

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

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**FORM 10-Q**

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

For the quarterly period ended September 30, 2012

or

**TRANSITION REPORTS 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

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**ACELRX PHARMACEUTICALS, INC.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**41-2193603**  
(IRS Employer  
Identification No.)

**351 Galveston Drive  
Redwood City, CA 94063  
(650) 216-3500**

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

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

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

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

Large accelerated filer

Accelerated filer

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

Smaller reporting company

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

As of October 15, 2012, the number of outstanding shares of the registrant's common stock was 22,646,773.

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ACELRX PHARMACEUTICALS, INC.  
QUARTERLY REPORT ON FORM 10-Q FOR THE QUARTER ENDED SEPTEMBER 30, 2012

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Unless the context indicates otherwise, the terms “AcelRx,” “AcelRx Pharmaceuticals,” “we,” “us” and “our” refer to AcelRx Pharmaceuticals, Inc.

ACELRX, NANOTAB and “ACCELERATE, INNOVATE, ALLEVIATE,” are registered trademarks of AcelRx Pharmaceuticals, Inc. Other trademarks of AcelRx Pharmaceuticals, Inc. appearing in this report are the property of AcelRx Pharmaceuticals, Inc.

This report also contains trademarks and trade names that are the property of their respective owners.

## PART I. FINANCIAL INFORMATION

## Item 1. Financial Statements

AcelRx Pharmaceuticals, Inc.  
(A Development Stage Company)Condensed Balance Sheets  
(In thousands, except share data)

	September 30, 2012 (Unaudited)	December 31, 2011 <sup>(1)</sup>
<b>ASSETS</b>		
CURRENT ASSETS:		
Cash and cash equivalents	\$ 3,721	\$ 7,794
Short-term investments	19,654	27,991
Prepaid expenses and other current assets	1,922	2,361
Total current assets	25,297	38,146
Property and equipment, net	2,524	2,306
Restricted cash	205	205
Other assets	125	178
<b>TOTAL ASSETS</b>	<b>\$ 28,151</b>	<b>\$ 40,835</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
CURRENT LIABILITIES:		
Accounts payable	\$ 2,858	\$ 1,530
Accrued liabilities	2,143	2,565
Long-term debt, current portion	7,226	3,750
Total current liabilities	12,227	7,845
Deferred rent	341	15
Long-term debt, net of current portion	10,456	15,275
Warrant liability	5,345	—
Contingent put option liability	109	232
Total liabilities	28,478	23,367
STOCKHOLDERS' EQUITY:		
Common stock, \$0.001 par value—100,000,000 shares authorized as of September 30, 2012 and December 31, 2011; 22,646,773 and 19,567,778 shares issued and outstanding as of September 30, 2012 and December 31, 2011	23	22
Additional paid-in capital	111,154	106,110
Deficit accumulated during the development stage	(111,505)	(88,664)
Accumulated other comprehensive income	1	—
Total stockholders' equity (deficit)	(327)	17,468
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 28,151</b>	<b>\$ 40,835</b>

- (1) The condensed balance sheet as of December 31, 2011 has been derived from the audited financial statements as of that date included in the Company's Annual Report on Form 10-K for the year ended December 31, 2011.

See notes to condensed financial statements.

**AcelRx Pharmaceuticals, Inc.**  
**(A Development Stage Company)**

**Condensed Statements of Comprehensive Loss**

(Unaudited)

(In thousands, except share and per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,		Period from July 13, 2005 (Inception) Through September 30,
	2012	2011	2012	2011	2012
Research grant revenue	\$ 166	\$ 408	\$ 719	\$ 448	\$ 1,791
Operating expenses:					
Research and development	6,948	3,947	17,113	8,922	84,534
General and administrative	1,410	1,866	5,290	5,086	24,584
Total operating expenses	8,358	5,813	22,403	14,008	109,118
Loss from operations	(8,192)	(5,405)	(21,684)	(13,560)	(107,327)
Interest expense	(573)	(377)	(1,765)	(1,891)	(7,204)
Interest income and Other income (expense), net	183	21	608	1,722	3,026
Net loss	(8,582)	(5,761)	(22,841)	(13,729)	(111,505)
Other comprehensive loss:					
Unrealized gains on available for sale securities	4	5	1	3	1
Comprehensive loss	\$ (8,578)	\$ (5,755)	\$ (22,840)	\$ (13,726)	\$ (111,504)
Net loss per share of common stock, basic and diluted	\$ (0.38)	\$ (0.30)	\$ (1.09)	\$ (0.83)	
Shares used to compute basic and diluted net loss per share of common stock	22,632,573	19,458,640	20,961,886	16,594,051	

See notes to condensed financial statements.

