revenues in the future. We have incurred losses and generated negative cash flows from operations since inception. Our net losses were $20.1 million and $14.3 million during the years ended December 31, 2011 and 2010, respectively. As of December 31, 2011, we had cash, cash equivalents and investments totaling $35.8 million compared to $3.7 million as of December 31, 2010. As of December 31, 2011, we had an accumulated deficit of $88.7 million.

Research and development expenses consist primarily of salaries and personnel related expenses, stock-based compensation expenses, laboratory supplies, pre-clinical and clinical studies, manufacturing expenses, allocated facilities expenses and subcontracted research and development expenses. We believe that continued investment in research and development is critical to attaining our strategic objectives. We expect these expenses will increase as we focus on the development of our product candidates. Additionally, in order to develop our product candidates as commercially viable therapeutics, we expect to expend additional resources for expertise in the manufacturing, regulatory affairs and clinical research aspects of pharmaceutical development.

General and administrative expenses consist primarily of salaries and personnel related expenses for executive, finance and administrative personnel, stock-based compensation expenses, professional fees, allocated facilities expenses, patent prosecution expenses and other general corporate expenses. As we pursue commercial development of our product candidates we expect the business aspects of the our company to become more complex. We may be required in the future to add personnel and incur additional costs related to the maturation of our business.

Critical Accounting Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based upon our financial statements and the related disclosures, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts in our financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe the following policies to be the most critical to an understanding of our financial condition and results of operations because they require us to make estimates, assumptions and judgments about matters that are inherently uncertain.

Revenue Recognition

We recognize revenue when all of the following criteria are met: persuasive evidence of an arrangement exists; delivery has occurred or services have been rendered; the fee is fixed or determinable; and collectability is reasonably assured.

In May 2011, we entered into an award contract with the US Army Medical Research and Material Command, or USAMRMC, to support the development of the Company s new product candidate, ARX-04, a Sufentanil NanoTab for the treatment of moderate-to-severe acute pain. The grant provides for the reimbursement of qualified expenses for research and development activities as defined under the terms of the grant agreement. Revenue under the grant agreement is recognized when the related qualified research expenses are incurred.

Research and Development Expenses

We expense research and development expenses as incurred. Research and development expenses consist primarily of direct and research-related allocated overhead costs such as facilities costs, salaries and related personnel costs, and material and supply costs. In addition, research and development expenses include costs related to clinical trials to validate our testing processes and procedures and related overhead expenses. Expenses

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resulting from clinical trials are recorded when incurred based in part on factors such as estimates of work performed, patient enrollment, progress of patient studies and other events. We make good faith estimates that we believe to be accurate, but the actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending upon a number of factors, including our clinical development plan.

Share-Based Compensation

We measure and recognize compensation expense for all share-based payment awards made to our employees and directors, including employee stock options and employee stock purchases related to the Employee Share Purchase Plan, or ESPP, on estimated fair values. The fair value of equity-based awards is amortized over the vesting period of the award using a straight-line method.

To estimate the value of an award, we use the Black-Scholes option pricing model. This model requires inputs such as expected life, expected volatility and risk-free interest rate. These inputs are subjective and generally require significant analysis and judgment to develop. Estimates of expected life are primarily determined using the simplified method in accordance with guidance provided by the Securities and Exchange Commission, or SEC. Volatility is derived from historical volatilities of several public companies within our industry that are deemed to be comparable to our business because we have limited information on the volatility of our common stock since we had no trading history prior to completion of our IPO in February 2011. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected life assumption. We review our valuation assumptions quarterly and, as a result, it is likely we will change our valuation assumptions used to value share based awards granted in future periods. Further, we are required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. We use historical data to estimate pre-vesting option forfeitures and record stock-based compensation expense only for those awards that are expected to vest. If factors change and different assumptions are employed in determining the fair value of stock based awards, the stock based compensation expense recorded in future periods may differ significantly from what was recorded in the current period.

Prior to the IPO, we were also required to estimate the fair value of the common stock underlying our stock-based awards when performing the fair value calculations with the Black-Scholes option-pricing model. The fair values of the common stock underlying our stock-based awards were estimated on each grant date by our board of directors, with input from management. In valuing our common stock, our board of directors determined the equity value of our business by taking a weighted combination of the value indications under two valuation approaches, an income approach and a market approach. The income approach estimates the present value of future estimated cash flows, based upon forecasted revenue and costs. These future cash flows were discounted to their present values using a discount rate derived from an analysis of the cost of capital of comparable publicly traded companies in our industry or similar lines of business as of each valuation date and was adjusted to reflect the risks inherent in our cash flows. The market approach estimated the fair value by applying market multiples of comparable publicly traded companies in our industry or similar lines of business which were based on key metrics implied by the enterprise values or acquisition values of our comparable publicly traded companies.

Liability Associated with Warrants to Purchase Convertible Preferred Stock

Freestanding warrants to purchase shares of our convertible preferred stock were classified as liabilities on our balance sheets at fair value because the warrants could have conditionally obligated us to redeem the underlying convertible preferred stock. The warrants were subject to remeasurement at each balance sheet date, and any change in fair value was recognized as a component of other income (expense), net, in the statements of operations. We estimated the fair value of these warrants at the respective balance sheet dates using the Black-Scholes option-pricing model. We used assumptions to estimate the fair value of the warrants including the remaining contractual terms of the warrants, risk-free interest rates, expected dividend yields and the fair value and expected volatility of the underlying stock. These assumptions were subjective and the fair value of the warrants to purchase convertible preferred stock could have differed significantly had we used different assumptions.

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Upon the completion of our IPO in February 2011, all of our warrants to purchase convertible preferred stock had been exercised or converted into warrants to purchase common stock. At that time, the then-current aggregate fair value of these warrants was reclassified from liabilities to additional paid-in capital and we will no longer remeasure the liability associated with these warrants to purchase convertible preferred stock to fair value.

Bridge Loan

On September 14, 2010, we entered into a bridge loan financing, in which we issued notes to certain existing investors for an aggregate purchase price of $8.0 million, or the 2010 notes. The 2010 notes could not be prepaid without the written consent of the holders of the 2010 notes, bore interest at a rate of 4.0% per annum and had a maturity date of the earliest of (1) September 14, 2011 or (2) an event of default. The principal and the interest under the 2010 notes were converted into common stock in connection with our IPO at a conversion price equal to 80% of the IPO price, or $4.00 per share.

Under the terms of the bridge loan agreement, upon the election of the holders of a majority of the aggregate principal amount payable under the 2010 notes, we agreed to issue an additional $4.0 million of the 2010 notes. This additional $4.0 million was determined to be a call option that was recorded at its fair value of $0.5 million as a debt discount that was amortized to interest expense during the period when the notes were outstanding until conversion in connection with our IPO. The fair value of the call option was determined by evaluating multiple potential outcomes using a market approach and an income approach depending on the scenario and discounted these values back to December 31, 2010 while applying estimated probabilities to each scenario value. As of December 31, 2010, these scenarios included a potential IPO, merger or sale at different times during 2011 and 2012 as well as remaining private. During the quarter ending March 31, 2011, the 2010 notes were amended so that the call option expired upon the closing of our IPO.

Also in connection with the bridge loan financing, we issued warrants, or the 2010 warrants, with a fair value of $1.3 million, which was recorded as a debt discount that was amortized to interest expense during the period where the warrants were outstanding until exercised at the time of the IPO as detailed above in Liability Associated with Warrants to Purchase Convertible Preferred Stock.

We used considerable judgment in determining the fair value of these instruments and had we used different assumptions, the resulting fair values could have been materially different.

Subsequent to December 31, 2010, and in conjunction with our IPO, the principal and accrued interest under the 2010 notes converted into 2,034,438 shares of common stock and the 2010 warrants were exercised on a net issuance basis for 107,246 shares of Series C convertible preferred stock, which such shares of Series C convertible preferred stock were automatically converted into 107,246 shares of common stock immediately prior to the closing of our IPO.

Income Taxes

Significant management judgment is required in determining our provision or benefit for income taxes, any uncertain tax positions, deferred tax assets and liabilities, and any valuation allowance recorded against our net deferred tax assets. We make these estimates and judgments about our future taxable income that are based on assumptions that are consistent with our future plans. As of December 31, 2011, 2010 and 2009, we have recorded a full valuation allowance on our net deferred tax assets due to uncertainties related to our ability to utilize our deferred tax assets in the foreseeable future. These deferred tax assets primarily consist of certain net operating loss carryforwards and research and development tax credits. Should the actual amounts differ from our estimates, the amount of our valuation allowance could be materially impacted.

Since inception, we have incurred operating losses and, accordingly, we have not recorded a provision for income taxes for any of the periods presented. Accordingly, there have not been significant changes to our provision or benefit for income taxes during the years ended December 31, 2011, 2010 or 2009, and we do not expect any significant changes until we are no longer incurring losses.

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As of December 31, 2011, 2010 and 2009, we had federal net operating loss carryforwards of $82.2 million $63.8 million and $52.9 million, and state net operating loss carryforwards of $80.6 million, $63.7 million and $52.8 million. We also had $1.3 million, $1.1 million and $0.9 million of federal research credit carryforwards, and $0.9 million, $0.7 million and $0.6 million of state research credit carryforwards as of December 31, 2011, 2010 and 2009. Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. If not utilized, the federal net operating loss and tax credit carryforwards will expire beginning in 2025 and the state net operating loss will begin expiring in 2015. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an ownership change, generally defined as a greater than 50% change (by value) in its equity ownership over a three year period, the corporation s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income may be limited.

Reduction in Work Force

On December 7, 2009, we announced a workforce reduction of approximately 44%, or 14 employees, a majority of whom were employed in product development and related support functions. This decision was made based on the challenging economic conditions and a decline in forecasted research and development activities expected during the year ending December 31, 2010.

As a result of this workforce reduction, we recorded a charge of $119,000 related to employee severance and other benefits which was included as operating expenses in the statement of operations during the year ended December 31, 2009. As of December 31, 2009, we had paid $30,000 for these employee severance and other termination benefits and had accrued the remaining $89,000 on the balance sheet. During the year ended December 31, 2010, we paid the remaining $89,000.

Results of Operations

Years Ended December 31, 2011, 2010 and 2009

Revenue

To date, we have not generated any product revenue. We do not expect to receive any revenues from any product candidates that we develop until we obtain regulatory approval and commercialize our products or enter into collaborative agreements with third parties. In May 2011, we received a grant award of $5.6 million from the USAMRMC for the development of ARX-04, a Sufentanil NanoTab for the treatment of moderate-to-severe acute pain. Revenue related to this grant award is recognized as the related research and development expenses are incurred.

Revenue for the year ended December 31, 2011 was $1.1 million, and was generated from our grant with the USAMRMC. We did not generate any revenue for the years ended December 31, 2010 and 2009.

Research and Development Expenses

Conducting research and development is central to our business model. The majority of our operating expenses to date have been for research and development activities related to ARX-01, ARX-02 and ARX-03. Research and development expenses included the following:

- expenses incurred under agreements with contract research organizations and clinical trial sites;
- employee- and consultant-related expenses, which include salaries, benefits and stock-based compensation;
- payments to third party pharmaceutical and engineering development contractors;
- payments to third party manufacturers; and

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depreciation and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities and equipment, depreciation of leasehold improvements and equipment and laboratory and other supply costs.

Product candidates in late stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of late stage clinical trials. We plan to increase our research and development expenses for the foreseeable future as we seek to complete development of ARX-01, execute activities associated with the clinical work related to ARX-04 and subsequently advance the development of ARX-02 and ARX-03, provided that additional funding or corporate partnership resources are available to support the two latter programs.

We track external development expenses on a program-by-program basis. Our development resources are shared among all of our programs. Compensation and benefits, facilities, depreciation, stock-based compensation, and development support services are not allocated specifically to projects and are considered research and development overhead. Below is a summary of our research and development expenses during the years ended December 31, 2011, 2010 and 2009 (in thousands):

	Years Ended December 31,		
	2011	2010	2009
ARX-01	$ 7,823	$ 1,289	$ 5,343
ARX-02		507	2,721
ARX-03		1,555	1,426
ARX-04	523		
Overhead	5,278	4,842	6,012
Total research and development expenses	$ 13,624	$ 8,193	$ 15,502

Due to the inherently unpredictable nature of product development, development timelines and the probability of success, development costs can differ materially from expectations. While we are currently focused on advancing ARX-01 and ARX-04, and subsequently ARX-02 and ARX-03, our future research and development expenses will depend on the clinical success of each product candidate as well as ongoing assessments of the commercial potential of our product candidates. In addition, we cannot predict which product candidates may be subject to future collaborations, when these arrangements will be secured, if at all, and to what degree these arrangements would affect our development plans and capital requirements. We expect our research and development expenses to substantially increase as we commence our planned ARX-01 Phase 3 clinical trials, and subject to additional funding, complete all the requisite preparatory activities to submit an NDA to the FDA. Additionally, our research and development expenses will increase as we initiate the planned ARX-04 Phase 2 clinical trial.

Total research and development expenses for each of the three years ended December 31, 2011 were as follows (in thousands, except percentages):

	Years Ended December 31,						
	2011	2010	2009	Increase/ (Decrease) 2011 vs. 2010	Increase/ (Decrease) 2010 vs. 2009	Percentage Increase/ (Decrease) 2011 vs. 2010	Percentage Increase/ (Decrease) 2010 vs. 2009
Research and development expenses	$ 13,624	$ 8,193	$ 15,502	$ 5,431	$ (7,309)	66%	(47)%

The $5.4 million increase during the year ended December 31, 2011 was primarily attributable to an increase of $6.5 million in development expenses related to our ARX-01 development program related to the planned Phase 3 trials and a $0.5 million increase related to activities under our grant with the USAMRMC for ARX-04, partially offset by a decrease in development expenses of $2.1 million related to the completion in 2010 of Phase 2 clinical trials for our ARX-02 and ARX-03 programs.

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The $7.3 million decrease during the year ended December 31, 2010 was primarily attributable to a decrease of $4.1 million in development expenses related to our ARX-01 development program which was put on hold due to lack of sufficient funding, and a decrease of $2.2 million in development expenses related to our ARX-02 development program which was completed in early 2010.

General and Administrative Expenses

General and administrative expenses consisted primarily of salaries, benefits and stock-based compensation for personnel in administration and finance and business development activities. Other significant expenses included legal expenses to pursue patent protection of our intellectual property, allocated facility costs and professional fees for general legal, audit and consulting services. We expect general and administrative expenses to increase in connection with operating as a public company and as we continue to build our corporate infrastructure in support of continued development of our product candidates.

Total general and administrative expenses for each of the three years ended December 31, 2011 were as follows (in thousands, except percentages):

	Years Ended December 31,			Increase/ (Decrease)	Increase/ (Decrease)	Percentage Increase/ (Decrease)	Percentage Increase/ (Decrease)
	2011	2010	2009	2011 vs. 2010	2010 vs. 2009	2011 vs. 2010	2010 vs. 2009
General and administrative expenses	$ 6,800	$ 3,993	$ 3,529	$ 2,807	$ 464	70%	13%

The $2.8 million increase during the year ended December 31, 2011 was primarily due to an increase in legal, audit and consulting fees in connection with costs associated with our operations as a public company as well as non-equity incentive plan expenses.

The $0.5 million increase during the year ended December 31, 2010 was primarily due to an increase in stock option compensation related to the increase in stock option awards granted in 2010, the majority of which were granted to our new Chief Executive Officer, who was hired in May 2010.

Interest Income (in thousands, except percentages)

	Years Ended December 31,			Increase/ (Decrease)	Increase/ (Decrease)	Percentage Increase/ (Decrease)	Percentage Increase/ (Decrease)
	2011	2010	2009	2011 vs. 2010	2010 vs. 2009	2011 vs. 2010	2010 vs. 2009
Interest income	$ 52	$ 4	$ 33	$ 48	$ (29)	1100%	(88)%

The $48,000 increase during the year ended December 31, 2011 was due to the increase in our average cash, cash equivalent and investment balances primarily attributed to net IPO proceeds of $34.9 million and our debt facility with Hercules under which we drew down $20.0 million during 2011.

The $29,000 decrease during the year ended December 31, 2010 was due to the decrease in our average cash, cash equivalent and short-term investment balances.

Interest Expense (in thousands, except percentages)

Interest expense consisted primarily of interest accrued or paid on our debt obligation agreements and amortization of debt discounts.

	Years Ended December 31,			Increase/ (Decrease)	Increase/ (Decrease)	Percentage Increase/ (Decrease)	Percentage Increase/ (Decrease)
	2011	2010	2009	2011 vs. 2010	2010 vs. 2009	2011 vs. 2010	2010 vs. 2009
Interest expense	$ (2,309)	$ (1,397)	$ (1,242)	$ 912	$ 155	65%	12%

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The $912,000 increase during the year ended December 31, 2011 was primarily attributable to interest and the debt discount amortization related to the $8.0 million principal amount of convertible promissory notes issued in September 2010. The $1.1 million in unamortized debt discounts was recognized as interest expense during the year ended December 31, 2011 in connection with conversion of these notes immediately prior to the IPO.

The $0.2 million increase during the year ended December 31, 2010 was primarily attributable to interest and the amortization of debt discounts related to the $8.0 million in additional debt incurred in September 2010.

Other Income (Expense), net (in thousands, except percentages)

Other income (expense), net consisted primarily of the change in the fair value of our then-outstanding warrants to purchase convertible preferred stock. Our warrants to purchase convertible preferred stock were classified as liabilities and, as such, were remeasured to fair value at each balance sheet date with the corresponding gain or loss from the adjustment recorded as other income (expense), net. Upon the completion of our IPO, all of our warrants to purchase convertible preferred stock were remeasured to fair value and were either exercised or converted into warrants to purchase common stock. At that time, the then-current aggregate fair value of these warrants was reclassified from liabilities to additional paid-in capital and we will no longer remeasure the liability associated with these warrants to fair value. Other income (expense), net also included the change in fair value of our contingent put option liability associated with our loan and security agreement with Hercules.

	Years Ended December 31,						
	2011	2010	2009	Increase/ (Decrease) 2011 vs. 2010	Increase/ (Decrease) 2010 vs. 2009	Percentage Increase/ (Decrease) 2011 vs. 2010	Percentage Increase/ (Decrease) 2010 vs. 2009
Other income (expense), net	$ 1,508	$ (765)	$ 121	$ 2,273	$ (886)	NA%	(732)%

The $2.3 million increase in other income (expense), net during the year ended December 31, 2011 was primarily attributable to the change in the fair value of our warrants to purchase convertible preferred stock and the write-off of the call option related to the convertible promissory notes issued in September 2010 which expired upon closing of the IPO in February 2011.

The $0.9 million decrease in other income (expense), net during the year ended December 31, 2010 was primarily attributable to the $1.3 million increase in the fair value of our warrants to purchase convertible preferred stock and the warrants and call option related to our convertible notes issued in 2010, offset by income of $489,000 from the Qualifying Therapeutic Discover Projects grant received in November 2010.

Liquidity and Capital Resources

Liquidity

Since inception, we have incurred significant annual net losses and we have funded our operations primarily through the issuance of equity securities and debt financings. From inception through December 31, 2011, we have received net proceeds of $54.9 million from the sale of convertible preferred stock, $34.9 million from our IPO and $41.4 million from our debt arrangements. We have incurred losses and generated negative cash flows from operations since inception, and we expect to continue to incur significant and increasing losses and negative cash flows for the foreseeable future.

As of December 31, 2011, we had cash, cash equivalents and investments totaling $35.8 million compared to $3.7 million as of December 31, 2010. The increase was primarily attributable to proceeds from our IPO, during which we sold 8,000,000 shares of our common stock at $5.00 per share and received net proceeds of $34.9 million, after underwriting discounts, commissions and offering expenses. Additionally, we drew down $10.0 million in June 2011 and $10.0 million in December 2011 from our $20.0 million loan and security agreement with Hercules. A portion of the proceeds were used to pay down the remaining obligations of $2.8 million under our loan and security agreement with Pinnacle upon termination of such agreement.

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Our cash and investment balances are held in a variety of interest bearing instruments, including obligations of U.S. government agencies, U.S. treasury debt securities and money market funds. Cash in excess of immediate requirements is invested with a view toward capital preservation and liquidity.

Cash Flows

	Years Ended December 31,		
	2011	2010	2009
		(in thousands)	
Net cash used in operating activities	$ (15,287)	$ (12,225)	$ (19,418)
Net cash (used in) provided by investing activities	(29,579)	4,765	8,616
Net cash provided by financing activities	49,605	3,365	11,880

Cash Flows from Operating Activities

The primary use of cash for our operating activities during these periods was to fund the development of our product candidates. Our cash used for operating activities also reflected changes in our working capital and adjustments for non-cash charges, such as depreciation and amortization of our fixed assets, stock-based compensation, interest expense related to our debt financings, and the revaluation of our convertible preferred stock warrant liability.

Net cash used in operating activities of $15.3 million during the year ended December 31, 2011 reflected a net loss of $20.1 million, partially offset by aggregate non-cash charges of $2.6 million and a net change of $2.2 million in our net operating assets and liabilities. Non-cash charges primarily included $1.6 million for interest on our debt and $1.8 million in stock-based compensation, partially offset by $1.5 million for the revaluation of the warrant liability and the call option liability. The net change in our operating assets and liabilities was primarily a result of an increase in accounts payable and accrued liabilities of $2.8 million due to increased research and development activities during 2011.