**AcelRx Pharmaceuticals, Inc.**  
**(A Development Stage Company)**  
**Condensed Statements of Cash Flows**  
**(Unaudited)**  
**(In thousands)**

	Nine Months Ended September 30,		Period from July 13, 2005 (Inception) Through September 30,
	2012	2011	2012
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net loss	\$ (22,841)	\$ (13,729)	\$ (111,505)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	467	348	2,545
Amortization of premium/discount on investments, net	339	196	534
Interest expense related to debt financing	497	1,462	3,324
Stock-based compensation	1,633	1,346	5,979
Revaluation of convertible preferred stock warrant, call option, put option and private placement warrant liabilities	(606)	(1,688)	(690)
Other	38	—	28
Changes in operating assets and liabilities:			
Prepaid expenses and other assets	459	(133)	(524)
Restricted cash	—	—	(205)
Accounts payable	1,328	2,083	2,858
Accrued liabilities	(478)	961	400
Deferred rent	381	(142)	450
Net cash used in operating activities	<u>(18,783)</u>	<u>(9,296)</u>	<u>(96,806)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchase of property and equipment	(723)	(1,777)	(5,111)
Purchase of investments	(23,528)	(33,280)	(108,195)
Proceeds from sale of investments	—	—	21,815
Proceeds from maturity of investments	31,527	3,516	66,243
Net cash provided by (used in) investing activities	<u>7,276</u>	<u>(31,541)</u>	<u>(25,248)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Proceeds from initial public offering, net of costs	—	34,939	34,939
Proceeds from private placement of common stock, net of costs	9,077	—	9,077
Proceeds from the issuance of long-term debt	—	9,762	32,383
Payments of long-term debt	(1,806)	(5,298)	(15,027)
Proceeds from issuance of convertible promissory notes	—	—	9,000
Proceeds from issuance of common stock pursuant to equity plans	163	204	462
Proceeds from issuance of convertible preferred stock, net of issuance costs	—	—	54,941
Net cash provided by financing activities	<u>7,434</u>	<u>39,607</u>	<u>125,775</u>
<b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<b>(4,073)</b>	<b>(1,230)</b>	<b>3,721</b>
<b>CASH AND CASH EQUIVALENTS—Beginning of period</b>	<b>7,794</b>	<b>3,055</b>	<b>—</b>
<b>CASH AND CASH EQUIVALENTS—End of period</b>	<b>\$ 3,721</b>	<b>\$ 1,825</b>	<b>\$ 3,721</b>
<b>SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:</b>			
Cash paid for interest	\$ 1,255	\$ 347	\$ 4,157
<b>NONCASH INVESTING AND FINANCING ACTIVITIES:</b>			
Contingent put option liability	\$ —	\$ 62	\$ 62
Issuance of convertible preferred stock warrants	\$ —	\$ —	\$ 1,223
Beneficial conversion features related to convertible notes	\$ —	\$ —	\$ 1,699
Issuance of call option related to convertible note	\$ —	\$ —	\$ 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	\$ 5,828	\$ 967	\$ 6,795
Purchase of property and equipment through accounts payable and accrued liabilities	\$ —	\$ 865	\$ —

See notes to condensed financial statements.

**AcelRx Pharmaceuticals, Inc.**  
**(A Development Stage Company)**

**Notes to Condensed Financial Statements**  
**(Unaudited)**

**1. Organization and Summary of Significant Accounting Policies**

***The Company***

AcelRx Pharmaceuticals, Inc., or AcelRx 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 product candidates, developing intellectual property and raising capital. To date, the Company has not yet commenced primary operations or generated any significant 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 September 30, 2012. In addition, the Company had an accumulated deficit of \$111.5 million and \$88.7 million as of September 30, 2012 and December 31, 2011, respectively. Through September 30, 2012, 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 second quarter of 2013, including support for the continuing development of ARX-01, our lead product candidate. The Company will need to raise additional funding or otherwise enter into collaborations to fund 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, such as completion of our final planned ARX-01 Phase 3 trial, 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 accompanying unaudited condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and the rules and regulations of the U.S. Securities and Exchange Commission, or the SEC. Accordingly, they do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation have been included.

Operating results for the three and nine months ended September 30, 2012 are not necessarily indicative of the results that may be expected for the year ending December 31, 2012. The condensed balance sheet as of December 31, 2011 was derived from the Company's audited financial statements as of December 31, 2011, included in the Company's Annual Report on Form 10-K filed with the SEC. These financial statements should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended December 31, 2011, which include a broader discussion of the Company's business and the risks inherent therein.

***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 its initial public offering, or the 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 an estimated \$5.1 million in underwriting discounts and commissions and other offering-related expenses payable by the Company. Upon the closing of the IPO, all outstanding shares of convertible preferred stock converted into 8,555,713 shares of common stock. In addition, the principal and accrued interest under the 2010 Convertible Notes, as defined in Note 6 "Convertible Notes," converted into 2,034,438 shares of common stock immediately prior to the closing of the IPO and the 2010 Warrants, as defined in Note 7 "Warrants," were net exercised for 107,246 shares of Series C convertible preferred stock, which shares were converted to common stock immediately prior to the closing of the IPO. All other outstanding warrants to purchase convertible preferred stock became exercisable for shares of common stock.

[Table of Contents](#)**Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the condensed financial statements and accompanying notes. On an ongoing basis, management evaluates its estimates, including critical accounting policies. Estimates are based on historical experience and on various other market specific and other relevant assumptions that the Company believes 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 could differ from those estimates.

**Newly Adopted 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 adopted this guidance as of January 1, 2012 on a retrospective basis and this adoption did not 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 adopted this guidance as of January 1, 2012 on a retrospective basis and this adoption did not 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.

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

	As of September 30, 2012			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Cash	\$ 1,241	\$ —	\$ —	\$ 1,241
Money market funds	2,280	—	—	2,280
U.S. government agency securities	200	—	—	200
Total cash and cash equivalents	3,721	—	—	3,721
Marketable securities:				
U.S. government agency securities	19,653	1	—	\$19,654
Total marketable securities	19,653	1	—	\$19,654
Total cash, cash equivalents and investments	\$ 23,374	\$ 1	\$ —	\$ 23,375

  

	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

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	As of December 31, 2011			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
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 September 30, 2012 and December 31, 2011 none of the available-for-sale securities held by the Company had material unrealized losses and there were no realized losses for the nine months ended September 30, 2012. There were no other-than-temporary impairments for these securities at September 30, 2012 or December 31, 2011.

As of September 30, 2012, 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 and are valued based on quoted market prices. For Level II instruments, the Company estimates fair value by utilizing third party pricing services in developing fair value measurements where fair value is based on valuation methodologies such as models using observable market inputs, including benchmark yields, reported trades, broker/dealer quotes, bids, offers and other reference data. Such Level II instruments typically include U.S. treasury and U.S. government agency obligations. As of September 30, 2012 and 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 Technology II, L.P. and Hercules Technology Growth Capital, Inc., collectively referred to as Hercules, which was classified as a Level III liability. As of September 30, 2012 and December 31, 2011, the estimated fair value of the contingent put option liability was \$109,000 and \$232,000, respectively, 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 recovery rate in default, and discounting such cash flows back to the reporting date using a risk-free rate. As of September 30, 2012, the Company also held a Level III liability associated with warrants, or PIPE warrants, issued in connection with the Company's private placement equity offering, completed in June 2012. For a detailed description, see Note 5 "Stockholders' Equity." The PIPE warrants are considered a liability and are valued using the Black-Scholes option-pricing model, the inputs for which include exercise price of the PIPE warrants, market price of the underlying common shares, expected term, volatility based on a group of the Company's peers and the risk-free rate corresponding to the expected term of the PIPE warrants. Changes to one, or any, of the inputs impact the estimated fair value of the PIPE warrants.