Net cash used in operating activities of $12.2 million during the year ended December 31, 2010 reflected a net loss of $14.3 million, partially offset by aggregate non-cash charges of $3.9 million and a net change of $1.8 million in our net operating assets and liabilities. Non-cash charges primarily included $0.7 million for interest on our debt, $1.3 million for the revaluation of the warrant liability and the call option liability, $0.5 million of depreciation and amortization and $1.4 million in stock-based compensation. The net change in our operating assets and liabilities was primarily a result of an increase in prepaid expense of $1.5 million.

Net cash used in operating activities of $19.4 million during the year ended December 31, 2009 reflected a net loss of $20.1 million, partially offset by aggregate non-cash charges of $1.1 million and a net change of $0.4 million in our net operating assets and liabilities. Non-cash charges primarily included $0.5 million of depreciation and amortization, $0.5 million of stock-based compensation and $0.3 million of interest expense relating to our debt, offset by a $0.1 million gain on the revaluation of our convertible preferred stock warrant liability. The net change in our operating assets and liabilities was primarily a result of a $0.4 million decrease in accounts payable and accrued liabilities during the year.

Cash Flows from Investing Activities

Our investing activities have consisted primarily of our capital expenditures and purchases and sales and maturities of our available-for-sale investments.

During the year ended December 31, 2011, cash used in investing activities of $29.6 million was primarily a result of $39.4 million in purchases of investments and $2.0 million in property and equipment purchases, partially offset by $11.8 million in proceeds from sales and maturities of investments.

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During the year ended December 31, 2010, cash provided by investing activities of $4.8 million was primarily a result of $9.7 million in proceeds from sale of investments, partially offset by $4.9 million used for purchases of our investments.

During the year ended December 31, 2009, cash provided by investing activities of $8.6 million was primarily a result of $22.6 million in proceeds received from the sale of our investments to fund our working capital needs, partially offset by $13.9 million used for purchases of our investments.

Cash Flows from Financing Activities

Cash flows from financing activities primarily reflect proceeds from the sale of our securities, proceeds from our debt financings and payments made on such debt financings. As of December 31, 2011, we had outstanding debt of $19.0 million, net of debt discounts of $1.0 million.

During the year ended December 31, 2011, cash provided by financing activities was primarily a result of the receipt of $34.9 million in proceeds from our IPO, net of offering costs, and proceeds of $19.8 million from our loan and security agreement with Hercules, partially offset by principal repayments on our long-term debt of $5.3 million, including payment in full of our remaining obligations under the Pinnacle agreement, which was terminated upon executing the Hercules loan and security agreement in June 2011.

During the year ended December 31, 2010, cash provided by financing activities of $3.4 million was primarily a result of the receipt of $8.0 million in borrowings received from the convertible note agreement entered into in September 2010, partially offset by principal repayments on our long-term debt of $4.7 million.

During the year ended December 31, 2009, cash provided by financing activities of $11.9 million was primarily a result of the receipt of $14.7 million from the sale of our Series C convertible preferred stock in November 2009, partially offset by principal repayments on our long-term debt of $2.9 million.

Operating Capital and Capital Expenditure Requirements

We expect our rate of cash usage to increase in the future, in particular to support our product development activities. We believe that our available cash resources, including proceeds received from our IPO, debt financings and the USAMRMC research grant, will enable us to maintain our currently planned operations into the first quarter of 2013, including support for our continuing development of our product candidates, clinical trials and manufacturing scale-up and commercial readiness activities. Future capital requirements will be substantial and we will need to raise additional capital to fund our operations, including product candidate development activities. Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary materially. Additional capital may not be available in terms acceptable to us, or at all. If adequate funds are not available, or if the terms underlying potential funding sources are unfavorable, our business and our ability to develop our technology and product candidates would be harmed.

Our future capital requirements will depend on many forward looking factors and are not limited to the following:

- the initiation, progress, timing and completion of clinical trials for our product candidates and potential product candidates;
- the outcome, timing and cost of regulatory approvals;
- delays that may be caused by changing regulatory requirements;
- the number of product candidates that we pursue;
- the costs involved in filing and prosecuting patent applications and enforcing and defending patent claims;

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the timing and terms of future in-licensing and out-licensing transactions;

the cost and timing of establishing sales, marketing, manufacturing and distribution capabilities;

the cost of procuring clinical and commercial supplies of our product candidates;

the extent to which we acquire or invest in businesses, products or technologies; and

the possible costs of litigation.

Contractual Obligations

The following table summarizes our outstanding contractual obligations and commitments as of December 31, 2011 (in thousands):

		Payment by Period			
Contractual Obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
Operating Leases[1]	$ 1,631	$ 313	$ 773	$ 545	
Principal Payments on Long-Term Debt	20,000	4,278	15,722		
Interest Payments on Long-Term Debt	3,226	1,636	1,590		
Total	$ 24,857	$ 6,227	$ 18,085	$ 545	

(1) Operating leases include remaining obligations associated with our lease agreement for our current facilities, which expires in April 2012, as well as obligations associated with our lease agreement, signed in December 2011, for our new facilities. Both facilities are located in Redwood City, California. We are scheduled to move into our new facilities in April 2012, upon expiration of the lease for our current facilities.

Off-Balance Sheet Arrangements

Through December 31, 2011, we have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

Recent Accounting Pronouncements

In June 2011, Accounting Standards Codification Topic 220, *Comprehensive Income* was amended to increase the prominence of items reported in other comprehensive income. Accordingly, a company can present all non-owner changes in stockholders equity either in a single continuous statement of comprehensive income or in two separate but consecutive statements. We plan to adopt this guidance as of January 1, 2012 on a retrospective basis and do not expect the adoption thereof to have a material effect on our financial statements.

In May 2011, Accounting Standards Codification Topic 820, *Fair Value Measurement* was amended to develop common requirements for measuring fair value and for disclosing information about fair value measurements in accordance with U.S. generally accepted accounting principles and International Financial Reporting Standards. We plan to adopt this guidance as of January 1, 2012 on a prospective basis and does not expect the adoption thereof to have a material effect on our financial statements.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include risk related to interest rate sensitivities.

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our outstanding debt obligations. Our cash, cash equivalents and investment accounts as of December 31, 2011 totaled $35.8 million and consisted primarily of cash, money market funds and U.S. government obligations with maturities of less than one year from the date of purchase. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of the interest rates in the United States. However, because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our financial condition or our results of operations.

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Item 8. Financial Statements and Supplementary Data

The financial statements required by this item are attached to this Form 10-K beginning with page F-1.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We have carried out an evaluation, under the supervision, and with the participation, of management including our principal executive officer and principal financial officer, of our disclosure controls and procedures (as defined in Rule 13a-15(e)) of the Securities Exchange Act of 1934, as amended, or the Exchange Act) as of the end of the period covered by this Annual Report on Form 10 K. Based on their evaluation, our principal executive officer and principal financial officer concluded that, subject to the limitations described below, our disclosure controls and procedures were effective as of December 31, 2011.

Limitations on the Effectiveness of Controls. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues, if any, within an organization have been detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the objectives of our disclosure control system are met and, as set forth above, our principal executive officer and principal financial officer have concluded, based on their evaluation as of the end of the period covered by this report, that our disclosure controls and procedures were sufficiently effective to provide reasonable assurance that the objectives of our disclosure control system were met. We continue to implement, improve and refine our disclosure controls and procedures and our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There have been no significant changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting during the fiscal quarter ended December 31, 2011.

Management s Report on Internal Control over Financial Reporting

The following report is provided by management in respect of AcelRx Pharmaceuticals internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act):

1. AcelRx Pharmaceuticals management is responsible for establishing and maintaining adequate internal control over financial reporting.

2. AcelRx Pharmaceuticals management has used the Committee of Sponsoring Organizations of the Treadway Commission, or COSO framework to evaluate the effectiveness of internal control over financial reporting. Management believes that the COSO framework is a suitable framework for its evaluation of financial reporting because it is free from bias, permits reasonably consistent qualitative and quantitative measurements of AcelRx Pharmaceuticals internal control over financial reporting, is sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of AcelRx Pharmaceuticals internal control over financial reporting are not omitted and is relevant to an evaluation of internal control over financial reporting.

3. Management has assessed the effectiveness of AcelRx Pharmaceuticals internal control over financial reporting as of December 31, 2011 and has concluded that such internal control over financial reporting was effective. There were no material weaknesses in internal control over financial reporting identified by management.

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4. This annual report does not include an attestation report of AcelRx Pharmaceuticals independent registered public accounting firm regarding the effectiveness of AcelRx Pharmaceuticals internal controls over financial reporting pursuant to temporary rules of the Securities and Exchange Commission that permit AcelRx Pharmaceuticals to provide only management s report in this annual report.

Item 9B. Other Information

None.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

Board of Directors

Our board of directors is divided into three classes designated as Class I, Class II and Class III, with each class having a three-year term. Under our charter documents, at our first annual meeting of stockholders following our IPO, the term of office of the Class I directors will expire and Class I directors will be elected for a full term of three years. At the second annual meeting of stockholders following our IPO, the term of office of the Class II directors will expire and Class II directors will be elected for a full term of three years. At the third annual meeting of stockholders following our IPO, the term of office of the Class III directors will expire and Class III directors will be elected for a full term of three years. At each succeeding annual meeting of stockholders, directors will be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting. We currently expect to hold such first annual meeting of stockholders in mid-2012.

The following is a brief biography of each member of our board of directors, as of January 31, 2012, with each biography including information regarding the experiences, qualifications, attributes or skills that caused our board of directors to determine that each member of our board of directors should serve as a director as of the date of this Form 10-K.

Class I Directors

Guy P. Nohra, age 51, has served as our director since August 2006. Mr. Nohra co-founded Alta Partners, a venture capital firm investing in life science companies, in 1996, and has served as Managing Director of Alta Partners since 1996. Mr. Nohra was also a partner at Burr, Egan, Deleage & Co., a venture capital firm, which he joined in 1989. From January 1984 until June 1987, Mr. Nohra was Product Manager of Medical Products with Security Pacific Trading Corporation, a consumer and commercial bank. Currently, Mr. Nohra serves on the board of directors of numerous private companies, including Carbylan Biosurgery, Inc., Coapt Systems, PneumRx, Inc. and Vertiflex, Inc., and is the Chairman of the board of USGI Medical, Inc. In addition, Mr. Nohra previously served on the boards of directors of ATS Medical, Inc., a company focused on the manufacture of cardiac surgery products that was acquired by Medtronic, Inc., a medical device company, in 2010 and Cutera, Inc., a global medical device company. Mr. Nohra also serves on the board of directors of the Medical Device Manufacturing Association, a national trade organization that advocates for entrepreneurial medical technology companies. Mr. Nohra holds a B.A. in History from Stanford University and an M.B.A. from the University of Chicago. Mr. Nohra s medical technology and venture capital industry experience provides him with the qualifications and skills to serve as a director.

Thomas A. Schreck, age 54, has served as our Chairman since he co-founded our company in July 2005, and as our President and Chief Executive Officer from July 2005 until April 2010. Since June 2010, Mr. Schreck has been co-founder and Chief Executive Officer of SinuSys Corporation, a medical device company. Prior to July 2005, he served as a founding President, and then Chief Financial Officer and a director of DURECT Corporation, an emerging specialty pharmaceutical company he co-founded in June 1998. Prior to 1998, Mr. Schreck held various investment banking positions in the San Francisco Bay Area and London, including with Montgomery Securities and Manufacturers Hanover Limited. Mr. Schreck holds a B.A. in American Studies from Williams College. Mr. Schreck s historical knowledge of our company, his financial background and experience and his experience in the pharmaceutical industry provide him with the qualifications and skills to serve as a director.

Mark G. Edwards, age 54, has served as our director since September 2011. Mr. Edwards is Managing Director of Bioscience Advisors Inc., a biopharmaceutical consulting firm he founded in 2011. From July 2008 until December 2010, he was Managing Director and a Principal of Deloitte Recap LLC, a wholly-owned subsidiary of Deloitte Touche Tohmatsu, an audit and financial consulting services firm. Mr. Edwards was previously the Managing Director and founder of Recombinant Capital, Inc. (Recap), a consulting and database firm based in

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Walnut Creek, California, from 1988 until the sale of Recap to Deloitte in 2008. Prior to founding Recap in 1988, Mr. Edwards was Manager of Business Development at Chiron Corporation, a biotechnology company. He received his B.A. and M.B.A. degrees from Stanford University. Mr. Edwards financial and business expertise, including his background as a business advisor to pharmaceutical and biotechnology companies, provides him with the qualifications and skills to serve as a director.

Class II Directors

Stephen J. Hoffman, Ph.D., M.D., age 58, has served as our director since February 2010. Dr. Hoffman has served as a managing director at Skyline Ventures, a venture capital firm, since May 2007. From January 2003 to March 2007, Dr. Hoffman was a general partner at TVM Capital, a venture capital firm. Prior to that, he served as President, Chief Executive Officer and a director of Allos Therapeutics, a biopharmaceutical company, from 1994 to 2002, where he remains Chairman of the board. From 1990 to 1994, Dr. Hoffman completed a fellowship in clinical oncology and a residency/fellowship in dermatology, both at the University of Colorado. Dr. Hoffman was the scientific founder of Somatogen Inc., a biotechnology company that was acquired by Baxter International, Inc., a global medical products and services company, in 1998, where he held the position of Vice President of Science and Technology from 1987 until 1990. He serves on the board of directors of Allos Therapeutics, Inc., a biopharmaceutical company, Concert Pharmaceuticals, Inc., a biotechnology company, Kai Pharmaceuticals, Inc., a biopharmaceutical company, Dicerna Pharmaceuticals, Inc., a biopharmaceutical company, Genocea Biosciences, Inc., a biotechnology company and Collegium Pharmaceuticals, Inc., a biopharmaceutical company. Previously, Dr. Hoffman served on the board of directors of Sirtris Pharmaceuticals, Inc., a pharmaceutical company that was acquired by GlaxoSmithKline, a global pharmaceutical company, in 2008. Dr. Hoffman holds a Ph.D. in bio-organic chemistry from Northwestern University and an M.D. from the University of Colorado School of Medicine. Dr. Hoffman s scientific, financial and business expertise, including his diversified background as an executive officer and investor in public pharmaceutical companies, provides him with the qualifications and skills to serve as a director.

Richard A. King, age 47, has served as our director and President and Chief Executive Officer since May 2010. From April 2009 until May 2010, Mr. King acted as an independent consultant to a number of private and public biotechnology and venture capital companies. From October 2008 to April 2009, Mr. King served as President and General Manager of Tercica, Inc., a biotechnology company that was acquired by Ipsen, SA in 2008, and from February 2008 to October 2008, Mr. King served as President and Chief Operating Officer of Tercica, Inc., and from February 2007 until February 2008, he served as Chief Operating Officer of Tercica, Inc. From January 2002 to October 2006, Mr. King served as Executive Vice President of Commercial Operations of Kos Pharmaceuticals, Inc., a pharmaceutical company that was acquired by Abbott Laboratories, a global, broad-based health care company, in 2006. From January 2000 to January 2002, Mr. King served as Senior Vice President of Commercial Operations at Solvay Pharmaceuticals, a pharmaceutical company that was acquired by Abbott Laboratories in 2009. From April 1992 to January 2000, Mr. King held various marketing positions at SmithKline Beecham Pharmaceuticals, now known as GlaxoSmithKline, a global pharmaceutical company. Mr. King holds a B.Sc. in Chemical Engineering from University of Surrey and an M.B.A. from Manchester Business School. Mr. King s extensive experience as an executive officer of public pharmaceutical companies and his knowledge of the day-to-day operations of our company provide him with the qualifications and skills to serve as a director.

Pamela P. Palmer, M.D., Ph.D., age 49, has served as our director and Chief Medical Officer since she co-founded the company in July 2005. Dr. Palmer has been on faculty at the University of California, San Francisco since 1996 and is currently a Clinical Professor of Anesthesia and Perioperative Care. Dr. Palmer was Director of UCSF PainCARE-Center for Advanced Research and Education from 2005 to 2009, and was Medical Director of the UCSF Pain Management Center from 1999 to 2005. Dr. Palmer has been a consultant of Omeros Corporation, a biopharmaceutical company, since she co-founded that company in 1994. Dr. Palmer holds an M.D. from Stanford University and a Ph.D. from the Stanford Department of Neuroscience. Dr. Palmer s extensive clinical and scientific experience in the treatment of acute and chronic pain as well as historical knowledge of our company provide her with the qualifications and skills to serve as a director.

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Class III Directors

Howard B. Rosen, age 53, has served as our director since 2008. Since 2011, Mr. Rosen has served as a lecturer at the Stanford Graduate School of Business. Since 2008, Mr. Rosen has served as a consultant to several companies in the biotechnology industry and a lecturer in the Department of Chemical Engineering at Stanford University. Mr. Rosen served as interim President and Chief Executive Officer of Pearl Therapeutics, Inc., a company focused on developing combination therapies for the treatment of highly prevalent chronic respiratory diseases, from June 2010 to March 2011. From 2004 to 2008, Mr. Rosen was Vice President of Commercial Strategy at Gilead Sciences, Inc., a biopharmaceutical company. Mr. Rosen was President of ALZA Corporation, a pharmaceutical and medical systems company that merged with Johnson & Johnson, a global healthcare company, in 2001, from 2003 until 2004 and Vice President, Product Development of ALZA Corporation, from 2002 until 2003. Prior to that, from 1994 until 2002, Mr. Rosen held various positions at ALZA Corporation. From 1993 to 1994, Mr. Rosen managed the west coast practice of Integral, Inc., a consulting firm. From 1989 until 1993, Mr. Rosen was Director of Corporate Development at GenPharm International, Inc., a company focusing on transgenic animal technology that was acquired by Medarex, Inc., a biotechnology company, in 1997 and later acquired by Bristol-Myers Squibb Company, a global biopharmaceutical company, in 2009. Mr. Rosen is also a member of the board of directors of PavVax, Inc., a biotechnology company, CNS Therapeutics, Inc., a pharmaceutical company, Pearl Therapeutics, Inc., a company focused on developing combination therapies for the treatment of highly prevalent chronic respiratory diseases and Entrega, Inc., a company focused on delivering biopharmaceuticals orally. Previously, Mr. Rosen served on the board of directors of Pharsight Corporation, a company focused on providing software products and consulting services to pharmaceutical and biotechnology companies that was acquired by Tripos International, a company focused on drug discovery informatics products and services in 2008. Mr. Rosen also served on the board of directors of CoTherix, Inc., a biopharmaceutical company that was acquired by Actelion Pharmaceuticals Ltd, a biopharmaceutical company in 2007. Mr. Rosen holds a B.S. in Chemical Engineering from Stanford University, an M.S. in Chemical Engineering from the Massachusetts Institute of Technology and an M.B.A. from the Stanford Graduate School of Business. Mr. Rosen s experience in the biopharmaceutical industry, including his specific experience with commercialization of pharmaceutical products, provides him with the qualifications and skills to serve as a director.

Mark Wan, age 46, has served as our director since August 2006. Mr. Wan is a founding general partner of Three Arch Partners, a venture capital firm. Prior to co-founding Three Arch Partners in 1993, Mr. Wan was a general partner at Brentwood Associates, a private equity firm from 1987 until 1993. Since 1999, Mr. Wan has served on the board of directors of Epocrates, Inc., a company focused on providing mobile drug reference tools. Mr. Wan also serves as a director of Biosensors International Group, Ltd. a company focused on the development, manufacture and marketing of medical devices for interventional cardiology and critical care procedures. Mr. Wan also serves on the board of directors of numerous private companies, including Ascend Health Corporation, Eleme Medical, Inc., Ingenuity Systems, Inc., TriReme Medical, Inc. and Quattro Vascular Pte Ltd. Mr. Wan holds a B.S. in Engineering and a B.A. in Economics from Yale University and an M.B.A. from the Stanford Graduate School of Business. Mr. Wan s financial experience and extensive knowledge of our company provides him with the qualifications and skills to serve as a director.

Executive Officers of the Registrant

The following table sets forth certain information concerning our executive officers as of January 31, 2012:

Name	Age	Position
Richard A. King	47	Director, President and Chief Executive Officer
James H. Welch	54	Chief Financial Officer
Pamela P. Palmer, M.D., Ph.D.	49	Director, Chief Medical Officer and Co-Founder
Lawrence G. Hamel	60	Chief Development Officer
Badri Dasu	48	Chief Engineering Officer

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Richard A. King. Mr. King s biography is included above under the section titled Board of Directors Class II Directors.

James H. Welch has served as our Chief Financial Officer since October 1, 2010. From June 2006 until September 2010, Mr. Welch served as Chief Financial Officer and Corporate Secretary for Cerimon Pharmaceuticals, a biopharmaceutical company. Mr. Welch served as Vice President, Chief Financial Officer and Corporate Secretary for Rigel Pharmaceuticals, Inc., a drug development company from October 2000 until May 2006, and as Vice President, Finance and Administration for Rigel Pharmaceuticals, Inc. from May 1999 until October 2000. From June 1998 until May 1999, Mr. Welch served as an independent consultant at various companies. Mr. Welch served as Chief Financial Officer of Biocircuits Corporation, a company focused on developing immunodiagnostic testing systems from February 1997 until June 1998, and from June 1992 until February 1997, he served as Corporate Controller of Biocircuits Corporation. Mr. Welch holds a B.A. in Business Administration from Whitworth College and an M.B.A. from Washington State University.

Pamela P. Palmer, M.D., Ph.D. Dr. Palmer s biography is included above under the section titled Board of Directors Class II Directors.