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 September 30, 2012			
	Fair Value	Level I	Level II	Level III
<b>Assets</b>				
Money market funds	\$ 2,280	\$2,280	\$ —	\$ —
U.S. government agency obligations	19,854	—	19,854	—
Total assets measured at fair value	\$ 22,134	\$2,280	\$19,854	\$ —
<b>Liabilities</b>				
PIPE warrants	\$ 5,345	—	—	\$5,345
Contingent put option liability	109	—	—	109
Total liabilities measured at fair value	\$ 5,454	\$ —	\$ —	\$5,454

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	As of December 31, 2011			
	Fair Value	Level I	Level II	Level III
<b>Assets</b>				
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	\$ —
<b>Liabilities</b>				
Contingent put option liability	\$ 232	—	—	\$ 232
Total liabilities measured at fair value	\$ 232	\$—	\$—	\$ 232

The following table sets forth the assumptions used in the Black-Scholes option-pricing model to estimate the fair value of the PIPE warrants as of September 30, 2012:

Risk-free interest rate	0.62%
Expected volatility	81.0%
Expected life (in years)	5.2
Expected dividend yield	0.0%

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

	Nine Months Ended September 30, 2012
Fair value—beginning of period	\$ 232
Addition of PIPE warrants on June 1, 2012	5,828
Change in fair value of PIPE warrants	(483)
Change in fair value of contingent put option	(123)
Fair value—end of period	\$ 5,454

### 3. Research Grant Agreement

In May 2011, AcelRx received a grant from the US Army Medical Research and Materiel 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 was originally scheduled to end on August 31, 2012, with a final report due on September 30, 2012. In June 2012, due to a longer than expected administrative review process by the USAMRMC, the Company was awarded a no-cost extension of the grant whereby the period of research was extended through May 31, 2013, with a final report due on June 30, 2013. The grant gives the USAMRMC the option to extend the term of the grant and provide additional funding for the research.

Revenue is recognized based on expenses incurred by AcelRx in conducting research and development activities set forth in the grant agreement. Revenue attributable to the research and development performed under the USAMRMC grant was \$166,000 and \$719,000 for the three and nine months ended September 30, 2012, respectively, and \$408,000 and \$448,000 for the three and nine months ended September 30, 2011. Revenue attributable to the research and development performed under the USAMRMC grant since inception was \$1.8 million.

#### **4. Long-Term Debt**

##### ***Hercules Loan and Security Agreement***

On June 29, 2011, AcetRx entered into a loan and security agreement with Hercules, under which AcetRx borrowed \$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 interest rate for each tranche is 8.50% and the Company made interest only payments until June 30, 2012 followed by equal monthly payments of \$0.7 million, consisting of principal and interest, through the scheduled maturity date on December 1, 2014.

Upon an event of default, including a change of control, Hercules has the option to accelerate repayment of the notes, 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 notes 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. 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 comprehensive loss. As of September 30, 2012, the estimated fair value of the contingent put option liability was \$109,000. See Note 2 "Investments and Fair Value Measurement" for further description of the contingent put option liability.

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 September 30, 2012, the Company had outstanding borrowings under the Hercules loan and security agreement of \$17.7 million, net of debt discounts of \$0.6 million. Amortization of the debt discounts, which was recorded as Interest Expense, was \$134,000 and \$406,000 for the three and nine months ended September 30, 2012, respectively and \$126,000 for both the three and nine months ended September 30, 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 portions of the final payment and deferred financing costs were recorded to interest expense upon termination of the Pinnacle agreement.