Lawrence G. Hamel has served as our Chief Development Officer since September 2006. From 1986 until September 2006, Mr. Hamel served as Product Development Manager, Director Project Management, Executive Director Oral Product Development, and Vice President Oral Products Development at ALZA Corporation. From 1977 until 1985, Mr. Hamel held a number of other positions at ALZA Corporation, including Senior Chemist, Research Scientist, and Senior Research Fellow. Mr. Hamel holds a B.S. in Biology from the University of Michigan.

Badri Dasu has served as our Chief Engineering Office since September 2007. From December 2005 until September 2007, Mr. Dasu served as Vice President of Medical Device Engineering at Anesiva, Inc., a biopharmaceutical company. From March 2002 until December 2005, Mr. Dasu served as Vice President for Manufacturing and Device Development at AlgoRx Pharmaceuticals, Inc., an emerging pain management company, which merged with Corgentech Inc., a biotechnology company, in December 2005. From January 2000 until March 2002, Mr. Dasu served as Vice President of Manufacturing and Process Development at PowderJect Pharmaceuticals, a vaccine, drug and diagnostics delivery company that was acquired by Chiron Corporation in 2003 and later acquired by Novartis AG, a global healthcare and pharmaceutical company, in 2006. Previously, Mr. Dasu served in various capacities in process development at Metrika, Inc., a company focused on the manufacture and marketing of disposable diabetes monitoring products that was acquired by Bayer HealthCare, LLC in 2006, and at Cygnus, Inc., a drug delivery and specialty pharmaceuticals company. Mr. Dasu holds a B.E. in Chemical Engineering from the University of Mangalore, India and a M.S. in Chemical Engineering from the University of Tulsa.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, requires our directors and executive officers, and persons who own more than ten percent of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of our company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2011, our officers, directors and greater than ten percent beneficial owners complied with all applicable Section 16(a) filing requirements, except that two reports, covering an aggregate of two transactions, were filed late by Mr. Hamel and Mr. Dasu.

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Certain Corporate Governance Matters

Code of Business Conduct and Ethics

The AcelRx Pharmaceuticals, Inc. Code of Business Conduct and Ethics applies to all officers, directors and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. The Code of Business Conduct and Ethics is available on our website at *www.acelrx.com*. Stockholders may request a free copy of the Code of Business Conduct and Ethics by submitting a written request to: AcelRx Pharmaceuticals, Inc., Attention: Investor Relations, 575 Chesapeake Drive, Redwood City, CA 94063. If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website.

Director Nominations

The nominating and corporate governance committee of the board of directors, to date, has not adopted a formal policy with regard to the consideration of director candidates recommended by stockholders and will consider director candidates recommended by stockholders on a case-by-case basis, as appropriate. Stockholders wishing to recommend individuals for consideration by the nominating and corporate governance committee may do so by delivering a written recommendation to our Secretary at 575 Chesapeake Drive, Redwood City, CA 94063 and providing the candidate s name, biographical data and qualifications and a document indicating the candidate s willingness to serve if elected. The nominating and corporate governance committee does not intend to alter the manner in which it evaluates candidates based on whether the candidate was recommended by a stockholder. To date, the nominating and corporate governance committee has not received any such nominations nor has it rejected a director nominee from a stockholder or stockholders holding more than 5% of our voting stock.

Audit Committee

Our audit committee consists of Messrs. Edwards and Rosen and Dr. Hoffman, each of whom is a non-employee member of our board of directors. Mr. Edwards serves as the chair of our audit committee. Our board of directors has determined that each of the directors serving on our audit committee meets the requirements for financial literacy under applicable rules and regulations of the SEC and NASDAQ. Our Board has also determined that Mr. Edwards qualifies as an audit committee financial expert within the meaning of SEC regulations. In making this determination, our Board considered the overall knowledge, experience and familiarity of Mr. Edwards with accounting matters, in analyzing and evaluating financial statements and in managing private equity investments. The composition of the audit committee satisfies the independence and other requirements of NASDAQ and the SEC. The audit committee operates under a written charter that satisfies the applicable standards of the SEC and NASDAQ and is available on our website at *www.acelrx.com*.

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Item 11. Executive Compensation

Summary Compensation Table

The following table sets forth certain summary information for the year indicated with respect to the compensation earned by our Chief Executive Officer, our Chief Financial Officer and each of our three other most highly compensated executive officers as of December 31, 2011. We refer to these individuals as our named executive officers elsewhere in this Form 10-K.

2011 and 2010 Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)[1]	Option Awards ($)[2]	Non-Equity Incentive Plan Compensation ($)[3]	Total ($)
Richard A. King[4]	2011	411,600		425,927	279,955	100,842	1,218,324
President and Chief Executive Officer	2010	306,667	94,500		925,032		1,326,199
James H. Welch[5]	2011	290,000			60,750	67,425	418,175
Chief Financial Officer	2010	72,500	21,750		450,426		544,676
Pamela P. Palmer, M.D., Ph.D.	2011	385,000		233,199	243,000	89,513	950,712
Chief Medical Officer	2010	375,000			493,876		868,876
Lawrence G. Hamel	2011	283,000		58,302	75,330	70,892	487,524
Chief Development Officer	2010	275,000			123,469		398,469
Badri Dasu	2011	270,500		51,305	127,575	59,645	509,025
Chief Engineering Officer	2010	262,500			109,912		372,412

(1) The dollar amounts in this column represent the aggregate grant date fair value calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, or ASC 718, for all restricted stock unit awards granted during the indicated year. The estimated fair value of restricted stock unit awards is calculated based on the market price of our common stock on the date of grant.

(2) The dollar amounts in this column represent the aggregate grant date fair value of all option awards granted during the indicated year. These amounts have been calculated in accordance with ASC 718, using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. For a discussion of valuation assumptions, see Note 1 to our financial statements and the discussion under Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Estimates Stock-Based Compensation included elsewhere in this Form 10-K. These amounts do not necessarily correspond to the actual value that may be recognized from the option awards by the named executive officers. The modification of stock option awards originally granted in June 2010 as described under Employment Agreements and Arrangements Employee Benefit and Stock Plans Option Exercise Price Increase did not result in an increase in the fair value of such stock option awards under ASC 718.

(3) The dollar amounts reflect the cash awards made to the named executive officers under the Company s 2011 Cash Bonus Plan.

(4) Mr. King has served as our President and Chief Executive Officer since May 1, 2010. Mr. King also served as our principal financial officer from May 1, 2010 until September 30, 2010.

(5) Mr. Welch has served as our Chief Financial Officer since October 1, 2010.

Employment Agreements and Arrangements

Executive Employment Agreements and Termination Benefits

Offer Letter Agreements

We have entered into offer letter agreements with each of our named executive officers, in connection with each named executive officer s commencement of employment with us. These offer letter agreements provide for the named executive officer s initial base salary, eligibility to participate in our standard benefit plans and in certain cases, the named executive officer s initial stock option grant along with vesting provisions with respect to that initial stock option grant. We amended and restated these offer letter agreements in December 2010 to clarify certain terms for compliance with tax laws, to specify the terms of the option to be granted to Mr. King upon achievement of certain milestones and to provide additional change of control severance benefits to Mr. Welch and Dr. Palmer.

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Under Mr. King s, Mr. Welch s and Dr. Palmer s respective offer letter agreements, in the event that Mr. Welch s or Dr. Palmer s employment is terminated by us without cause, or in a manner that constitutes an involuntary termination, or Mr. King s employment is terminated by us without cause or he resigns for good reason, in each case within one year following a change in control, as these terms are defined in the offer letters, each will be entitled to base salary and health benefits continuation for a period of twelve months in the case of Mr. King, and six months in the case of each of Mr. Welch and Dr. Palmer. Mr. King is also entitled to base salary and health benefits continuation for a period of twelve months in connection with a termination by us without cause that is not in connection with a change of control. In order to receive severance benefits, each such executive must sign a waiver and release of claims, and in the case of Mr. King and Dr. Palmer, each such executive must resign from our board of directors if so requested by the board of directors. Please refer to Long-Term Equity Incentive Award Vesting Acceleration below for descriptions of the current stock option and restricted stock unit, or RSU, vesting acceleration for each of our executive officers.

Mr. King s and Mr. Welch s offer letters also provide for an opportunity to earn a target annual bonus of 35% and 30% of base salary, respectively, and Mr. King was entitled to an additional option grant covering 115,208 shares of our common stock upon achievement of one of the following corporate milestones prior to June 30, 2011: (i) completion by the company of a qualifying partnering transaction, (ii) completion of our IPO, or (iii) completion of a private financing raising at least $15 million from new investors. Mr. Welch was entitled to an additional option grant covering 25,000 shares if we completed our IPO or a private financing raising at least $15 million from new investors prior to June 30, 2011. In December 2010, our board of directors approved a bonus payment of $94,500 to Mr. King in connection with his annual target bonus pursuant to his employment agreement. In March 2011, our board of directors approved a bonus payment of $21,750 to Mr. Welch in connection with his annual target bonus pursuant to his employment agreement. In March 2011, our board of directors also granted Messrs. King and Welch options to purchase 115,208 and 25,000 shares of our common stock in connection with the completion of our IPO pursuant to each of their employment agreements.

Each of our executive officers are employed at-will, and each such executive officer s employment may be terminated at any time by us or the named executive officer.

Cash Bonus Plan

We maintain an annual Cash Bonus Plan to reward executive officers and other employees for attaining our corporate performance objectives, as well as to reward them for their individual contributions to the achievement of those objectives. Target bonus levels under the annual Bonus Plan are assigned based on various categories of employees. The actual bonus awarded in any year, if any, may be more or less than the target, depending primarily on the achievement of our corporate objectives, and an individual employee s achievement of his or her objectives. Whether or not a bonus is paid for any year is within the discretion of our Compensation Committee, and our Compensation Committee has the discretion to award bonuses even if the applicable performance criteria set forth under the annual Bonus Plan have not been met or to award a bonus based on other criteria.

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Target bonuses for our named executive officers under the 2011 Cash Bonus Plan, or the Bonus Plan, ranged from 30% to 35% of such executive s 2011 base salary based on market data established for each executive position. The amount of cash bonus, if any, for each named executive officer was based on both the named executive officer achieving his or her individual performance goals and on our attainment of the 2011 corporate objectives approved by our board of directors. Our 2011 corporate objectives were primarily related to product development, clinical trial milestones and financial objectives. The target bonuses for our named executive officers for 2011 were as follows:

Named Executive Officer	Target Bonus (as a percentage of FY 2011 Base Salary)
Richard A. King	35%
James H. Welch	30%
Pamela P. Palmer, M.D., Ph.D.	30%
Lawrence G. Hamel	30%
Badri Dasu	30%

Mr. King s cash bonus under the Bonus Plan was based 25% on the achievement of his individual performance goals, as determined by our board of directors, and 75% on the achievement of the 2011 corporate objectives. The cash bonus for all other named executive officers was be based 40% on the achievement of his or her individual performance goals, as determined by our board of directors, and 60% on the achievement of the 2011 corporate objectives. The named executive officers actual bonuses could have exceeded 100% of target in the event performance exceeded the predetermined goals.

In February 2012, the Compensation Committee determined, and the Board of Directors confirmed, that the Company had achieved a 62.5% attainment level of the 2011 corporate objectives. At that same time, the Board of Directors also confirmed the attainment levels of each executive s individual performance goals for 2011. Pursuant to our Cash Bonus Plan, the Board of Directors awarded cash bonuses to our executives based on the confirmed attainment level of the 2011 corporate objectives and the confirmed attainment level of their respective individual performance goals for 2011. All bonus amounts were paid on February 15, 2012.

The table below sets forth the target and actual non-equity incentive plan awards for our named executive officers for fiscal 2011 performance:

Name	Target Award	Actual Award
Richard A. King	$ 144,060	$ 100,842
James H. Welch	$ 87,000	$ 67,425
Pamela P. Palmer, M.D., Ph.D.	$ 115,500	$ 89,513
Lawrence G. Hamel	$ 84,900	$ 70,892
Badri Dasu	$ 81,150	$ 59,645

Long-Term Equity Incentive Award Vesting Acceleration

Each of our executive officers are entitled to full double-trigger stock option and RSU vesting acceleration benefits (for all currently outstanding stock options and RSUs and any stock options and RSUs that may be granted in the future) in the event their service with us is terminated by us without cause or, in the case of acceleration of stock options only for Messrs. Welch, Hamel and Dasu and Dr. Palmer, in a manner that constitutes an involuntary termination, or, in the case of acceleration of RSUs only for Messrs. Welch, Hamel and Dasu and Dr. Palmer and for acceleration of stock options and RSUs for Mr. King, such executive resigns for good reason, in each case within 18 months following a change in control, subject to signing an effective release of claims, and in the case of acceleration of stock options for Mr. King and Dr. Palmer, resignation from our board of directors if so requested by the board of directors.

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Employee Benefit and Stock Plans

2006 Stock Plan

Our board of directors adopted, and our stockholders approved, the 2006 Stock Plan, or 2006 Plan, in August 2006. The 2006 Plan was subsequently amended by our board or directors and approved by our stockholders in each of February 2008 and November 2009. The 2006 Plan provides for the grant of incentive stock options, nonstatutory stock options and rights to acquire restricted stock. Effective upon the execution and delivery of the underwriting agreement for our IPO, no additional stock options or other stock awards may be granted under the 2006 Plan. All outstanding stock options and other stock awards previously granted under the 2006 Plan remain subject to the terms of the 2006 Plan.

Administration. Our board of directors administers our 2006 Plan. Our board of directors, referred to as the plan administrator, has the authority to interpret the 2006 Plan, as well as to determine the terms of a stock award or amend the terms of a stock award. No amendment to the 2006 Plan or any award agreement thereunder may adversely affect the rights under any outstanding stock award unless the holder consents to that amendment. However, the plan administrator may unilaterally amend the 2006 Plan or the terms of an outstanding award agreement to conform the 2006 Plan or such stock award to any law, regulation or rule applicable to the 2006 Plan, including, but not limited to, Section 409A of the Code, or Section 409A, as the plan administrator deems necessary or advisable.

Stock option provisions generally. In general, the exercise price of a stock option could not be less than 100% of the fair market value of our common stock on the date of grant. However, an incentive stock option granted to a person who on the date of grant owned more than 10% of the combined voting power of all classes of our stock or any of our affiliates stock must have had an exercise price that is at least 110% of the fair market value on the date of grant.

Generally, an optionee may not transfer his or her stock option other than by will or by the laws of descent and distribution. Shares subject to options under the 2006 Plan generally vest and become exercisable in periodic installments. With the exception of stock options issued to an officer, a director or a consultant, shares subject to stock options under the 2006 Plan must vest and become exercisable at a rate not less than 20% per year over a period of five years from the date of grant of the option, subject to the optionee s continued service.

The aggregate fair market value, determined at the time of grant, of shares of our common stock with respect to which incentive stock options are exercisable for the first time by an optionee during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will be treated as nonstatutory stock options.

The plan administrator determined the term of stock options granted under the 2006 Plan, up to a maximum of 10 years, provided that incentive stock options granted to persons who own more than 10% of the combined voting power of all classes of our stock or any of our affiliates stock may not have a term of more than five years. Unless the terms of an optionee s stock option agreement provided otherwise, if an optionee s service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionee generally may exercise the vested portion of any stock options for a period of three months following the cessation of service. If an optionee s service relationship with us, or any of our affiliates, ceases due to disability or death, or an optionee dies within three months following cessation of service, the optionee or a beneficiary may generally exercise any vested options for a period of 12 months. The option term may be further extended in the event that exercise of the stock option following termination of the optionee s service is prohibited by applicable securities laws. In no event may an option be exercised beyond the expiration of its term. In the event of a termination for cause, options generally terminate immediately upon the termination of the optionee s service. Unless otherwise defined in an optionee s award agreement or in a written employment agreement or contract of service between an optionee and us, cause refers to an optionee s termination due to (1) the optionee s theft, dishonesty, willful misconduct, breach of fiduciary duty for personal profit, or

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falsification of any of our documents or records; (2) the optionee s material failure to abide by a code of conduct or other policies of ours (including, without limitation, policies relating to confidentiality and reasonable workplace conduct); (3) the optionee s unauthorized use, misappropriation, destruction or diversion of any tangible or intangible asset or corporate opportunity of ours (including, without limitation, the optionee s improper use or disclosure of our confidential or proprietary information); (4) any intentional act by the optionee which has a material detrimental effect on our reputation or business; (5) the optionee s repeated failure or inability to perform any reasonable assigned duties after written notice from us of, and a reasonable opportunity to cure, such failure or inability; (6) any material breach by the optionee of any employment or service agreement between the optionee and us, which breach is not cured pursuant to the terms of such agreement; or (7) the optionee s conviction (including any plea of guilty or nolo contendere) of any criminal act involving fraud, dishonesty, misappropriation or moral turpitude, or which impairs the optionee s ability to perform his or her duties with us.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (a) cash, check or cash equivalent, (b) the tender to us, or attestation to the ownership, of shares of our common stock previously owned by the optionee, (c) a broker-assisted cashless exercise, (d) other legal consideration approved by the plan administrator or (e) any combination of the foregoing.

Changes to capital structure. In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to the number of shares and price per share of all outstanding options and stock awards under the 2006 Plan.

Change in control. In the event of certain change in control transactions involving us, such as our liquidation or dissolution or an event that results in a material change in the ownership of our company, the plan administrator has the discretion to take any of the following actions with respect to stock awards under the 2006 Plan:

- accelerate the vesting of a stock award;
- arrange for the assumption, continuation or substitution of a stock award by the surviving or acquiring entity or its parent company; or
- cancel or arrange for the cancellation of the stock award in exchange for a payment in (1) cash, (2) stock, or (3) other property, and in any such case in an amount equal to the fair market value of the consideration to be paid per share of stock in the change of control over the exercise price per share.

Stock awards that are neither assumed or continued by the surviving or acquiring entity or its parent company nor exercised as of the effective time of the change in control will terminate and cease to be outstanding as of the effective time of the change in control.

Option Exercise Price Increase

In December 2010, our board of directors, out of an abundance of caution, allowed eligible optionees, including our named executive officers, to increase the exercise price of stock options granted to them on June 15, 2010 in light of the potential risk of adverse tax consequences under Section 409A. Under Section 409A, stock options with an exercise price that is less than the fair market value of the stock on the date of grant may be deemed deferred compensation subject to adverse taxation under Section 409A. When setting the exercise price for the June 15, 2010 stock option grants, our board of directors determined the fair market value of our common stock to be $1.20 per share, which valuation was subsequently revisited for financial reporting purposes when our board of directors began to analyze the prospects of an IPO as described in more detail under Item 7. Management s Discussion and Analysis of our Financial Condition and Results of Operations Critical Accounting Policies and Estimates Stock-Based Compensation. As such, our board of directors subsequently determined a fair value of our common stock for financial reporting purposes to be $2.56 per share. We believe

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that our board of directors determination of the fair market value of our common stock on June 15, 2010 in reliance upon all material facts available to our board of directors on that date, was reasonable. However, given the potential adverse tax consequences to the optionees if the Internal Revenue Service determines that our original determination was grossly unreasonable, our board decided, out of an abundance of caution, to make the offer to amend. All of our eligible named executive officers accepted the offer, and their eligible options were amended on December 27, 2010.

2011 Equity Incentive Plan

Our board of directors adopted, and our stockholders approved, the 2011 Equity Incentive Plan, or 2011 Incentive Plan, in January 2011 as a successor to the 2006 Plan. The 2011 Incentive Plan became effective immediately upon the execution and delivery of the underwriting agreement for our IPO and, on that date, the 51,693 shares that were available for future grant under the 2006 Plan as of such date became available for future grant under the 2011 Incentive Plan, and no additional shares remain available for grant under the 2006 Plan. The 2011 Incentive Plan will terminate on January 4, 2021, unless sooner terminated by our board of directors. Our board of directors may amend or suspend the 2011 Incentive Plan at any time, although no such action may impair the rights under any then-outstanding award without the holder s consent.

Stock awards. The 2011 Incentive Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards, and other forms of equity compensation, or collectively, stock awards, all of which may be granted to employees, including officers, and to non-employee directors and consultants. Additionally, the 2011 Incentive Plan provides for the grant of performance cash awards. Incentive stock options may be granted only to employees. All other awards may be granted to employees, including officers, and to non-employee directors and consultants.

Share reserve. The initial aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2011 Incentive Plan was 1,875,000 shares, which number was the sum of (i) 51,693 shares remaining available for future grant under the 2006 Plan at the time of the execution and delivery of the underwriting agreement for our IPO, and (ii) an additional 1,823,307 new shares. The number of shares of our common stock reserved for issuance under the 2011 Incentive Plan will automatically increase on January 1st each year, starting on January 1, 2012 and continuing through January 1, 2020, by 4% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, or such lesser number of shares of common stock as determined by our board of directors. Accordingly, effective January 1, 2012, the share reserve of the 2011 Incentive Plan increased by 782,711 shares of our common stock. The maximum number of shares that may be issued pursuant to the exercise of incentive stock options under the 2011 Incentive Plan is 10,000,000 shares.

No person may be granted stock awards covering more than 1,000,000 shares of our common stock under our 2011 Incentive Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the fair market value on the date the stock award is granted. Additionally, no person may be granted in a calendar year a performance stock award covering more than 750,000 shares or a performance cash award having a maximum value in excess of $1,000,000. Such limitations are designed to help assure that any deductions to which we would otherwise be entitled with respect to such awards will not be subject to the $1,000,000 limitation on the income tax deductibility of compensation paid to any covered executive officer imposed by Section 162(m) of the Code.

If a stock award granted under the 2011 Incentive Plan expires or otherwise terminates without being exercised in full, or is settled in cash, the expiration, termination or settlement shall not reduce (or otherwise offset) the number of shares of common stock that may be available for issuance under the 2011 Incentive Plan. In addition, the following types of shares under the 2011 Incentive Plan may become available for the grant of new stock awards under the 2011 Incentive Plan: (1) shares that are forfeited to or repurchased by us prior to becoming fully vested; (2) shares withheld to satisfy income or employment withholding taxes; or (3) shares used to pay the

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exercise price of an option. Shares issued under the 2011 Incentive Plan may be previously unissued shares or reacquired shares bought by us on the open market.

Administration. Our board of directors, or a duly authorized committee thereof, has the authority to administer the 2011 Incentive Plan. Our board of directors has delegated its authority to administer the 2011 Incentive Plan to our compensation committee under the terms of the compensation committee s charter. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than other officers) to be recipients of stock options or stock appreciation rights, and (2) determine the number of shares of common stock to be subject to such stock awards, provided that our board of directors must specify the total number of shares of common stock that may be subject to stock awards granted by such officer and that such officer may not grant a stock award to himself or herself. Subject to the terms of the 2011 Incentive Plan, our board of directors or the authorized committee or officer, referred to as the plan administrator, determines recipients, dates of grant, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the plan administrator will also determine the exercise price, strike price or purchase price of awards granted and the types of consideration to be paid for the award.

The plan administrator has the authority to reduce the exercise price (or strike price) of any outstanding option or stock appreciation right, cancel and re-grant any outstanding option or stock appreciation right or take any other action that is treated as a repricing under U.S. generally accepted accounting principles, with the consent of any adversely affected participant.

Stock options. Incentive and nonstatutory stock options are granted pursuant to stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for a stock option, within the terms and conditions of the 2011 Incentive Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2011 Incentive Plan vest at the rate specified by the plan administrator.

The plan administrator determines the term of stock options granted under the 2011 Incentive Plan, up to a maximum of 10 years. Unless the terms of an optionee s stock option agreement provides otherwise, if an optionee s service relationship with us, or any of our affiliates, ceases for any reason other than disability, death or cause, the optionee may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that exercise of the option or sale of shares received upon exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionee s service relationship with us, or any of our affiliates, ceases due to disability or death, or an optionee dies within a certain period following cessation of service, the optionee or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the occurrence of the event giving rise to the right to terminate the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionee, (4) a net exercise of the option if it is a nonstatutory option, and (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options generally are not transferable except by will, the laws of descent and distribution, or pursuant to a domestic relations order. An optionee may designate a beneficiary, however, who may exercise the option following the optionee s death.

Tax limitations on incentive stock options. The aggregate fair market value, determined at the time of grant, of our common stock with respect to incentive stock options that are exercisable for the first time by an optionee

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during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as nonstatutory stock options. No incentive stock option may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the incentive stock option does not exceed five years from the date of grant.

Restricted stock awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the plan administrator. Restricted stock awards may be granted in consideration for (1) cash, check, bank draft or money order, (2) past services rendered to us or our affiliates, or (3) any other form of legal consideration. Common stock acquired under a restricted stock award may, but need not, be subject to a share repurchase option in our favor in accordance with a vesting schedule to be determined by the plan administrator. Rights to acquire shares under a restricted stock award may be transferred only upon such terms and conditions as set by the plan administrator.

Restricted stock unit awards. Restricted stock unit awards are granted pursuant to restricted stock unit award agreements adopted by the plan administrator. The plan administrator will determine the vesting terms of restricted stock unit awards. The plan administrator will determine the consideration to be paid, if any, by the participant upon delivery for each share subject to a restricted stock unit award, which may be paid in any form of legal consideration acceptable to the plan administrator. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited upon the participant s cessation of continuous service for any reason.

Other stock awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

Changes to capital structure. In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, the plan administrator shall appropriately and proportionately adjust: (a) the class(es) and maximum number of shares reserved for issuance under the 2011 Incentive Plan and the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (b) the class(es) and maximum number of shares that may be issued upon the exercise of incentive stock options, (c) the class(es) and maximum number of shares subject to stock awards that can be granted in a calendar year (as established under the 2011 Incentive Plan pursuant to Section 162(m) of the Code) and (d) the class(es) and number of shares and price per share of stock subject to outstanding stock awards.

Corporate transactions. In the event of certain specified significant corporate transactions, unless otherwise provided in the instrument evidencing the stock award or any other written agreement between us or any affiliate and the holder of the stock award, the plan administrator has the discretion to take any of the following actions with respect to stock awards:

arrange for the assumption, continuation or substitution of a stock award by a surviving or acquiring entity or parent company;

arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring entity or parent company;

accelerate the vesting of the stock award and provide for its termination prior to the effective time of the corporate transaction;

arrange for the lapse of any reacquisition or repurchase right held by us;

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cancel or arrange for the cancellation of the stock award in exchange for such cash consideration, if any, as our board of directors may deem appropriate; or

make a payment equal to the excess of (a) the value of the property the participant would have received upon exercise of the stock award over (b) the exercise price otherwise payable in connection with the stock award.

Our board of directors is not obligated to treat all stock awards, even those that are of the same type, in the same manner.

Change in control. The plan administrator may provide, in an individual award agreement or in any other written agreement between a participant and us, that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a certain specified change in control. However, in the absence of such a provision, no such acceleration of the stock award will occur.

2011 Employee Stock Purchase Plan

Our board of directors adopted, and our stockholders approved, the 2011 Employee Stock Purchase Plan, or ESPP, in January 2011. The ESPP became effective immediately upon the execution and delivery of the underwriting agreement for our IPO.

Share reserve. Initially, 250,000 shares of our common stock were authorized to be issued under the ESPP pursuant to purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance will automatically increase on January 1st each year, starting January 1, 2012 and continuing through January 1, 2020, in an amount equal to the lower of (1) 2% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, or (2) a number of shares of common stock as determined by our board of directors. Accordingly, effective January 1, 2012, the share reserve of the ESPP increased by 391,355 shares of our common stock. If a purchase right granted under the ESPP terminates without having been exercised, the shares of our common stock not purchased under such purchase right will be available for issuance under the ESPP.

Administration. Our board of directors, or a duly authorized committee thereof, has the authority to administer the ESPP. Our board of directors has delegated its authority to administer the ESPP to our compensation committee. Our board of directors or the authorized committee is referred to as the plan administrator.

Purchase rights. The ESPP is implemented through a series of offerings of purchase rights to eligible employees. Purchase rights are generally not transferable. Under the ESPP, we may specify offerings with a duration of not more than 27 months, and may specify one or more shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for the employees who are participating in the offering. An offering may be terminated early under certain circumstances such as a material change in control of our company. The plan administrator has the discretion to structure an offering so that if the fair market value of the shares of our common stock on the first day of a new purchase period within such offering is less than or equal to the fair market value of the shares of our common stock on the first day of the offering, then (a) that offering shall terminate immediately, and (b) the participants in such terminated offering shall be automatically enrolled in a new offering beginning on the first day of such new purchase period.

Payroll deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings toward the purchase of our common stock under the ESPP. Unless otherwise determined by the plan administrator, common stock will be purchased for participating employees at a price per share equal to the lower of (a) 85% of the fair market value of a share of our common stock on the first date of an offering, or (b) 85% of the fair market value of a share of our common stock on the date of purchase.

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Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by the plan administrator: (a) customary employment with us or one of our affiliates for more than 20 hours per week and more than five months per calendar year or (b) continuous employment with us or one of our affiliates for a minimum period of time prior to the first date of an offering, provided that such minimum period may not to exceed two years. No employee may purchase shares under the ESPP at a rate in excess of $25,000 worth of our common stock, based on the fair market value per share of our common stock at the beginning of an offering, for each calendar year in which such purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if, immediately after such rights are granted, such employee owns our stock possessing five percent or more of the total combined voting power or value of all classes of our outstanding capital stock.

Changes to capital structure. In the event that there is a specified type of change in our capital structure such as a stock split or recapitalization, appropriate adjustments will be made to (a) the class(es) and maximum number of shares reserved under the ESPP, (b) the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (c) the class(es) and number of shares subject to, and purchase price applicable to, all outstanding purchase rights, and (d) any limits on the class(es) and number of shares that may be purchased in an ongoing offering.

Corporate transactions. In the event of certain significant corporate transactions, such as an acquisition of the our company that results in a material change in the ownership of our company, any then-outstanding purchase rights under the ESPP may be assumed, continued or substituted for by any surviving or acquiring entity or its parent company, provided that the rights of any participant under any such assumption, continuation or substitution will not be impaired. If the surviving or acquiring entity or its parent company elects not to assume, continue or substitute for such purchase rights, then the participants accumulated contributions will be used to purchase shares of our common stock within 10 business days prior to such corporate transaction, and such purchase rights will terminate immediately thereafter.

Plan amendments. The plan administrator has the authority to amend, suspend or terminate the ESPP, provided any such action will not be taken without the consent of an adversely affected participant except as necessary to comply with any laws, listing requirements or governmental regulations or to maintain favorable tax, listing or regulatory treatment. We will obtain stockholder approval of any amendment to our ESPP as required by applicable law.

401(k) Plan

We maintain a tax-qualified 401(k) retirement plan for all employees who satisfy certain eligibility requirements, including requirements relating to age and length of service. Under our 401(k) plan, employees may elect to defer a portion of their eligible compensation subject to applicable annual Code limits. We provide a discretionary safe harbor profit sharing contribution equal to 3% of a participant s compensation to our eligible participants, which is 100% vested when made. We intend for the 401(k) plan to qualify under Section 401(a) and 501(a) of the Code so that contributions by employees to the 401(k) plan, and income earned on those contributions, are not taxable to employees until withdrawn from the 401(k) plan.

Pension Benefits

We do not maintain any pension or retirement plans.

Nonqualified Deferred Compensation

We do not maintain any nonqualified deferred compensation plans.

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Outstanding Equity Awards at December 31, 2011

The following table presents information regarding outstanding equity awards held by our named executive officers as of December 31, 2011.

Outstanding Equity Awards at December 31, 2011

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)[1]	Market Value of Shares or Units of Stock That Have Not Vested ($)[2]
Richard A. King		115,208[3]	3.45	03/02/2021		
	28,538[4]		2.56[5]	06/15/2020		
	178,363	249,708[6]	2.56[5]	06/15/2020		
					92,593	177,779
James H. Welch		25,000[3]	3.45	03/02/2021		
	39,062	85,938[7]	5.32	11/04/2020		
Pamela P. Palmer, M.D., Ph.D.		100,000[3]	3.45	03/02/2021		
	187,500	62,500[8]	2.56[5]	06/15/2020		
	28,125	9,375[8]	5.52	03/25/2019		
	37,500	[9]	4.00	08/14/2018		
	25,000	[10]	1.32	04/03/2017		
					50,696	97,336
Lawrence G. Hamel		31,000[3]	3.45	03/02/2021		
	46,875	15,625[8]	2.56[5]	06/15/2020		
	9,375	3,125[8]	5.52	03/25/2019		
	18,750	[11]	1.20	12/05/2017		
	25,000	[12]	1.20	04/03/2017		
	12,500	[10]	1.20	04/03/2017		
					12,675	24,336
Badri Dasu		52,500[3]	3.45	03/02/2021		
	22,500	7,500[8]	2.56[5]	06/15/2020		
	12,500	12,500[13]	2.56[5]	06/15/2020		
	4,687	1,563[8]	5.52	03/25/2019		
	37,500	[14]	1.20	10/25/2017		
					11,154	21,416

(1) The shares subject to these restricted stock units vested as to 1/4 of the shares on September 2, 2011, with the remaining shares vesting as to 1/4 of the shares subject to the award on each of the 1-, 2-, and 3-year anniversary of the March 2, 2011 stock award grant date.

(2) The dollar amounts in this column represent the aggregate grant date fair value of all restricted stock unit awards granted that have not vested. The estimated fair value of restricted stock unit awards is calculated based on the market price of our common stock as of December 31, 2011, which is $1.92.

(3) The shares subject to this stock option vested as to 1/4 of the shares on March 2, 2012, with the remaining shares vesting on an equal monthly basis over the following 36 months.

(4) The shares subject to this stock option were fully vested as of the June 15, 2010 grant date.

(5) The dollar amounts reflect the increase in the exercise price of the options we granted to our named executive officers on June 15, 2010 as described under Employment Agreements and Arrangements Employee Benefit and Stock Plans Option Exercise Price Increase.

(6) The shares subject to this stock option vested as to 28,538 shares on June 15, 2010, and another 85,614 shares vested on March 3, 2011, with the remaining shares vesting on an equal monthly basis over the following 36 months.

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(7) The shares subject to this stock option will vest as to 1/4 of the shares on September 30, 2011, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(8) The shares subject to this stock option vested as to 1/2 of the shares on December 31, 2010, with the remaining shares vesting on an equal monthly basis over the following 24 months.
(9) The shares subject to this stock option vested as to 1/4 of the shares on December 31, 2008, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(10) The shares subject to this stock option vested as to 1/4 of the shares on December 31, 2007, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(11) The shares subject to this stock option vested as to 1/4 of the shares on December 4, 2008, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(12) The shares subject to this stock option vested as to 1/4 of the shares on September 20, 2007, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(13) The shares subject to this stock option vested as to 1/4 of the shares on December 31, 2010, with the remaining shares vesting on an equal monthly basis over the following 36 months.
(14) The shares subject to this stock option vested as to 1/4 of the shares on September 25, 2008, with the remaining shares vesting on an equal monthly basis over the following 36 months.

Director Compensation

Non-Employee Director Compensation

Cash Compensation Arrangements

In January 2011, our board of directors adopted a non-employee director compensation policy, which became effective for all of our non-employee directors upon the execution and delivery of the underwriting agreement for our IPO. Pursuant to the non-employee director compensation policy, each member of our board of directors who is not our employee receives an annual retainer of $30,000 plus $2,000 as a meeting fee for each board meeting attended by the non-employee director in person. In addition, our non-employee directors receive the following cash compensation for board services, as applicable:

- the board chair receives an additional annual retainer of $25,000;
- the audit committee chair receives an additional annual retainer of $10,000;
- the compensation committee chair receives an additional annual retainer of $5,000;
- the nominating and corporate governance committee chair receives an additional annual retainer of $5,000; and
- each committee member receives $1,000 as a meeting fee for each committee meeting attended by the non-employee director in person.

All board and committee retainers accrue and are payable on a quarterly basis at the end of each calendar quarter of service. We continue to reimburse our non-employee directors for travel, lodging and other reasonable expenses incurred in connection with their attendance at board of director or committee meetings.

Equity Compensation Arrangements

Our non-employee director compensation policy provides for automatic grants of stock options to our non-employee directors under our 2011 Incentive Plan. Upon election or appointment to our board, each non-employee director will receive an initial grant of a stock option to purchase 15,000 shares of our common stock, which will vest as to 1/36th of the shares subject to the option on an equal monthly basis over a three-year period. Additionally, on the date of each annual meeting of stockholders, each non-employee director who is then serving as a director or who is elected to our board of directors on the date of such annual meeting will receive a grant of a stock option to purchase 12,500 shares of our common stock, which will vest as to 1/24th of the shares subject to the option on an equal monthly basis over a two-year period. All these options will be granted with an exercise price equal to the fair market value of our common stock on the date of the grant, and shall be entitled to

full vesting acceleration as of immediately prior to the effective date of certain change in control transactions

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involving us, such as our liquidation or a dissolution of or an event that results in a material change in the ownership of our company. For a description of the terms of the 2011 Incentive Plan, see Employment Agreements and Arrangements Employee Benefit and Stock Plans 2011 Equity Incentive Plan.

Director Compensation Table

The following table sets forth certain summary information for the year ended December 31, 2011 with respect to the compensation of our non-employee directors. Neither Mr. King nor Dr. Palmer, each of whom are executive officers, received or receives any additional compensation for serving on our board of directors or its committees.

2011 Director Compensation Table

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)[1][2]	Stock Awards ($)[3][4]	Total ($)
Thomas A. Schreck	55,972		204,050	260,022
Howard B. Rosen	46,086		15,159	61,245
Stephen J. Hoffman Ph.D., M.D.	31,167			31,167
Guy P. Nohra	39,528			39,528
Mark Wan	36,528			36,528
Mark G. Edwards	13,543	32,514		46,057

(1) The dollar amount in this column represents the grant date fair value of the stock option award granted to Mr. Edwards on September 26, 2011. This amount has been calculated in accordance with ASC 718 using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. For a discussion of valuation assumptions, see Note 1 to our financial statements and the discussion under Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Estimates Stock-Based Compensation included elsewhere in this Form 10-K. These amounts do not necessarily correspond to the actual value that may be recognized from the option award.

(2) As of December 31, 2011, the following directors held options to purchase the following number of shares of the Company s common stock: Mr. Schreck, 325,000; Mr. Rosen, 38,750; Mr. Edwards, 15,000.

(3) The dollar amounts in this column represent the aggregate grant date fair value of all restricted stock unit awards granted during the indicated year. The estimated fair value of restricted stock unit awards is calculated based on the market price of our common stock on the date of grant.

(4) As of December 31, 2011, the following directors held restricted stock units to purchase the following number of shares of the Company s common stock: Mr. Schreck, 44,359; Mr. Rosen, 3,296.

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

Equity Compensation Plan Information

The following table provides certain information with respect to our equity compensation plans in effect as of December 31, 2011.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)(2)	Weighted-average exercise price of outstanding options, warrants and rights (b)(3)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))(c)(4)(5)
Equity compensation plans approved by security holders[1]	2,653,836	$ 3.08	1,225,911
Equity compensation plans not approved by security holders		$	
Total	2,653,836		1,225,911

(1) Consists of the 2006 Plan, the 2011 Plan and the ESPP.

(2) Includes 257,868 shares subject to outstanding restricted stock units that will entitle the holder to one share of common stock for each unit that vests over the holder s period of continued service with us.

(3) The calculation does not take into account the 257,868 shares of common stock subject to outstanding restricted stock units. Such shares will be issued at the time the restricted stock units vest, without any cash consideration payable for those shares.

(4) Consists of shares available for future issuance under the 2011 Incentive Plan, including shares that were previously available for future issuance under the 2006 Plan at the time of the execution and delivery of the underwriting agreement for our IPO, and the ESPP. As of December 31, 2011, 1,024,147 shares of common stock were available for issuance under the 2011 Incentive Plan and 201,764 shares of common stock were available for issuance under the ESPP.

(5) The initial aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2011 Incentive Plan was 1,875,000 shares, which number was the sum of (i) 51,693 shares remaining available for future grant under the 2006 Plan at the time of the execution and delivery of the underwriting agreement for our IPO, and (ii) an additional 1,823,307 new shares. The number of shares of our common stock reserved for issuance under the 2011 Incentive Plan will automatically increase on January 1st each year, starting on January 1, 2012 and continuing through January 1, 2020, by 4% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, or such lesser number of shares of common stock as determined by our board of directors. The initial aggregate number of shares of common stock that may be issued pursuant to purchase rights granted to our employees or to employees of any of our designated affiliates under the ESPP was 250,000 shares. The number of shares of our common stock reserved for issuance will automatically increase on January 1st each year, starting January 1, 2012 and continuing through January 1, 2020, in an amount equal to the lower of (i) 2% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, and (ii) a number of shares of common stock as determined by our board of directors.

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Security Ownership of Certain Beneficial Owners and Management

The following table sets forth certain information regarding the ownership of our common stock as of January 31, 2012 by: (i) each director; (ii) each named executive officer; (iii) all of our executive officers and directors as a group; and (iv) all those known by us to be beneficial owners of more than five percent of our common stock.

	Beneficial Ownership[1]	
Name of Beneficial Owner	**Number of Shares**	**% of Total**
5% Stockholders:		
Funds affiliated with Three Arch Entities[2]	7,665,425	39.17%
Funds affiliated with Skyline Venture Partners[3]	3,887,235	19.87%
Funds affiliated with Alta Partners[4]	2,794,907	14.28%
Entities affiliated with FMR LLC[5]	1,104,700	5.65%
Named Executive Officers and Directors:		
Richard A. King[6]	332,685	1.70%
Jim H. Welch[7]	68,125	0.35%
Pamela P. Palmer, M.D., Ph.D.[8]	618,689	3.16%
Badri Dasu[9]	103,192	0.53%
Lawrence G. Hamel[10]	136,846	0.70%
Thomas A. Schreck[11]	620,113	3.17%
Mark Wan[12]	7,665,425	39.17%
Stephen J. Hoffman, Ph.D., M.D.[13]	3,887,235	19.87%
Guy P. Nohra[14]	2,794,907	14.28%
Howard B. Rosen[15]	36,961	0.19%
Mark G. Edwards[16]	52,500	0.27%
All executive officers and directors as a group (11 persons)[17]	16,316,678	83.39%

(1) This table is based upon information supplied by officers, directors and principal stockholders. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, we believe that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 19,567,778 shares outstanding on January 31, 2012, adjusted as required by rules promulgated by the SEC. The number of shares beneficially owned includes shares of common stock issuable pursuant to the exercise of stock options that are exercisable within 60 days of January 31, 2012. Shares issuable pursuant to the exercise of stock options that are exercisable within 60 days of January 31, 2012 are deemed to be outstanding and beneficially owned by the person to whom such shares are issuable for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

(2) Includes 195,543 shares held by Three Arch Associates III, L.P., 82,795 shares held by Three Arch Associates IV, L.P., 3,637,169 shares held by Three Arch Partners III, L.P. and 3,749,918 shares held by Three Arch Partners IV, L.P. The voting and dispositive decisions with respect to the shares held by Three Arch Associates III, L.P. and Three Arch Partners III, L.P., are made by the following Managing Members of their general partner, Three Arch Management III, L.L.C.: Mark Wan and Wilfred Jaeger, each of whom disclaims beneficial ownership of such shares. The voting and dispositive decisions with respect to the shares held by Three Arch Partners IV, L.P. and Three Arch Associates IV, L.P. are made by the following Managing Members of their general partner, Three Arch Management IV, L.L.C.: Mark Wan and Wilfred Jaeger, each of whom disclaims beneficial ownership of such shares. The address for the funds affiliated with Three Arch Partners is 3200 Alpine Road, Portola Valley, CA 94028.

(3) The 3,877,235 shares are held by Skyline Venture Partners Qualified Purchaser Fund IV, L.P. John G. Freund and Yasunori Kaneko are the Managing Members of Skyline Venture Management IV, LLC, which is the general partner of Skyline Venture Partners Qualified Purchaser Fund IV, L.P., and as such Drs. Freund and Kaneko may be deemed to share voting and dispositive power with respect to all shares of common stock held by Skyline Venture Partners Qualified Purchaser Fund IV, L.P. In addition, Dr. Hoffman, one of our directors, is a Managing Director of Skyline Ventures and as such may be deemed to share voting and dispositive power with respect to all shares of common stock held by Skyline Venture Partners Qualified Purchasers Fund IV, L.P. Each of Drs. Freund, Kaneko and Hoffman disclaims beneficial ownership of such shares. The address for the funds affiliated with Skyline Venture Partners is 525 University Avenue, Ste. 520, Palo Alto, CA 94301.

(4) The 2,794,907 shares are held by ACP IV, L.P., or ACPIV. ACMP IV, LLC, or ACMPIV, is the general partner of ACPIV. Dan Janney, David Mack and Guy Nohra are directors of ACMPIV and they exercise shared voting and investment power with respect to the securities held by ACPIV. Each of Messrs. Janney, Mack and Nohra disclaims beneficial ownership of such securities. The address for funds affiliated with Alta Partners is One Embarcadero Center 37th Floor, San Francisco, CA 94111.

(5) Fidelity Management & Research Company, or Fidelity, is a wholly owned subsidiary of FMR LLC and the beneficial owner of 1,104,700 shares of our common stock as a result of acting as the investment adviser to various investment companies, or the Fidelity

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Funds. Each of FMR LLC and Edward C. Johnson 3rd, Chairman of FMR LLC, through their control of Fidelity, and the Fidelity Funds, has sole power to dispose of the 1,104,700 shares owned by the Fidelity Funds. Neither FMR LLC nor Edward C. Johnson 3rd has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Fidelity Funds boards of trustees. The foregoing information is based solely on a Schedule 13G filed with the SEC on February 14, 2012, which provides information only as of December 31, 2011 and, consequently, the beneficial ownership of the above-mentioned reporting persons may have changed between December 31, 2011 and January 31, 2012.

(6) Includes 262,457 shares issuable pursuant to stock options exercisable, and 61,728 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

(7) Includes 53,125 shares issuable pursuant to stock options exercisable within 60 days of January 31, 2012.

(8) Includes 321,093 shares issuable pursuant to stock options exercisable, and 33,796 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

(9) Includes 94,140 shares issuable pursuant to stock options exercisable, and 7,434 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

(10) Includes 124,937 shares issuable pursuant to stock options exercisable, and 8,448 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

(11) Includes 274,608 shares issuable pursuant to stock options exercisable, and 29,572 RSUs which are scheduled to vest, within 60 days of January 31, 2012, and 16,482 shares held in trust for Mr. Schreck s children. Mr. Schreck disclaims beneficial ownership of the shares held in trust for Mr. Schreck s children.

(12) Mr. Wan is a managing partner of Three Arch Management III, L.L.C. and Three Arch Management IV, L.L.C., and in such capacities he may be deemed to beneficially own the shares owned by the funds affiliated with Three Arch Partners. Mr. Wan disclaims beneficial ownership of these shares. The address of Mr. Wan is c/o Three Arch Partners, 3200 Alpine Road, Portola Valley, CA 94028.

(13) Dr. Hoffman, one of our directors, is a Managing Director of Skyline Ventures and as such may be deemed to share voting and dispositive power with respect to all shares of common stock held by Skyline Venture Partners Qualified Purchasers Fund IV, L.P. Dr. Hoffman disclaims beneficial ownership of such shares. The address for Dr. Hoffman is c/o Skyline Ventures, 525 University Avenue, Suite 520, Palo Alto, CA 94301.

(14) Mr. Nohra is a director of ACMPIV, and in such capacity he may be deemed to beneficially own the shares owned by ACPIV. Mr. Nohra disclaims beneficial ownership of these shares. The address for Mr. Nohra is c/o Alta Partners, One Embarcadero Center 37th Floor, San Francisco, CA 94111.

(15) Represents 34,765 shares issuable pursuant to stock options exercisable, and 2,196 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

(16) Includes 2,500 shares issuable pursuant to stock options exercisable within 60 days of January 31, 2012.

(17) Includes 1,167,625 shares issuable pursuant to stock options exercisable, and 140,281 RSUs which are scheduled to vest, within 60 days of January 31, 2012.

Item 13. Certain Relationships and Related Transactions and Director Independence

Policy and Procedures for Review of Related Party Transactions

In January 2011, our board of directors adopted an audit committee charter, which charter became effective in connection with our IPO. The audit committee charter provides that the audit committee will review and approve all related party transactions. This review will cover any material transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we were or are to be a participant, and a related party had or will have a direct or indirect material interest, including, purchases of goods or services by or from the related party or entities in which the related party has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related party. None of the transactions below were required to be approved under the terms of the audit committee charter, because the audit committee charter was not effective until our IPO.

Certain Transactions With or Involving Related Persons

The following is a summary of transactions since January 1, 2011 to which we have been a party in which the amount involved exceeded the lesser of $120,000 or one percent of the average of our total assets at fiscal years ended 2010 and 2011 and in which any of our executive officers, directors or holders of more than 5% of our capital stock, or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest, other than compensation arrangements which are described under Item 11. Executive Compensation appearing elsewhere in this Form 10-K.

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Bridge Note and Warrant Transfer

In February 2011, ACP IV, L.P., a participant in our 2010 bridge loan and warrant financing, agreed to transfer a 37% interest in its note and the associated portion of its warrant for nominal consideration to funds affiliated with Three Arch Partners, Skyline Venture Partners and Kaiser Foundation Hospitals pro rata among them based on each entity s affiliated funds then-current beneficial ownership of our outstanding capital stock, with such transfer effective immediately prior to the closing of our IPO. As a result of the foregoing transfer, effective immediately prior to the closing of our IPO:

- funds affiliated with Three Arch Partners acquired warrants which were subsequently exercised, on a net issuance basis, for an aggregate of 5,236 shares of Series C preferred stock (which shares were converted into the same number of shares of common stock in connection with our IPO) and notes in an aggregate principal amount of $390,704;
- funds affiliated with Skyline Venture Partners acquired a warrant which was subsequently exercised, on a net issuance basis, for 2,730 shares of Series C preferred stock (which shares were converted into the same number of shares of common stock in connection with our IPO) and a note in a principal amount of $203,676;
- funds affiliated with Kaiser Foundation Hospitals acquired warrants which were subsequently exercised, on a net issuance basis, for an aggregate of 672 shares of Series C preferred stock (which shares were converted into the same number of shares of common stock in connection with our IPO) and notes in an aggregate principal amount of $50,176; and
- funds affiliated with ACP IV, L.P. continued to hold a warrant which was subsequently exercised, on a net issuance basis, for 14,713 shares of Series C preferred stock (which shares were converted into the same number of shares of common stock in connection with our IPO) and a note in a principal amount of $1,097,487.

Participation in Our Initial Public Offering

Entities affiliated with Three Arch Partners, Skyline Venture Partners, Alta Partners and Kaiser Foundation Hospitals, each of which was a holder of more than 5% of our capital stock, purchased an aggregate of 4,800,000 shares of our common stock in our IPO, as follows:

Name	Common Stock Purchased in Initial Public Offering	Aggregate Purchase Price
Funds affiliated with Three Arch Partners[1]	2,579,579	$ 12,897,895
Funds affiliated with Skyline Venture Partners[2]	1,235,943	6,179,715
Funds affiliated with Alta Partners[3]	680,000	3,400,000
Funds affiliated with Kaiser Foundation Hospitals[4]	304,478	1,522,390
Price per share	$ 5.00	
Date of purchase	2/11/11	

(1) Includes 65,806 shares of common stock purchased by Three Arch Associates III, L.P., 27,863 shares of common stock purchased by Three Arch Associates IV, L.P., 1,223,983 shares of common stock purchased by Three Arch Partners III, L.P. and 1,261,927 shares of common stock purchased by Three Arch Partners IV, L.P. Mark Wan, one of our directors, is managing partner of Three Arch Management III, L.L.C. and Three Arch Management IV, L.L.C., and in such capacities he may be deemed to beneficially own the shares owned by the funds affiliated with Three Arch Partners. Mr. Wan disclaims beneficial ownership of these shares.

(2) These shares were purchased by Skyline Venture Partners Qualified Purchaser Fund IV, L.P. Stephen Hoffman, one of our directors, is a Managing Director of Skyline Ventures and as such may be deemed to share voting and dispositive power with respect to all shares of stock purchased by Skyline Venture Partners Qualified Purchasers Fund IV, L.P. Dr. Hoffman disclaims beneficial ownership of these shares.

(3)

These shares were purchased by ACP IV, L.P. Guy Nohra is one of our directors and is a director of ACMP IV, LLC, the general partner of ACP IV, L.P., and shares voting and investment power with respect to such shares. Mr. Nohra disclaims beneficial ownership of these shares.

(4) Includes shares of common stock purchased by Kaiser Foundation Hospitals and The Permanente Federation LLC Series I. Upon the closing of our IPO, funds affiliated with Kaiser Foundation Hospitals ceased to be a holder of 5% of our common stock.

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Investors Rights Agreement

We entered into an investors rights agreement with certain holders of our previously outstanding preferred stock and previously outstanding warrants to purchase our preferred stock, including our principal stockholders with which certain of our directors are affiliated. Pursuant to the investors rights agreement, these holders will have the right to demand that we file a registration statement or request that the common stock issued upon conversion of our previously outstanding preferred stock and the common stock issuable upon the exercise of outstanding warrants to purchase common stock (which, in connection with our IPO, were converted from previously outstanding warrants to purchase our preferred stock), collectively, the registrable securities, be covered by a registration statement that we are otherwise filing. In the event that we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders, these holders are entitled to notice of our registration and are entitled to certain piggyback registration rights allowing the holders to include their registrable securities in such registration, subject to certain marketing and other limitations. Pursuant to the investors rights agreement, the holders of registrable securities have the right to require us to file a registration statement under the Securities Act in order to register the resale of their shares of registrable securities, provided that the registration meets certain thresholds. We may, in certain circumstances, defer such registrations. In an underwritten offering, the managing underwriter has the right, subject to specified conditions, to limit the number of registrable securities such holders may include.

Indemnification Agreements

We have entered into indemnification agreements with each of our current directors and officers. These agreements provide for the indemnification of such persons for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were serving in such capacity. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. Furthermore, we have obtained director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us and have increased the level upon the completion of the our IPO.

Other Transactions

We have entered into various employment related agreements and compensatory arrangements with our directors and executive officers that, among other things, provide for compensatory and certain severance and change in control benefits. For a description of these agreements and arrangements, see the sections entitled Item 11. Executive Compensation Employment Agreements and Arrangements and Item 11. Executive Compensation Director Compensation Non-Employee Director Compensation appearing elsewhere in this Form 10-K.

Director Independence

Under the rules of the NASDAQ Stock Market, LLC, or NASDAQ, independent directors must comprise a majority of a listed company s board of directors within a specified period following that company s listing date in conjunction with its IPO. In addition, applicable NASDAQ rules require that, subject to specified exceptions, each member of a listed company s audit, compensation and nominating committees be independent within the meaning of applicable NASDAQ rules. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act.

Our board of directors undertook a review of the independence of each director and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his responsibilities. As a result of this review, our board of directors determined that all of our directors, other than Messrs. King and Schreck and Dr. Palmer, qualify as independent directors within the meaning of the NASDAQ rules. Accordingly, a majority of our directors are independent, as required under

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applicable NASDAQ rules. In making this determination, our board considered Mr. Nohra s affiliation with Alta Partners, one of our stockholders, Dr. Hoffman s affiliation with Skyline Ventures, one of our stockholders and Mr. Wan s affiliation with Three Arch Partners, one of our stockholders. Our non-employee directors have been meeting, and we anticipate that they will continue to meet, in regularly scheduled executive sessions at which only non-employee directors are present.

Item 14. Principal Accounting Fees and Services

Independent Registered Public Accounting Firm Fees and Services

In connection with the audit of our 2011 financial statements, we entered into an engagement agreement with Ernst & Young LLP which sets forth the terms by which Ernst & Young LLP will perform audit and interim services for us. That agreement is subject to alternative dispute resolution procedures and an exclusion of punitive damages.

The following table represents aggregate fees billed to our company for the fiscal years ended December 31, 2011 and 2010 by Ernst & Young LLP, our independent registered public accounting firm:

	Fiscal Year Ended	
	2011	2010
Audit Fees	$ 435,825	$ 1,220,000
Audit-Related Fees		
Tax Fees		
All Other Fees		
Total Fees	$ 435,825	$ 1,220,000

Audit Fees: Consists of fees for professional services rendered for the audit of our financial statements, review of interim financial statements, assistance with registration statements filed with the SEC and services that are normally provided by Ernst & Young LLP in connection with statutory and regulatory filings or engagements. Related to the year ended December 31, 2010, fees of $890,000 were billed in connection with the filing of our Registration Statements on Form S-1.

Pre-Approval Policies and Procedures

Our audit committee pre-approves all audit and permissible non-audit services provided by Ernst & Young LLP. These services may include audit services, audit-related services, tax services and other services. Pre-approval may be given as part of the audit committee s approval of the scope of the engagement of the independent registered public accounting firm or on an individual explicit case-by-case basis.

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PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following documents are filed as part of this Form 10-K:

1. Financial Statements:
See Index to Financial Statements in Item 8 of this Form 10-K.

2. Financial Statement Schedules:
No schedules are provided because they are not applicable, not required under the instructions, or the requested information is shown in the financial statements or related notes thereto.

(b) Exhibits The following exhibits are included herein or incorporated herein by reference:

Exhibit Number	Description of the Document
3.1	Amended and Restated Certificate of Incorporation of the Registrant, currently in effect.(1)
3.2	Bylaws of the Registrant, currently in effect.(2)
4.1	Reference is made to Exhibits 3.1 through 3.2.
4.2	Specimen Common Stock Certificate of the Registrant.(3)
4.3	Second Amended and Restated Investors Rights Agreement, among the Registrant and certain of its security holders, dated as of November 23, 2009.(4)
4.4	Warrant to Purchase Stock of the Registrant, issued to Wells Fargo Bank, N.A., dated March 15, 2007.(5)
4.5	Warrant to Purchase Preferred Stock of the Registrant, issued to Pinnacle Ventures II Equity Holdings, L.L.C., dated September 16, 2008.(6)
4.6	Warrant to Purchase Common Stock of the Registrant, issued to Hercules Technology II, L.P., dated as of June 29, 2011.(7)
4.7	Warrant to Purchase Common Stock of the Registrant, issued to Hercules Technology Growth Capital, dated as of June 29, 2011.(8)
10.1+	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.(9)
10.2+	2006 Stock Plan, as amended.(10)
10.3+	Forms of Notice of Grant of Stock Option, Stock Option Agreement and Stock Option Exercise Notice under 2006 Stock Plan.(11)
10.4+	2011 Equity Incentive Plan.(12)
10.5+	Forms of Stock Option Grant Notice, Notice of Exercise and Option Agreement under 2011 Equity Incentive Plan.(13)
10.6+	Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under 2011 Equity Incentive Plan.(14)
10.7+	2011 Employee Stock Purchase Plan.(15)
10.8	Lease Agreement, between Metropolitan Life Insurance Company and Registrant, dated January 2, 2007.(16)

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Exhibit Number	Description of the Document
10.9	Lease between Metropolitan Life Insurance Company and the Registrant, dated December 15, 2011.
10.10	Loan and Security Agreement between Registrant and Pinnacle Ventures, L.L.C., as agent for the Lenders (as defined therein) and the Lenders, dated September 16, 2008.(17)
10.11	Note and Warrant Purchase Agreement between Registrant and the Purchasers defined therein, dated September 14, 2010, as amended.(18)
10.12	Loan and Security Agreement among the Registrant, Hercules Technology II, L.P. and Hercules Technology Growth Capital, dated as of June 29, 2011. (19)
10.13	Award/Contract with the U.S. Army Medical Research and Material Command, dated May 26, 2011.(20)
10.14+	Offer Letter between the Registrant and Thomas Schreck, dated August 15, 2006.(21)
10.15+	Amended and Restated Offer Letter between the Registrant and Larry Hamel, dated December 31, 2010.(22)
10.16+	Amended and Restated Offer Letter between the Registrant and Badri (Anil) Dasu, dated December 30, 2010.(23)
10.17+	Amended and Restated Offer Letter between the Registrant and Pamela Palmer, dated December 29, 2010.(24)
10.18+	Amended and Restated Offer Letter between the Registrant and Richard King, dated December 31, 2010.(25)
10.19+	Amended and Restated Offer Letter between the Registrant and James Welch, dated December 29, 2010.(26)
10.20+	Resignation Agreement, between the Registrant and Thomas Schreck, dated May 6, 2010.(27)
10.21+	Non-Employee Director Compensation Policy.(28)
10.22+	Summary of 2011 Cash Bonus Plan.(29)
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included in signature page)
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
32.1	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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+ Indicates management contract or compensatory plan.

(1) Incorporated herein by reference to Exhibit 3.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on February 18, 2011.

(2) Incorporated herein by reference to Exhibit 3.4 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(3) Incorporated herein by reference to Exhibit 4.2 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 31, 2011.

(4) Incorporated herein by reference to Exhibit 4.3 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(5) Incorporated herein by reference to Exhibit 4.4 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(6) Incorporated herein by reference to Exhibit 4.5 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(7) Incorporated herein by reference to Exhibit 4.4 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

(8) Incorporated herein by reference to Exhibit 4.5 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

(9) Incorporated herein by reference to Exhibit 10.1 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(10) Incorporated herein by reference to Exhibit 10.2 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(11) Incorporated herein by reference to Exhibit 10.3 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(12) Incorporated herein by reference to Exhibit 99.3 to the Registrant s registration statement on Form S-8 (File No. 333-172409), as filed with the SEC on February 24, 2011.

(13) Incorporated herein by reference to Exhibit 10.5 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(14) Incorporated herein by reference to Exhibit 10.6 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(15) Incorporated herein by reference to Exhibit 99.6 to the Registrant s registration statement on Form S-8 (File No. 333-172409), as filed with the SEC on February 24, 2011.

(16) Incorporated herein by reference to Exhibit 10.8 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(17) Incorporated herein by reference to Exhibit 10.9 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(18) Incorporated herein by reference to Exhibit 10.10 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 31, 2011.

(19) Incorporated herein by reference to Exhibit 10.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

(20) Incorporated herein by reference to Exhibit 10.3 to the Registrant s quarterly report on Form 10-Q (File No. 001-35068), as filed with the SEC on August 11, 2011.

(21) Incorporated herein by reference to Exhibit 10.13 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(22) Incorporated herein by reference to Exhibit 10.14 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(23) Incorporated herein by reference to Exhibit 10.15 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(24) Incorporated herein by reference to Exhibit 10.16 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(25) Incorporated herein by reference to Exhibit 10.17 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(26) Incorporated herein by reference to Exhibit 10.18 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

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(27) Incorporated herein by reference to Exhibit 10.19 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(28) Incorporated by reference to the information under Item 11. Executive Compensation Director Compensation Non-Employee Director Compensation of this Annual Report on Form 10-K.

(29) Incorporated herein by reference to Exhibit 10.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on May 16, 2011.

* The certifications attached as Exhibit 32.1 accompany this Annual Report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed filed by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 23, 2012

AcelRx Pharmaceuticals, Inc.
(Registrant)

/s/ Richard A. King
Richard A. King

Chief Executive Officer and Director

(Principal Executive Officer)

/s/ James H. Welch
James H. Welch

Chief Financial Officer

(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Richard A. King and James H. Welch, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution for him or her, and in his or her name in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, and any of them, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ Richard A. King **Richard A. King**	Chief Executive Officer and Director *(Principal Executive Officer)*	March 23, 2012
/s/ James H. Welch **James H. Welch**	Chief Financial Officer *(Principal Financial and Accounting Officer)*	March 23, 2012
/s/ Thomas A. Schreck **Thomas A. Schreck**	Chairman	March 23, 2012
/s/ Pamela P. Palmer, M.D., Ph.D. **Pamela P. Palmer, M.D., Ph.D.**	Chief Medical Officer and Director	March 23, 2012

/s/ Mark G. Edwards **Mark G. Edwards**		Director	March 23, 2012
/s/ Stephen J. Hoffman, Ph.D., M.D. **Stephen J. Hoffman, Ph.D., M.D.**		Director	March 23, 2012

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Signature	Title	Date
/s/ Guy P. Nohra **Guy P. Nohra**	Director	March 23, 2012
/s/ Howard B. Rosen **Howard B. Rosen**	Director	March 23, 2012
/s/ Mark Wan **Mark Wan**	Director	March 23, 2012

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ACELRX PHARMACEUTICALS, INC.

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Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

AcelRx Pharmaceuticals, Inc.

We have audited the accompanying balance sheets of AcelRx Pharmaceuticals, Inc. (a development stage company) (the Company) as of December 31, 2011 and 2010, and the related statements of operations, convertible preferred stock and stockholders equity (deficit), and cash flows for each of the three years in the period ended December 31, 2011, and for the period from July 13, 2005 (inception) through December 31, 2011. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company s internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of AcelRx Pharmaceuticals, Inc. (a development stage company) at December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, and for the period from July 13, 2005 (inception) through December 31, 2011 in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

Redwood City, California

March 23, 2012

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Balance Sheets

(in thousands, except share data)

	December 31, 2011	December 31, 2010
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 7,794	$ 3,055
Short-term investments	27,991	627
Prepaid expenses and other current assets	2,361	2,097
Total current assets	38,146	5,779
Property and equipment, net	2,306	800
Restricted cash	205	205
Other assets	178	46
TOTAL ASSETS	$ 40,835	$ 6,830
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS EQUITY (DEFICIT)		
CURRENT LIABILITIES:		
Accounts payable	$ 1,530	$ 543
Accrued liabilities	2,511	859
Convertible notes		6,805
Long-term debt, current portion	3,804	5,204
Total current liabilities	7,845	13,411
Deferred rent	15	245
Long-term debt, net of current portion	15,275	
Contingent put option liability	232	
Call option liability		596
Convertible preferred stock warrant liability		2,529
Total liabilities	23,367	16,781
Commitments and Contingencies		
Convertible preferred stock, $0.001 par value 10,000,000 shares and 46,736,125 shares authorized as of December 31, 2011 and 2010; no shares and 7,151,802 shares issued and outstanding as of December 31, 2011 and 2010; liquidation preference of $0 and $56,224 as of December 31, 2011 and 2010		55,941
STOCKHOLDERS EQUITY (DEFICIT):		
Common stock, $0.001 par value 100,000,000 and 71,000,000 shares authorized as of December 31, 2011 and 2010; 19,567,778 and 674,353 shares issued and outstanding as of December 31, 2011 and 2010	22	3
Additional paid-in capital	106,110	2,668

Deficit accumulated during the development stage	(88,664)	(68,563)
Total stockholders equity (deficit)	17,468	(65,892)
TOTAL LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS EQUITY (DEFICIT)	$ 40,835	$ 6,830

See notes to financial statements.

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Statements of Operations

(in thousands, except share and per share data)

	Year Ended December 31,			Period from July 13, 2005 (Inception) Through December 31,
	2011	2010	2009	2011
Research grant revenue	$ 1,072	$	$	$ 1,072
Operating expenses:				
Research and development	13,624	8,193	15,502	67,421
General and administrative	6,800	3,993	3,529	19,294
Total operating expenses	20,424	12,186	19,031	86,715
Loss from operations	(19,352)	(12,186)	(19,031)	(85,643)
Interest income	52	4	33	1,607
Interest expense	(2,309)	(1,397)	(1,242)	(5,439)
Other income (expense), net	1,508	(765)	121	811
Net loss	$ (20,101)	$ (14,344)	$ (20,119)	$ (88,664)
Net loss per share of common stock, basic and diluted	$ (1.16)	$ (21.84)	$ (34.93)	
Shares used in computing net loss per share of common stock, basic and diluted	17,344,727	656,650	576,021	

See notes to financial statements.

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Statements of Convertible Preferred Stock and Stockholders Equity (Deficit)

(in thousands, except share and per share data)

	Convertible Preferred Stock		Common Stock					
	Shares	Amount	Shares	Amount	Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Other Comprehensive Income (loss)	Total Stockholders Equity (Deficit)
Balance as of July 13, 2005 (Inception)		$		$	$	$	$	$
Net and comprehensive loss						(40)		(40)
Balance as of December 31, 2005						(40)		(40)
Issuance of restricted common stock to founders			250,000	1				1
Issuance of Series A convertible preferred stock (net of issuance costs of $100)	2,111,639	21,016						
Issuance of common stock upon the exercise of common stock warrants			25,534	1	50			51
Stock-based compensation related to restricted stock			20,833		42			42
Comprehensive loss:								
Change in unrealized gains and losses on investments, net of taxes							(1)	(1)
Net loss						(3,768)		(3,768)
Total comprehensive loss								(3,769)
Balance as of December 31, 2006	2,111,639	21,016	296,367	2	92	(3,808)	(1)	(3,715)
Stock-based compensation related to restricted stock			127,448	1	116			117
Stock-based compensation related to stock options					33			33
Comprehensive loss:								
Change in unrealized gains and losses on investments, net of taxes							6	6
Net loss						(9,630)		(9,630)
Total comprehensive loss								(9,624)
Balance as of December 31, 2007	2,111,639	21,016	423,815	3	241	(13,438)	5	(13,189)
Issuance of Series B convertible preferred stock (net of issuance costs of $78)	1,263,635	20,140						
Stock-based compensation related to restricted stock			97,812		271			271
Stock-based compensation related to stock options					197			197
Contribution of common stock to a charitable organization			2,500		14			14
Comprehensive loss:								
Change in unrealized gains and losses on investments, net of taxes							34	34
Net loss						(20,662)		(20,662)

Total comprehensive loss								(20,628)
Balance as of December 31, 2008 (carried forward)	3,375,274	41,156	524,127	3	723	(34,100)	39	(33,335)

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Statements of Convertible Preferred Stock and Stockholders Equity (Deficit)

(in thousands, except share and per share data)

	Convertible Preferred Stock		Common Stock					
	Shares	Amount	Shares	Amount	Additional Paid-in Capital	Deficit Accumulated During the Development Stage	Other Comprehensive Income (loss)	Total Stockholders Equity (Deficit)
Balance as of December 31, 2008	3,375,274	41,156	524,127	$ 3	$ 723	$ (34,100)	$ 39	$ (33,335)
Issuance of Series C convertible preferred stock (net of issuance costs of $99)	3,757,253	14,715						
Stock-based compensation related to restricted stock			74,375		163			163
Stock-based compensation related to stock options					312			312
Issuance of common stock upon exercise of stock options			21,614		26			26
Comprehensive loss:								
Change in unrealized gains and losses on investments, net of taxes							(41)	(41)
Net loss						(20,119)		(20,119)
Total comprehensive loss								(20,160)
Balance as of December 31, 2009	7,132,527	55,871	620,116	3	1,224	(54,219)	(2)	(52,994)
Issuance of Series C convertible preferred stock (net of issuance costs of $99)	19,275	70						
Stock-based compensation related to restricted stock			43,282		93			93
Stock-based compensation related to stock options					1,330			1,330
Issuance of common stock upon exercise of stock options			10,955		21			21
Comprehensive loss:								
Change in unrealized gains and losses on investments, net of taxes							2	2
Net loss						(14,344)		(14,344)
Total comprehensive loss								(14,342)
Balance as of December 31, 2010	7,151,802	$ 55,941	674,353	$ 3	$ 2,668	$ (68,563)		$ (65,892)
Conversion of convertible preferred stock to common stock	(7,151,802)	(55,941)	8,555,713	8	55,933			55,941
Conversion of Bridge Note and warrants to common stock			2,141,684	2	9,579			9,824
Issuance of Warrants					967			967
Stock-based compensation					1,833			1,833
Issuance of common stock upon exercise of stock options and in connection with restricted stock units			147,792	1	60			61
Issuance of common stock upon ESPP purchase			48,236		139			139

Issuance of common stock upon IPO, net of offering-related costs of $5.1 million	8,000,000	8	34,931		34,939
Comprehensive loss:					
Change in unrealized gains and losses on investments, net of taxes					
Net loss				(20,101)	(20,101)
Total comprehensive loss					(20,101)
Balance as of December 31, 2011	19,567,778	$ 22	$ 106,110	$ (88,664)	$ 17,468

See notes to financial statements.

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Statements of Cash Flows

(in thousands)

	Year Ended December 31,			Period from July 13, 2005 (Inception) Through December 31,
	2011	2010	2009	2011
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net loss	$ (20,101)	$ (14,344)	$ (20,119)	$ (88,664)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	513	479	481	2,078
Amortization of premium/discount on investments, net	195			195
Interest expense related to debt financing	1,619	717	280	2,827
Stock-based compensation	1,833	1,424	463	4,346
Contribution of shares to charitable organizations				14
Revaluation of convertible preferred stock warrant liability, call option liability and put option liability	(1,512)	1,257	(71)	(84)
Realized gain on sale of investments			(29)	(29)
Loss on disposal of property and equipment		5		5
Changes in operating assets and liabilities:				
Prepaids and other assets	(434)	(120)	138	(983)
Restricted cash				(205)
Accounts payable	987	(371)	(271)	1,530
Accrued liabilities	1,788	(1,091)	(119)	878
Deferred rent	(175)	(181)	(171)	69
Net cash used in operating activities	(15,287)	(12,225)	(19,418)	(78,023)
CASH FLOWS FROM INVESTING ACTIVITIES:				
Purchase of property and equipment	(2,019)	(4)	(111)	(4,388)
Purchase of investments	(39,367)	(4,922)	(13,906)	(84,667)
Proceeds from sales of investments	2,082		19,733	21,815
Proceeds from maturities of investments	9,725	9,691	2,900	34,716
Net cash provided by (used in) investing activities	(29,579)	4,765	8,616	(32,524)
CASH FLOWS FROM FINANCING ACTIVITIES:				
Proceeds from initial public offering, net of costs	34,939			34,939
Proceeds from the issuance of long-term debt	19,762			32,383
Payment of long-term debt	(5,297)	(4,726)	(2,861)	(13,221)
Proceeds from issuance of convertible promissory notes		8,000		9,000
Proceeds from issuance of common stock	201	21	26	299
Proceeds from issuance of convertible preferred stock, net of issuance costs		70	14,715	54,941
Net cash provided by financing activities	49,605	3,365	11,880	118,341
	4,739	(4,095)	1,078	7,794

NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS				
CASH AND CASH EQUIVALENTS Beginning of period	3,055	7,150	6,072	
CASH AND CASH EQUIVALENTS End of period	$ 7,794	$ 3,055	$ 7,150	$ 7,794
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:				
Cash paid for interest	$ 1,162	$ 584	$ 979	$ 2,902
NONCASH INVESTING AND FINANCING ACTIVITIES:				
Issuance of convertible preferred stock warrants	$	$ 1,223	$	$ 1,223
Beneficial conversion features related to convertible notes	$	$ 1,699	$	$ 1,699
Issuance of call option related to convertible note	$	$ 476	$	$ 476
Conversion of convertible promissory notes into common stock	$ 8,137	$	$	$ 8,137
Issuance of common stock upon cashless exercise of warrants	$ 536	$	$	$ 536
Reclassification of warrant liability and call option liability to equity	$ 906	$	$	$ 906
Issuance of warrants for common stock	$ 967	$	$	$ 967
Contingent put option liability	$ 232	$	$	$ 232

See notes to financial statements.

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AcelRx Pharmaceuticals, Inc.

(A Development Stage Company)

Notes to Financial Statements

(in thousands, except share and per share data)

1. Organization and Summary of Significant Accounting Policies

The Company

AcelRx Pharmaceuticals, Inc., or the Company, is a development stage company that was incorporated in Delaware on July 13, 2005 as SuRx, Inc. In January 2006, the Company changed its name to AcelRx Pharmaceuticals, Inc. The Company s operations are based in Redwood City, California.

The Company is a specialty pharmaceutical company focused on the development and commercialization of innovative therapies for the treatment of acute and breakthrough pain. Since incorporation, primary activities have consisted of establishing facilities, recruiting personnel, conducting research and development of its products, developing intellectual property, and raising capital. To date, the Company has not yet commenced primary operations or generated any revenues and, accordingly, the Company is considered to be in the development stage.

The Company has one business activity, which is the development and commercialization of product candidates for the treatment of pain, and a single reporting and operating unit structure.

The Company has incurred recurring operating losses and negative cash flows from operating activities since inception through December 31, 2011. In addition, the Company had an accumulated deficit of $88.7 million and $68.6 million as of December 31, 2011 and 2010, respectively. Through December 31, 2011, the Company has relied primarily on the proceeds from equity offerings and loan proceeds to finance its operations. Management believes that the Company s current cash, cash equivalents and investments will be sufficient to fund the Company s current operations into the first quarter of 2013. The Company will need to raise additional funding or otherwise enter into collaborations to support future operations. However, there is no assurance that additional funding will be available to the Company on acceptable terms on a timely basis, if at all, or that the Company will achieve profitable operations. If the Company is unable to raise additional capital to fund its operations, it will need to curtail planned activities to reduce costs. Doing so may affect the Company s ability to operate effectively. The accompanying financial statements do not include any adjustments that might result from the outcome of these uncertainties.

Basis of Presentation

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the accompanying notes. Such management estimates include the fair value of common stock, stock-based compensation expense, valuation of deferred tax assets and the fair value of convertible preferred stock warrants. The Company bases its estimates on historical experience and also on assumptions that it believes are reasonable, however, actual results could differ from those estimates.

Concentration of Risk

The Company invests cash that is currently not being used for operational purposes in accordance with its investment policy in low risk debt securities of the U.S. Treasury and U.S. government sponsored agencies. The Company is exposed to credit risk in the event of default by the institutions holding the cash equivalents and available-for sale securities to the extent recorded on the balance sheet.

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Cash, Cash Equivalents and Marketable Securities

The Company considers all highly liquid investments with an original maturity (at date of purchase) of three months or less to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks, money market instruments and commercial paper. The Company places its cash, cash equivalents and marketable securities with high quality, U.S. government institutions and, to date, has not experienced material losses on any of its balances. The Company records cash equivalents at amortized cost, which approximates the fair value.

All marketable securities are classified as available-for-sale. These securities are carried at fair value, which is based on readily available market information, with unrealized gains and losses included in accumulated other comprehensive income (loss) within stockholders' equity (deficit). The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in interest income or expense. The Company uses the specific identification method to determine the amount of realized gains or losses on sales of marketable securities. Realized gains or losses have been insignificant and are included in interest and other income in the statements of operations. The Company regularly reviews all of its investments for other-than-temporary declines in fair value. The Company s review includes the consideration of the cause of the impairment including the creditworthiness of the security issuers, the number of securities in an unrealized loss position, the severity and duration of the unrealized losses and the Company s intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in the market value. When the Company determines that the decline in fair value of an investment is below its accounting basis and this decline is other-than-temporary, it reduces the carrying value of the security it holds and records a loss in the amount of such decline.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets, generally three years for computer equipment and software, five years for research equipment, and seven years for furniture and fixtures. Leasehold improvements are amortized over the shorter of the estimated useful life of the improvements, generally five years, or the remaining lease term. Maintenance and repairs that do not extend the life or improve an asset are expensed in the period incurred.

Impairment of Long-Lived Assets

The Company periodically assesses the impairment of long-lived assets and, if indicators of asset impairment exist, the Company assesses the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through an analysis of the undiscounted future expected operating cash flows. If impairment is indicated, the Company records the amount of such impairment for the excess of the carrying value of the asset over its estimated fair value. As of December 31, 2011, the Company has not written down any of its long-lived assets as a result of impairment.

Restricted Cash

Under the Company s facility lease and corporate credit card agreements, the Company is required to maintain letters of credit as security for performance under these agreements. The letters of credit are secured by certificates of deposit in amounts equal to the letters of credit, which are classified as restricted cash on the balance sheet.

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Revenue Recognition

The Company recognizes revenue when all of the following criteria are met: persuasive evidence of an arrangement exists; delivery has occurred or services have been rendered; the fee is fixed or determinable; and collectability is reasonably assured.

In May 2011, the Company entered into an award contract with the US Army Medical Research and Material Command, or USAMRMC, to support the development of the Company s new product candidate, ARX-04, a Sufentanil NanoTab for the treatment of moderate-to-severe acute pain. The grant provides for the reimbursement of qualified expenses for research and development activities as defined under the terms of the grant agreement. Revenue under the grant agreement is recognized when the related qualified research expenses are incurred.

Research and Development Expenses

Research and development costs are charged to expense when incurred. Research and development expenses include salaries, employee benefits, laboratory supplies, costs associated with clinical trials and manufacturing, other professional services and facility costs. Expenses related to clinical trials generally are accrued based on the level of patient enrollment and activity according to the protocol. The Company monitors patient enrollment levels and related activity to the extent possible and adjusts accrual estimates accordingly.

Comprehensive Loss

Comprehensive loss is comprised of net loss and other comprehensive income (loss). For the Company, other comprehensive income (loss) consists of changes in unrealized gains and losses on the Company s investments. Total comprehensive loss for all periods presented has been disclosed in the statements of convertible preferred stock and stockholders equity (deficit).

Fair Value of Financial Instruments

The Company measures and reports its cash equivalents, investments and financial liabilities at fair value. Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The fair value hierarchy defines a three-level valuation hierarchy for disclosure of fair value measurements as follows:

Level I Unadjusted quoted prices in active markets for identical assets or liabilities;

Level II Inputs other than quoted prices included within Level I that are observable, unadjusted quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level III Unobservable inputs that are supported by little or no market activity for the related assets or liabilities.

The categorization of a financial instrument within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

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Income Taxes

Deferred tax assets and liabilities are measured based on differences between the financial reporting and tax basis of assets and liabilities using enacted rates and laws that are expected to be in effect when the differences are expected to reverse. The Company records a valuation allowance for the full amount of deferred assets, which would otherwise be recorded for tax benefits relating to operating loss and tax credit carryforwards, as realization of such deferred tax assets cannot be determined to be more likely than not.

Stock-Based Compensation

Compensation expense for all share-based payment awards made to employees and directors, including employee share options, restricted stock units and employee share purchases related to the Employee Share Purchase Plan, or ESPP, is based on estimated fair values at grant date. The Company determines the grant date fair value of the awards using the Black-Scholes option-pricing model and generally recognizes the fair value as stock-based compensation expense on a straight-line basis over the vesting period of the respective awards.

The Black-Scholes option pricing model requires inputs such as expected term, expected volatility and risk-free interest rate. These inputs are subjective and generally require significant analysis and judgment to develop. Estimates of expected life are primarily determined using the simplified method in accordance with guidance provided by the SEC. Such method was utilized as the Company did not believe its historical option exercise experience, which was limited, provided a reasonable basis upon which to estimate expected term. Volatility is derived from historical volatilities of several public companies within our industry that are deemed to be comparable to our business because we have limited information on the volatility of our common stock since we had no trading history prior to completion of our IPO in February 2011. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant commensurate with the expected life assumption. Further, we are required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates.

Reduction in Work Force

On December 7, 2009, the Company announced a workforce reduction of approximately 44%, or 14 employees, a majority of whom were employed in product development and related support functions. This decision was made based on the challenging economic conditions and a decline in forecasted research and development activities expected during the year ending December 31, 2010.

As a result of this workforce reduction, the Company recorded a charge of $119,000 related to employee severance and other benefits which was included as operating expenses in the statement of operations during the year ended December 31, 2009. As of December 31, 2009, the Company had paid $30,000 for these employee severance and other termination benefits and had accrued the remaining $89,000 on the balance sheet. During the year ended December 31, 2010, the Company paid the remaining $89,000.

Net Loss per Share of Common Stock

The Company s basic net loss per share of common stock is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding for the period. The weighted average number of shares of common stock used to calculate the Company s basic net loss per share of common stock excludes restricted stock held by the Company s founders that were subject to repurchase as these shares were not deemed to be issued for accounting purposes until they vested. The diluted net loss per share of common stock is computed by giving effect to all potential common stock equivalents outstanding for the period determined using the treasury

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stock method. For purposes of this calculation, convertible preferred stock, options to purchase common stock, restricted stock subject to repurchase, warrants to purchase convertible preferred stock and warrants to purchase common stock were considered to be common stock equivalents but have been excluded from the calculation of diluted net loss per share of common stock as their effect is antidilutive.

Segment Information

The Company operates in one operating segment and has operations solely in the United States.

Reclassifications

Certain amounts in prior period financial statements have been reclassified to conform to the current period presentation.

Recently Issued Accounting Pronouncements

In June of 2011, Accounting Standards Codification Topic 220, *Comprehensive Income* was amended to increase the prominence of items reported in other comprehensive income. Accordingly, a company can present all non-owner changes in stockholders equity either in a single continuous statement of comprehensive income or in two separate but consecutive statements The Company plans to adopt this guidance as of January 1, 2012 on a retrospective basis and does not expect the adoption thereof to have a material effect on the Company s financial statements.

In May of 2011, Accounting Standards Codification Topic 820, *Fair Value Measurement* was amended to develop common requirements for measuring fair value and for disclosing information about fair value measurements in accordance with U.S. generally accepted accounting principles and International Financial Reporting Standards. The Company plans to adopt this guidance as of January 1, 2012 on a prospective basis and does not expect the adoption thereof to have a material effect on the Company s financial statements.

2. Investments and Fair Value Measurement

Investments

The Company classifies its marketable securities as available-for-sale and records its investments at fair value. Available-for-sale securities are carried at estimated fair value based on quoted market prices, with the unrealized holding gains and losses included in accumulated other comprehensive income. Marketable securities which have maturities beyond one year as of the end of the reporting period are classified as non-current.

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The table below summarizes the Company s cash, cash equivalents and investments (in thousands):

	As of December 31, 2011			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Cash	$ 641	$	$	$ 641
Money market funds	6,883			6,883
U.S. government agency securities	270			270
Total cash and cash equivalents	$ 7,794	$	$	$ 7,794
Marketable securities:				
U.S. government agency securities	27,991			27,991
Total marketable securities	$ 27,991	$		$ 27,991
Total cash, cash equivalents and investments	$ 35,785	$	$	$ 35,785

	As of December 31, 2010			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Cash	$ 103	$	$	$ 103
Money market funds	79			79
U.S. government agency securities	2,873			2,873
Total cash and cash equivalents	$ 3,055	$	$	$ 3,055
Marketable securities:				
U.S. government agency securities	627			627
Total marketable securities	$ 627	$	$	$ 627
Total cash, cash equivalents and investments	$ 3,682	$	$	$ 3,682

None of the available-for-sale securities held by the Company had material unrealized losses and there were no realized losses for the years ended December 31, 2011 and 2010. There were no other-than-temporary impairments for these securities at December 31, 2011 or December 31, 2010.

As of December 31, 2011, the contractual maturity of all investments held was less than one year.

Fair Value Measurement

The Company s financial instruments consist of Level I and Level II assets and Level III liabilities. Level I securities include highly liquid money market funds. For Level II instruments, the Company estimates fair value by using benchmark yields, reported trades, broker dealer quotes and issuer spreads. Such Level II instruments include U.S. treasury and U.S. government agency obligations. As of December 31, 2011, the Company held, in addition to Level I and Level II assets, a contingent put option liability associated with the Company s loan and security agreement with Hercules, which was classified as a Level III liability. As of December 31, 2011, the estimated fair value of the contingent put option liability was $232,000 which was determined by using a

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risk-neutral valuation model, wherein the fair value of the underlying debt facility is estimated both with and without the presence of the default provisions, holding all other assumptions constant. The resulting difference between the two estimated fair values is the estimated fair value of the default provisions, or the contingent put option. The fair value of the underlying debt facility is estimated by calculating the expected cash flows in consideration of an estimated probability of default and expected recovery rate in default, and discounting such cash flows back to the reporting date using a risk-free rate.

As of December 31, 2010, the Company held, in addition to Level I and Level II assets, convertible preferred stock warrant liabilities and call option liabilities, which were classified as Level III liabilities. Immediately prior to the closing of the IPO, the convertible preferred stock warrants were either converted into warrants to purchase common stock or exercised for shares of convertible preferred stock, which shares were automatically converted into common stock. As a result of the aforementioned conversions, the preferred stock warrant liabilities and call option liabilities were eliminated. The fair values of the then-outstanding convertible preferred stock warrants were measured using the Black-Scholes option-pricing model. Inputs used to determine estimated fair market value included the estimated fair value of the underlying stock at the valuation measurement date, the remaining contractual term of the warrants, risk-free interest rates, expected dividends and the expected volatility of the underlying stock. The fair value of the call option was determined by evaluating multiple potential outcomes using a market approach and an income approach depending on the scenario and discounting the values back to December 31, 2010 while applying estimated probabilities to each scenario value.

The following table sets forth the fair value of the Company s financial assets and liabilities by level within the fair value hierarchy (in thousands):

	As of December 31, 2011			
	Fair Value	Level I	Level II	Level III
Assets				
Money market funds	$ 6,883	$ 6,883	$	$
U.S. government agency obligations	28,261		28,261	
Total assets measured at fair value	$ 35,144	$ 6,883	$ 28,261	$
Liabilities				
Contingent put option liability	$ 232			$ 232
Total liabilities measured at fair value	$ 232	$	$	$ 232

	As of December 31, 2010			
	Fair Value	Level I	Level II	Level III
Assets				
Money market funds	$ 79	$ 79	$	$
U.S. government agency obligations	3,500		3,500	
Total assets measured at fair value	$ 3,579	$ 79	$ 3,500	$

Liabilities			
Convertible preferred stock warrant liability	$ 2,529	$	$ 2,529
Call option liability	$ 596		$ 596
Total liabilities measured at fair value	$ 3,125	$	$ 3,125

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The following table sets forth a summary of the changes in the fair value of the Company s Level III financial liabilities (in thousands):

	Year Ended December 31, 2011
Fair value beginning of period	$ 3,125
Exercise of warrants	(536)
Reclassification of warrant liability	(906)
Contingent put option liability	62
Change in fair value of Level III liabilities	(1,513)
Fair value end of period	$ 232

3. Property and Equipment

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

	As of December 31, 2011	2010
Research equipment	$ 1,350	$ 1,003
Leasehold improvements	2,066	1,008
Computer equipment and software	240	230
Construction in Process	309	
Tooling	283	
Furniture and fixtures	107	107
Total property, plant and equipment	4,355	2,348
Less accumulated depreciation and amortization	(2,049)	(1,548)
	$ 2,306	$ 800

Depreciation and amortization expense was $513,000, $479,000, $481,000 and $2,078,000 during the years ended December 31, 2011, 2010, 2009 and the period from July 13, 2005 (inception) through December 31, 2011.

4. Research Grant Agreement

In May 2011, AcelRx entered into an award contract with the US Army Medical Research and Material Command, or USAMRMC, in which the USAMRMC granted $5.6 million to the Company in order to support the development of a new product candidate, ARX-04, a Sufentanil NanoTab for the treatment of moderate-to-severe acute pain. Under the terms of the grant, the USAMRMC will reimburse the Company for development, manufacturing and clinical costs necessary to prepare for and complete the planned Phase 2 dose-finding trial in a study of acute moderate-to-severe pain, and to prepare to enter Phase 3 development. The period of research under the grant ends on August 31, 2012, with a

final report due on September 30, 2012. The grant gives the USAMRMC the option to extend the term of the grant and provide additional funding for the research.

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Revenue is recognized based on expenses incurred by AcelRx in conducting research and development activities set forth in the agreement. Revenue attributable to the research and development performed under the USAMRMC grant was $1.1 million for year ended December 31, 2011 and $0 for the years ended December 31, 2010 and 2009.

5. Long-Term Debt

Hercules Loan and Security Agreement

In June 2011, AcelRx entered into a loan and security agreement with Hercules, under which AcelRx may borrow up to $20.0 million in two tranches of $10.0 million each, represented by secured convertible term promissory notes. The Company s obligations associated with the agreement are secured by a security interest in substantially all of its assets, other than its intellectual property.

The Company borrowed the first tranche of $10.0 million upon the closing of the transaction on June 29, 2011 and borrowed the second tranche of $10.0 million in December 2011. The Company used a portion of the proceeds from the first tranche to repay the remaining obligations under that certain loan and security agreement between the Company and Pinnacle Ventures, L.L.C., or Pinnacle Ventures, dated September 16, 2008. The agreement with Pinnacle Ventures is described further below. The interest rate for each tranche will be calculated at a rate equal to the greater of either (i) 8.50% plus the positive difference between the prime rate as reported from time to time in The Wall Street Journal and 5.25%, and (ii) 8.50%. The Company will make interest only payments until June 30, 2012, followed by equal monthly payments of principal and interest through the scheduled maturity date on December 1, 2014.

Subject to certain conditions and limitations set forth in the Hercules loan and security agreement, the Company has the right to convert up to $3.0 million of scheduled principal installments under the notes into that number of freely tradable shares of common stock equal to (x) the product of (A) the principal amount to be so converted and (B) 103%, divided by (y) $5.73 per share.

In addition, Hercules was granted the right, in their discretion, to participate in certain future private offerings of securities by the Company occurring on or prior to June 29, 2013 by investing up to an aggregate of $2.0 million on the same terms, conditions and pricing afforded to others participating in such subsequent offerings.

The Hercules loan and security agreement includes customary affirmative and restrictive covenants, but does not include any financial maintenance covenants, and also includes standard events of default.

Upon an event of default, including a change of control, Hercules has the option to accelerate repayment of the loan, including payment of any applicable prepayment charges, which range from 1%-3% of the outstanding loan balance and accrued interest, as well as a final payment fee of $0.2 million. This option is considered a contingent put option liability as the holder of the loan may exercise the option in the event of default and, is considered an embedded derivative which must be valued and separately accounted for in the Company s financial statements. As of December 31, 2011, the estimated fair value of the contingent put option liability was $232,000 which was determined by using a risk-neutral valuation model, wherein the fair value of the underlying debt facility is estimated both with and without the presence of the default provisions, holding all other assumptions constant. The resulting difference between the two estimated fair values is the estimated fair value of the default provisions, or the contingent put option. The fair value of the underlying debt facility is estimated by calculating the expected cash flows in consideration of an estimated probability of default and expected

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recovery rate in default, and discounting such cash flows back to the reporting date using a risk-free rate. The contingent put option liability was recorded as a debt discount to the loan and consequently a reduction to the carrying value of the loan. The contingent put option liability will be revalued at the end of each reporting period and any change in the fair value will be recognized in the statement of operations.

In connection with the loan, the Company issued Hercules seven-year warrants to purchase an aggregate of 274,508 shares of common stock at a price of $3.06 per share. See Note 7 Warrants, for further description.

As of December 31, 2011, the Company had outstanding borrowings under the Hercules loan and security agreement of $19.0 million, net of debt discounts of $1.0 million. Amortization of the debt discounts, which was recorded as Interest Expense, was $254,000 for the year ended December 31, 2011.

Pinnacle Loan and Security Agreement

In September 2008, the Company entered into a $12.0 million loan and security agreement with Pinnacle. In November 2008, the Company drew down all $12.0 million of the loan facility. On June 29, 2011, upon execution of the Hercules loan and security agreement, the Pinnacle agreement was terminated and the outstanding balance of $2.8 million was repaid. The unamortized portion of the final balloon payment and deferred financing costs were recorded to interest expense upon termination of the agreement.

As of December 31, 2011 and December 31, 2010, the Company had outstanding borrowings under the Pinnacle loan and security agreement of $0 million and $5.2 million.

Future Payments on Long-Term Debt

The following table summarizes our outstanding future payments associated with our long-term debt as of December 31, 2011 (in thousands):

		Payment by Period			
Obligations:	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**
Principal Payments on Long-Term Debt	$ 20,000	$ 4,278	$ 15,722	$	
Interest Payments on Long-Term Debt	3,226	1,636	1,590	$	
Total	$ 23,226	$ 5,914	$ 17,312	$	

6. Convertible Notes

2010 Convertible Notes

On September 14, 2010, the Company sold convertible promissory notes, or the 2010 Convertible Notes, to certain existing investors for an aggregate purchase price of $8.0 million. The 2010 Convertible Notes bore interest at a rate of 4.0% per annum and had a maturity date of the earlier of (1) September 14, 2011 or (2) an event of default. In connection with the IPO, the outstanding principal and accrued interest under the 2010 Convertible Notes automatically converted into 2,034,438 shares of common stock immediately prior to the closing of the IPO.

Upon the election of the holders of a majority of the aggregate principal amount payable under the 2010 Convertible Notes outstanding, the Company was required to sell an additional $4.0 million of 2010 Convertible

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Notes. This additional $4.0 million was determined to be a call option that was recorded at its fair value of $476,000 as a debt discount that would have been amortized to interest expense over the one-year term of the 2010 Convertible Notes. The fair value of the call option was determined by evaluating multiple potential scenarios using a market approach and an income approach depending on the scenario and discounting these values back to the appropriate date while applying estimated probabilities to each scenario value. These scenarios included a potential initial public offering, merger or sale of the Company at different times during 2011 and 2012 as well as remaining private. The fair value of the call option as of December 31, 2010 was $596,000. During the three months ended March 31, 2011, the 2010 Convertible Notes were amended so that the note holders option to invest the second tranche of $4.0 million expired upon the closing of the IPO. The call option was revalued to its fair value as of the IPO date and was written off upon its expiration with a benefit of $596,000 being recognized through other income (expense). In addition, the unamortized debt discount in the amount of $1.1 million at the time of the IPO was recognized as interest expense in connection with the conversion of the notes.

7. Warrants

Series A Warrants

In March 2007, the Company entered into an equipment financing agreement in which the Company issued immediately exercisable and fully vested warrants to purchase 2,500 shares of its Series A convertible preferred stock, or the Series A warrants, with an exercise price of $10.00 per share. The fair value of the Series A warrants on the date of issuance was $1,000, as determined using the Black-Scholes option-pricing model. This fair value was recorded as a convertible preferred stock warrant liability and as a deferred financing cost in other assets. The fair value was remeasured at the end of each reporting period. In connection with the IPO, the Series A warrants were automatically converted into warrants to purchase 3,425 shares of common stock. As a result of the conversion, these common stock warrants were no longer recorded as liabilities and were, therefore, no longer remeasured as of the end of each reporting period. As of December 31, 2011, warrants to purchase 3,425 shares of common stock had not been exercised and were still outstanding. These warrants expire in March 2017.

Series B and Series C Warrants

In September 2008, the Company entered into a $12.0 million loan and security agreement with Pinnacle Ventures. In November 2008, the Company drew down all $12.0 million of the loan facility. In connection with the loan and security agreement, the Company issued immediately exercisable and fully vested warrants, or the Series B warrants, to purchase 56,250 shares of Series B convertible preferred stock with an exercise price of $16.00 per share. Upon the closing of the Series C convertible preferred stock financing during the year ended December 31, 2009, the Series B warrants underlying the loan and security agreement became exercisable for 228,264 shares of Series C convertible preferred stock with an exercise price of $3.94 per share, or the Series C warrants. The Company determined the fair value of the Series B warrants and Series C warrants on the dates of issuance to be $162,000, as determined using the Black-Scholes option-pricing model which was recorded as a convertible preferred stock warrant liability and as a deferred financing cost in other assets. The Company revalued the convertible preferred stock warrant liability related to the Series B warrants and Series C warrants during each reporting period using the Black-Scholes option-pricing model. The fair value of the convertible preferred stock warrant liability related to these Series B warrants and Series C warrants was estimated to be $894,000 and $1.2 million as of the IPO date in February 2011 and December 31, 2010.

In connection with the Company s IPO in February 2011, the Series C warrants were automatically converted into warrants to purchase 228,264 shares of common stock. Immediately before the conversion to common stock

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warrants, the Series C warrants were remeasured to fair value with the change in the fair value of these warrants of $323,000 being recorded as a benefit through other income (expense), net during the three months ended March 31, 2011. Immediately after the conversion to common stock warrants, the remaining liability of $894,000 was reclassified to additional paid-in capital. As a result of the conversion, these common stock warrants were no longer recorded as liabilities and were therefore no longer remeasured as of the end of each reporting period.

As of December 31, 2011, warrants to purchase 228,264 shares of common stock had not been exercised and were still outstanding. These warrants expire in September 2018.

2010 Warrants

The Company issued warrants in connection with the 2010 Convertible Notes in September 2010, or the 2010 Warrants. The 2010 Warrants were exercisable into shares of convertible preferred stock. The 2010 Warrants would have terminated if not exercised immediately prior to the IPO. The 2010 Warrants allowed for cashless exercises.

The Company determined the fair value of the 2010 Warrants to be $1.2 million upon issuance, as determined using the Black-Scholes option-pricing model which was recorded as a convertible preferred stock warrant liability and a debt discount. As of December 31, 2010, the related warrant liability was $1.3 million. In connection with the IPO, the 2010 Warrants were net exercised into shares of Series C convertible preferred stock, which shares were automatically converted to 107,246 shares of common stock immediately prior to the IPO. Immediately before the exercise into Series C convertible preferred stock, the 2010 Warrants were remeasured to fair value with the change in the fair value of these warrants of $763,000 being recorded as a benefit through other income (expense), net during the three months ended March 31, 2011. Immediately after the exercise into Series C convertible preferred stock, the remaining liability of $536,000 was reclassified to additional paid-in capital.

Hercules Warrants

In connection with the loan and security agreement with Hercules, the Company issued to Hercules warrants to purchase an aggregate of 274,508 shares of common stock at a price of $3.06 per share. The warrants may be exercised on a cashless basis. The warrants are exercisable for a term beginning on the date of issuance and ending on the earlier to occur of seven years from the date of issuance or the consummation of certain acquisitions of the Company as set forth in the warrants. The Company estimated the fair value of these warrants as of the issuance date to be $967,000, which was recorded as a debt discount to the loan and consequently a reduction to the carrying value of the loan. The fair value of the warrants was calculated using the Black-Scholes option valuation model, and was based on the contractual term of the warrants of seven years, a risk-free interest rate of 2.44%, expected volatility of 79% and 0% expected dividend yield.

As of December 31, 2011, warrants to purchase 274,508 shares of common stock issued to Hercules had not been exercised and were still outstanding.

8. Commitments and Contingencies

Operating Leases

In January 2007, the Company entered into a non-cancelable lease agreement for office and laboratory facilities in Redwood City, California. The lease term commenced in April 2007 and expires in April 2012. Rental

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expense from the facility lease is recognized on a straight-line basis from the inception of the lease in January 2007, the early access date, through the end of the lease. Rent expense was $173,000, $158,000, $158,000 and $990,000 during the years ended December 31, 2010, 2009, 2008 and the period from July 13, 2005 (inception) through December 31, 2011.

In December 2011, we entered into a non-cancelable lease agreement for office and laboratory facilities in Redwood City, California, which will serve as our new headquarters, effective April 2012. The lease agreement expires in May 2016. Rental expense from the facility lease is recognized on a straight-line basis from the inception of the lease in December 2011, the early access date, through the end of the lease.

Future minimum payments under the lease agreements as of December 31, 2011 are as follows (in thousands):

Year Ending December 31:	
2012	$ 312
2013	381
2014	392
2015	404
2016	142
Total minimum payments	$ 1,631

During the year ended December 31, 2011, the Company made regular payments on the operating lease of $348,000.

During 2007, the landlord provided a tenant improvement allowance of $746,000 to the Company to complete the office and lab facility. The Company has recorded the tenant improvement allowance paid by the landlord as a leasehold improvement asset and a deferred rent liability on the balance sheet. The allowance is amortized as a credit to rent expense over the term of the lease, and the leasehold improvements are amortized as depreciation expense over the period from when the improvements were placed in service until the end of their useful life, which is the end of the lease term. As of December 31, 2011 and 2010, the Company has an unamortized tenant improvement allowance of $54,000 and $245,000, respectively.

Litigation

The Company is not a party to any litigation and does not have contingent reserves established for any litigation liabilities.

9. Stockholders Equity

Initial Public Offering

On February 10, 2011, the Company sold 8,000,000 shares of common stock at a price of $5.00 per share in an IPO. The shares began trading on the NASDAQ Global Market on February 11, 2011. The Company received $34.9 million in net proceeds from the IPO, after deducting underwriting discounts and commissions and other offering expenses totaling $5.1 million. Upon the closing of the offering, all outstanding shares of convertible preferred stock converted into common stock, as adjusted for the 1-for-4 reverse stock split described below. The

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convertible preferred stock converted into 8,555,713 shares of common stock. In addition, the principal and accrued interest under the 2010 Convertible Notes converted into 2,034,438 shares of common stock upon the closing of the Company s IPO and the 2010 Warrants were net exercised for 107,246 shares of Series C convertible preferred stock, which shares were converted to common stock upon the closing of the Company s IPO. All other outstanding warrants to purchase convertible preferred stock became exercisable into shares of common stock. Concurrently, the Company increased the number of authorized shares of common stock to 100,000,000 with a par value of $0.001 per share and decreased the number of authorized shares of preferred stock to 10,000,000 with a par value of $0.001 per share.

Reverse Stock Split

In January 2011, the Company s board of directors and stockholders approved an amended and restated certificate of incorporation effecting a 1-for-4 reverse stock split of the Company s issued and outstanding shares of common stock and convertible preferred stock and on January 28, 2011, the Company filed an amended and restated certificate of incorporation effecting a 1-for-4 reverse stock split. The par value of the common and convertible preferred stock was not adjusted as a result of the reverse stock split. All issued and outstanding common stock, options for common stock, convertible preferred stock, warrants for common stock, warrants for convertible preferred stock, and per share amounts contained in the Company s financial statements have been retroactively adjusted to reflect this reverse stock split for all periods presented.

Common Stock

On February 10, 2011, the Company sold 8,000,000 shares of common stock at a price of $5.00 per share in an IPO. The shares began trading on the NASDAQ Global Market on February 11, 2011. The Company received $34.9 million in net proceeds from the IPO, after deducting underwriting discounts and commissions and other offering expenses totaling $5.1 million. See *Initial Public Offering* section above for further details.

Convertible Preferred Stock

Upon the closing of the Company s IPO in February 2011, all outstanding shares of convertible preferred stock converted into common stock, as described further above, under *Initial Public Offering.*

During the year ended December 31, 2010, the Company issued 19,275 shares of Series C at $3.94 per share, resulting in net cash proceeds of $70,000.

During the year ended December 31, 2009, the Company issued 3,757,253 shares of Series C at $3.94 per share, resulting in net cash proceeds of $14.7 million.

During the year ended December 31, 2008, the Company issued 1,263,635 shares of Series B at $16.00 per share, resulting in net cash proceeds of $20.1 million.

During the year ended December 31, 2006, the Company completed a private placement of an aggregate of 2,111,639 shares of Series A, which included 102,141 shares issued upon conversion of the 2006 Convertible Notes, at a price of $10.00 per share, resulting in net cash proceeds of $21.0 million.

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The Company s convertible preferred stock, as of December 31, 2010, was as follows:

	As of December 31, 2010		
	Shares Authorized	Shares Issued and Outstanding	Aggregate Liquidation Preference
Series A	8,456,581	2,111,639	$ 21,116,000
Series B	5,279,544	1,263,635	20,218,000
Series C	33,000,000	3,776,528	14,890,000
Total	46,736,125	7,151,802	$ 56,224,000

The Company recorded the convertible preferred stock at fair value on the dates of issuance, net of issuance costs. The Company classified the convertible preferred stock outside of stockholders equity (deficit) because the shares contained redemption features that were not solely within the Company s control. During the years ended December 31, 2010 and 2009, the Company did not adjust the carrying values of the redeemable convertible preferred stock to the deemed redemption values of such shares since a liquidation event was not probable.

Stock Plans

2011 Equity Incentive Plan

In January 2011, the board of directors adopted, and the Company s stockholders approved, the 2011 Equity Incentive Plan, or 2011 Incentive Plan, as a successor to the 2006 Plan. The 2011 Incentive Plan became effective immediately upon the execution and delivery of the underwriting agreement for the IPO on February 10, 2011. As of February 10, 2011, no more awards may be granted under the 2006 Plan, although all outstanding stock options and other stock awards previously granted under the 2006 Plan will continue to remain subject to the terms of the 2006 Plan. The 51,693 shares reserved under the 2006 Plan that remained available for future grant at the time of the IPO were transferred to the share reserve of the 2011 Incentive Plan.

The initial aggregate number of shares of the Company s common stock that may be issued pursuant to stock awards under the 2011 Incentive Plan is 1,875,000 shares, which number was the sum of (i) 51,693 shares remaining available for future grant under the 2006 Plan at the time of the execution and delivery of the underwriting agreement for the Company s IPO, and (ii) an additional 1,823,307 new shares. Then, the number of shares of common stock reserved for issuance under the 2011 Incentive Plan will automatically increase on January 1st each year, starting on January 1, 2012 and continuing through January 1, 2020, by 4% of the total number of shares of the Company s common stock outstanding on December 31 of the preceding calendar year, or such lesser number of shares of common stock as determined by the board of directors. In January 2012, an additional 782,711 shares were authorized for issuance under the 2011 Incentive Plan.

2011 Employee Stock Purchase Plan

Additionally, in January 2011, the board of directors adopted, and the Company s stockholders approved, the 2011 Employee Stock Purchase Plan, or the ESPP, which also became effective immediately upon the execution and delivery of the underwriting agreement for the IPO.

Initially, 250,000 shares of the Company s common stock were authorized for issuance under the ESPP pursuant to purchase rights granted to the Company s employees or to employees of any of its designated affiliates. The

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number of shares of the Company s common stock reserved for issuance will automatically increase on January 1st each year, starting January 1, 2012 and continuing through January 1, 2020, in an amount equal to the lower of (1) 2% of the total number of shares of the Company s common stock outstanding on December 31 of the preceding calendar year, or (2) a number of shares of common stock as determined by the board of directors. If a purchase right granted under the ESPP terminates without having been exercised, the shares of the Company s common stock not purchased under such purchase right will be available for issuance under the ESPP. In January 2012, an additional 391,355 shares were authorized for issuance under the 2011 ESPP.

2006 Stock Plan

In August 2006, the Company established the 2006 Plan in which 342,000 shares of common stock were originally reserved for the issuance of incentive stock options, or ISOs, and nonstatutory stock options, or NSOs, to employees, directors or consultants of the Company. In February 2008, an additional 375,000 shares of common stock were reserved for issuance under the 2006 Plan and, in November 2009, an additional 1,376,059 shares of common stock were reserved for issuance under the 2006 Plan. Per the 2006 Plan, the exercise price of ISOs and NSOs granted to a stockholder who at the time of grant owns stock representing more than 10% of the voting power of all classes of the stock of the Company could not be less than 110% of the fair value per share of the underlying common stock on the date of grant. Effective upon the execution and delivery of the underwriting agreement for the Company s IPO, no additional stock options or other stock awards may be granted under the 2006 Plan.

Stock Option Modification

In December 2010, the Company s board of directors allowed all employees and non-employees to increase the exercise price of stock options granted to them on June 15, 2010 in light of the potential risk of adverse tax consequences under Internal Revenue Service Code Section 409A. Based on the elections by the optionees, 1,233,485 of the 1,316,610 options granted on June 15, 2010, including vested and unvested options, were modified such that the original exercise price of $1.20 per share was increased to $2.56 per share. Accordingly, holders of options to purchase an aggregate 83,125 shares of common stock elected to leave their options unchanged. No other terms of the options were modified and there were no incremental stock-based compensation charges as a result of the re-pricing.

10. Stock-Based Compensation

The Company recorded total stock-based compensation expense for stock options, stock awards and the ESPP as follows (in thousands):

	Year Ended December 31,			Period from July 13, 2005 (Inception) Through December 31,
	2011	2010	2009	2011
Research and development	$ 785	$ 810	$ 311	$ 2,379
General and administrative	1,048	614	152	1,967
Total	$ 1,833	$ 1,424	$ 463	$ 4,346

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The following table summarizes option activity under the 2011 Plan and 2006 Plan:

	Number of Stock Options Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
January 1, 2007		$		
Granted	290,625	1.20		
Forfeited	(1,250)	1.20		
December 31, 2007	289,375	1.20		
Additional options authorized				
Granted	196,875	4.00		
December 31, 2008	486,250	2.36		
Additional options authorized				
Granted	231,875	5.52		
Forfeited	(30,885)	2.56		
Exercised	(21,614)	1.20		
December 31, 2009	665,626	3.48		
Granted	1,441,610	2.72		
Forfeited	(87,484)	5.52		
Exercised	(10,955)	1.89		
December 31, 2010	2,008,797	$ 2.91		
Additional options authorized				
Granted	514,958	3.48		
Forfeited	(58,022)	3.32		
Exercised	(69,765)	1.20		
December 31, 2011	2,395,968	$ 3.08	8.2	150
Vested options December 31, 2011	1,273,298	$ 2.88	7.7	$ 139
Vested and expected to vest December 31, 2011	2,395,968	$ 3.08	8.2	$ 150
Exercisable December 31, 2011	1,273,298	$ 2.88	7.7	$ 139

As of December 31, 2011, there were 1,024,147 shares available for future grant under the 2011 Plan.

Additional information regarding the Company s stock options outstanding and vested and exercisable as of December 31, 2011 is summarized below:

	Options Outstanding			Options Vested and Exercisable	
Exercise Prices	Number of Stock Options Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price per Share	Shares Subject to Stock Options	Weighted-Average Exercise Price per Share
$1.20-$2.56	984,401	7.9	$ 2.27	757,623	$ 2.21
$2.56-$4.00	1,091,567	8.6	$ 3.15	354,274	$ 3.15
$4.22-$5.52	320,000	8.1	$ 5.32	161,401	$ 5.47
	2,395,968	8.2	$ 3.08	1,273,298	$ 2.88

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The weighted average grant-date fair value of options granted during the years ended December 31, 2011, 2010, 2009, and the period from July 13, 2005 (inception) through December 31, 2011, was $2.45, $2.72, $1.96, and $2.08 per share. Total future stock-based compensation expense related to these unvested options based on grant date fair value estimates to be recorded subsequent to December 31, 2011 was $2.4 million which is expected to be recognized over a weighted-average period of 2.5 years. The grant date fair value of shares vested during the years ended December 31, 2011, 2010, 2009 and the period from July 13, 2005 (inception) through December 31, 2011, was $1.1 million, $1.1 million, $244,000 and $2.5 million. The total intrinsic value of options exercised during the years ended December 31, 2011, 2010, 2009 and the period from July 13, 2005 (inception) through December 31, 2011 was $204,000, $3,000, $62,000 and $269,000.

The Company used the following assumptions to calculate the fair value of each employee stock option:

	Year Ended December 31,			Period from July 13, 2005 (Inception) Through December 31,
	2011	2010	2009	2011
Expected term (in years)	5.75-6.25	5.75-6.25	6.25	5.75-6.25
Risk-free interest rate	1.1%-2.5%	1.6%-4.6%	3.0%	1.1%-4.6%
Expected volatility	79%	75%	73%	70%-79%
Expected dividend rate	0%	0%	0%	0%

Restricted Stock Units

In March 2011, the Company granted 343,815 Restricted Stock Units, or RSUs, to employees and directors under the 2011 Plan at a grant date fair value of $3.45. The fair value of the RSUs was determined on the date of grant based on the market price of the Company s common stock. RSUs are recognized as expense ratably over the vesting period and the Company s RSU s generally vest over three years as follows: 25% on the 6 month anniversary of the vesting commencement date, 25% on the 12 month anniversary of the vesting commencement date, 25% on the 24 month anniversary of the vesting commencement date and 25% on the 36 month anniversary of the vesting commencement date, so long as the RSU recipient continues to provide services to the Company. As of December 31, 2011, there were 257,868 RSUs outstanding. During 2011, 7,920 RSUs were forfeited and 78,027 common shares were issued upon settlement of vested RSUs. The expense related to RSUs during the year ended December 31, 2011 was $492,000.

11. Net Loss per Share of Common Stock

The following table sets forth the computation of the Company s basic and diluted net loss per share of common stock during the years ended December 31, 2011, 2010 and 2009 (in thousands, except for share and per share amounts):

	Year Ended December 31,		
	2011	2010	2009
Net loss	$ (20,101)	$ (14,344)	$ (20,119)
	17,345	656,650	576,021

Shares used in computing net loss per share of common stock, basic and diluted			
Net loss per share of common stock, basic and diluted	$ (1.16)	$ (21.84)	$ (34.93)

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

	Year Ended December 31,		
	2011	2010	2009
Convertible preferred stock		7,151,802	7,132,527
Stock options to purchase common stock	2,395,968	2,008,797	665,626
Restricted shares of common stock subject to repurchase			43,282
Restricted Stock Units	257,868		
Convertible preferred stock warrants[1]		230,764	230,764
Common stock warrants	506,197		

(1) Upon execution of the IPO, the 230,764 then outstanding convertible preferred stock warrants were converted to the same number of common stock warrants and remain outstanding as of December 31, 2011.

12. Comprehensive Loss

Activities in comprehensive loss were as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Net loss	$ (20,101)	$ (14,344)	$ (20,119)
Increase / (Decrease) in unrealized gains on marketable securities		2	(41)
Comprehensive loss	$ (20,101)	$ (14,342)	$ (20,160)

13. Accounts Payable and Accrued Liabilities

Accounts payable and accrued liabilities consist of the following (in thousands):

	December 31,	
	2011	2010
Accounts payable	$ 1,530	$ 543
Accrued compensation and employee benefits	1,302	375
Accrued pharmaceutical development	497	
Professional fees	180	295
Interest Payable	116	97
Other	416	92

Total accounts payable and accrued liabilities	$ 4,041	$ 1,402

14. 401(k) Plan

The Company sponsors a 401(k) plan that stipulates that eligible employees can elect to contribute to the 401(k) plan, subject to certain limitations. Pursuant to the 401(k) plan, the Company makes a discretionary safe harbor

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profit-sharing contribution equal to 3% of the related compensation. Eligible employees are 100% vested in this safe harbor profit-sharing contribution regardless of whether they make salary deferrals into the 401(k) plan. Company contributions were $108,000, $106,000, $133,000 and $473,000 during the years ended December 31, 2011, 2010, 2009 and the period from July 13, 2005 (inception) through December 31, 2011.

15. Income Taxes

The Company did not record a provision for income taxes during the years ended December 31, 2011, 2010 and 2009. Net deferred tax assets as of December 31, 2011 and 2010 consist of the following (in thousands):

	December 31, 2011	December 31, 2010
Deferred tax assets:		
Accruals and other	$ 623	$ 470
Research credits	1,936	1,554
Net operating loss carryforward	32,646	25,403
Total deferred tax assets	35,205	27,427
Valuation allowance	(35,205)	(27,427)
Net deferred tax assets	$	$

Reconciliations of the statutory federal income tax to the Company s effective tax during the years ended December 31, 2011, 2010 and 2009 are as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Tax at statutory federal rate	$ (6,834)	$ (4,877)	$ (6,840)
State tax net of federal benefit	(1,104)	(757)	(1,300)
Other	161	853	(272)
Change in valuation allowance	7,777	4,781	8,412
Provision (benefit) for income taxes	$	$	$

ASC 740 requires that the tax benefit of net operating losses, temporary differences and credit carryforwards be recorded as an asset to the extent that management assesses that realization is "more likely than not." Realization of deferred tax assets is dependent on future taxable income, if any, the timing and the amount of which are uncertain. Accordingly, the deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by $7.8 million, $4.8 million and $8.4 million during the years ended December 31, 2011, 2010 and 2009. The amount of the valuation allowance for deferred tax assets associated with excess tax deduction from stock based compensation arrangement that is allocated to contributed capital if the future tax benefits are subsequently recognized is $0.

As of December 31, 2011, 2010 and 2009, the Company had federal net operating loss carryforwards of $82.2 million, $63.8 million, and $52.9 million which begin to expire in 2025. As of December 31, 2011, 2010, and 2009, the Company had state net operating loss carryforwards of $80.6 million, $63.7 million and $52.8 million, which begin to expire in 2015.

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As of December 31, 2011, 2010 and 2009, the Company had federal research credit carryovers of $1.3 million, $1.1 million and $887,000 which begin to expire in 2026. As of December 31, 2011, 2010 and 2009, the Company had state research credit carryovers of $901,000, $748,000 and $599,000 which will carryforward indefinitely.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an ownership change , generally defined as a greater than 50% change (by value) in its equity ownership over a three year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research credits, to offset its post-change income may be limited.

Uncertain Tax Positions

A reconciliation of the beginning and ending balances of the unrecognized tax benefits during the years ended December 31, 2011, 2010 and 2009 is as follows (in thousands):

	Year Ended December 31,		
	2011	2010	2009
Unrecognized benefit beginning of period	$ 603	$ 495	$ 292
Gross increases current period tax positions	145	108	203
Unrecognized benefit end of period	$ 748	$ 603	$ 495

The entire amount of the unrecognized tax benefits would not impact the Company s effective tax rate if recognized.

Accrued interest and penalties related to unrecognized tax benefits are classified as income tax expense and were immaterial. The Company files income tax returns in the United States and in California. The tax years 2005 through 2011 remain open in both jurisdictions. The Company is not currently under examination by income tax authorities in federal, state or other foreign jurisdictions.

16. Quarterly Financial Data (Unaudited)

The following table sets forth certain unaudited quarterly financial data for the eight quarters ended December 31, 2011. The unaudited information set forth below has been prepared on the same basis as the audited information and includes all adjustments necessary to present fairly the information set forth herein. The operating results for any quarter are not indicative of results for any future period. All data is in thousands except per share data.

	2011				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Revenues	$	$ 40	$ 408	$ 624	$		$	$
Operating Expenses	$ 3,535	$ 4,659	$ 5,813	$ 6,417	$ 3,433	$ 3,309	$ 2,605	$ 2,839
Net loss	$ (3,204)	$ (4,763)	$ (5,761)	$ (6,373)	$ (3,681)	$ (3,537)	$ (3,601)	$ (3,525)
Net loss per share (basic and diluted)	$ (0.30)	$ (0.25)	$ (0.30)	$ (0.33)	$ (5.85)	$ (5.41)	$ (5.38)	$ (5.23)

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EXHIBIT INDEX

Exhibit Number	Description of the Document
3.1	Amended and Restated Certificate of Incorporation of the Registrant, currently in effect.(1)
3.2	Bylaws of the Registrant, currently in effect.(2)
4.1	Reference is made to Exhibits 3.1 through 3.2.
4.2	Specimen Common Stock Certificate of the Registrant.(3)
4.3	Second Amended and Restated Investors Rights Agreement, among the Registrant and certain of its security holders, dated as of November 23, 2009.(4)
4.4	Warrant to Purchase Stock of the Registrant, issued to Wells Fargo Bank, N.A., dated March 15, 2007.(5)
4.5	Warrant to Purchase Preferred Stock of the Registrant, issued to Pinnacle Ventures II Equity Holdings, L.L.C., dated September 16, 2008.(6)
4.6	Warrant to Purchase Common Stock of the Registrant, issued to Hercules Technology II, L.P., dated as of June 29, 2011.(7)
4.7	Warrant to Purchase Common Stock of the Registrant, issued to Hercules Technology Growth Capital, dated as of June 29, 2011.(8)
10.1+	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.(9)
10.2+	2006 Stock Plan, as amended.(10)
10.3+	Forms of Notice of Grant of Stock Option, Stock Option Agreement and Stock Option Exercise Notice under 2006 Stock Plan.(11)
10.4+	2011 Equity Incentive Plan.(12)
10.5+	Forms of Stock Option Grant Notice, Notice of Exercise and Option Agreement under 2011 Equity Incentive Plan.(13)
10.6+	Forms of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under 2011 Equity Incentive Plan.(14)
10.7+	2011 Employee Stock Purchase Plan.(15)
10.8	Lease Agreement, between Metropolitan Life Insurance Company and Registrant, dated January 2, 2007.(16)
10.9	Lease between Metropolitan Life Insurance Company and the Registrant, dated December 15, 2011.
10.10	Loan and Security Agreement between Registrant and Pinnacle Ventures, L.L.C., as agent for the Lenders (as defined therein) and the Lenders, dated September 16, 2008.(17)
10.11	Note and Warrant Purchase Agreement between Registrant and the Purchasers defined therein, dated September 14, 2010, as amended.(18)
10.12	Loan and Security Agreement among the Registrant, Hercules Technology II, L.P. and Hercules Technology Growth Capital, dated as of June 29, 2011.(19)
10.13	Award/Contract with the U.S. Army Medical Research and Material Command, dated May 26, 2011.(20)
10.14+	Offer Letter between the Registrant and Thomas Schreck, dated August 15, 2006.(21)

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Exhibit Number	Description of the Document
10.15+	Amended and Restated Offer Letter between the Registrant and Larry Hamel, dated December 31, 2010.(22)
10.16+	Amended and Restated Offer Letter between the Registrant and Badri (Anil) Dasu, dated December 30, 2010.(23)
10.17+	Amended and Restated Offer Letter between the Registrant and Pamela Palmer, dated December 29, 2010.(24)
10.18+	Amended and Restated Offer Letter between the Registrant and Richard King, dated December 31, 2010.(25)
10.19+	Amended and Restated Offer Letter between the Registrant and James Welch, dated December 29, 2010.(26)
10.20+	Resignation Agreement, between the Registrant and Thomas Schreck, dated May 6, 2010.(27)
10.21+	Non-Employee Director Compensation Policy.(28)
10.22+	Summary of 2011 Cash Bonus Plan.(29)
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included in signature page)
31.1	Certification of Principal Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) promulgated under the Securities Exchange Act of 1934, as amended.
32.1	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

+ Indicates management contract or compensatory plan.

(1) Incorporated herein by reference to Exhibit 3.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on February 18, 2011.

(2) Incorporated herein by reference to Exhibit 3.4 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(3) Incorporated herein by reference to Exhibit 4.2 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 31, 2011.

(4) Incorporated herein by reference to Exhibit 4.3 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(5) Incorporated herein by reference to Exhibit 4.4 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(6) Incorporated herein by reference to Exhibit 4.5 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(7) Incorporated herein by reference to Exhibit 4.4 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

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(8) Incorporated herein by reference to Exhibit 4.5 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

(9) Incorporated herein by reference to Exhibit 10.1 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(10) Incorporated herein by reference to Exhibit 10.2 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(11) Incorporated herein by reference to Exhibit 10.3 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(12) Incorporated herein by reference to Exhibit 99.3 to the Registrant s registration statement on Form S-8 (File No. 333-172409), as filed with the SEC on February 24, 2011.

(13) Incorporated herein by reference to Exhibit 10.5 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(14) Incorporated herein by reference to Exhibit 10.6 to the Registrant s annual report on Form 10-K (File No. 001-35068), as filed with the SEC on March 30, 2011.

(15) Incorporated herein by reference to Exhibit 99.6 to the Registrant s registration statement on Form S-8 (File No. 333-172409), as filed with the SEC on February 24, 2011.

(16) Incorporated herein by reference to Exhibit 10.8 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(17) Incorporated herein by reference to Exhibit 10.9 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on November 12, 2010.

(18) Incorporated herein by reference to Exhibit 10.10 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 31, 2011.

(19) Incorporated herein by reference to Exhibit 10.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on June 30, 2011.

(20) Incorporated herein by reference to Exhibit 10.3 to the Registrant s quarterly report on Form 10-Q (File No. 001-35068), as filed with the SEC on August 11, 2011.

(21) Incorporated herein by reference to Exhibit 10.13 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(22) Incorporated herein by reference to Exhibit 10.14 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(23) Incorporated herein by reference to Exhibit 10.15 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(24) Incorporated herein by reference to Exhibit 10.16 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(25) Incorporated herein by reference to Exhibit 10.17 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(26) Incorporated herein by reference to Exhibit 10.18 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(27) Incorporated herein by reference to Exhibit 10.19 to the Registrant s registration statement on Form S-1, as amended (File No. 333-170594), as filed with the SEC on January 7, 2011.

(28) Incorporated by reference to the information under Item 11. Executive Compensation Director Compensation Non-Employee Director Compensation of this Annual Report on Form 10-K.

(29) Incorporated herein by reference to Exhibit 10.1 to the Registrant s current report on Form 8-K (File No. 001-35068), as filed with the SEC on May 16, 2011.

* The certifications attached as Exhibit 32.1 accompany this Annual Report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed filed by the Registrant for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.