#### **5. Stockholders' Equity**

##### ***2012 Private Placement Offering***

On June 1, 2012, or the Issuance Date, the Company issued an aggregate of 2,922,337 shares of common stock and warrants to purchase up to 2,630,103 shares of common stock, or the PIPE warrants, for aggregate gross proceeds of \$10.0 million, or the Private Placement. Costs related to the offering were \$0.9 million. The shares of common stock and PIPE warrants issued in the Private Placement were sold pursuant to a Securities Purchase Agreement, or Purchase Agreement, dated May 29, 2012, between the Company and certain purchasers, including certain entities affiliated with Mark Wan and Stephen J. Hoffman, members of the Company's board of directors. Pursuant to the Purchase Agreement, AcetRx sold shares of common stock and PIPE warrants to purchase common stock in immediately separable "Units," with each Unit consisting of (i) one share of common stock and (ii) a PIPE warrant to purchase 0.9 of a share of common stock. The per share exercise price of the PIPE warrants was \$3.40. The offering price per Unit was \$3.40 for non-affiliated investors, and \$3.5125 for affiliated investors, which equals the sum of (i) \$3.40, the closing consolidated bid price of our common stock on May 29, 2012, plus (ii) \$0.1125 (which is equal to \$0.125 per PIPE warrant share, multiplied by 0.9), for an aggregate amount of \$10.0 million. The PIPE warrants issued in the Private Placement become exercisable six months after the Issuance Date, and expire on the five year anniversary of the initial exercisability date.

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In connection with the Private Placement, the Company agreed to file a registration statement with the U.S. Securities and Exchange Commission, or SEC, registering for resale the shares of common stock and shares of common stock issuable upon exercise of the warrants sold in the Private Placement. The Company filed such registration statement with the SEC on June 21, 2012 and it was declared effective by the SEC on July 2, 2012.

### ***2012 ATM Agreement***

On August 31, 2012, the Company entered into an At Market Issuance Sales Agreement, or Sales Agreement, or ATM, with MLV & Co. LLC, or MLV, pursuant to which the Company may elect to issue and sell shares of its common stock having an aggregate offering price equal to the lesser of (i) the amount that the Company may continue to offer and sell under the eligibility requirements for use of Form S-3 (including, if applicable, Instruction I.B.6 thereof) or (ii) \$7,500,000. The Company is not obligated to make any sales of common stock under the Sales Agreement. Unless earlier terminated, the Sales Agreement will automatically terminate upon the earlier of (1) the sale of all common stock subject to the Sales Agreement or (2) August 31, 2015. The Company will pay MLV an aggregate commission rate equal to up to 3.0% of the gross proceeds for common stock sold through MLV under the Sales Agreement. The Company has also provided MLV with customary indemnification rights and expense reimbursements for up to \$25,000 of expenses. The Company did not sell any shares of common stock pursuant to the Purchase Agreement during the three and nine months ended September 30, 2012.

## **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, with an option for the holders of the 2010 Convertible Notes to purchase an additional \$4.0 million of the 2010 Convertible Notes. This option 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 outcomes 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. 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) during the nine months ended September 30, 2011. 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.

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.

## **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 September 30, 2012, warrants to purchase 3,425 shares of common stock had not been exercised and were outstanding. These warrants expire in March 2017.

### ***Series B and Series C Warrants***

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 with Pinnacle Ventures 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

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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 and the fair value was estimated to be \$894,000 as of the IPO date in February 2011.

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 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 nine months ended September 30, 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 September 30, 2012, warrants to purchase 228,264 shares of common stock had not been exercised and were 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 \$796,000 being recorded as a benefit through other income (expense), net during the nine months ended September 30, 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-pricing model. The Company also recorded fees paid to Hercules as a debt discount, which further reduced the carrying value of the loan. The debt discount is being amortized to interest expense.

As of September 30, 2012, warrants to purchase 274,508 shares of common stock issued to Hercules had not been exercised and were outstanding.

### ***2012 Private Placement Warrants***

In connection with the Private Placement, the Company issued PIPE warrants to purchase up to 2,630,103 shares of common stock. The per share exercise price of the PIPE warrants was \$3.40 which equals the closing consolidated bid price of the Company's common stock on May 29, 2012, the effective date of the Purchase Agreement. The PIPE warrants issued in the Private Placement become exercisable six months after the issuance date, and expire on the five year anniversary of the initial exercisability date. Under the terms of the PIPE warrants, upon certain transactions, including a merger, tender offer, sale of all or substantially all of the assets of the Company or if a person or group shall become the owner of 50% of the Company's issued and outstanding common stock, which is outside of the Company's control, each PIPE warrant holder may elect to receive a cash payment in exchange for the warrant, in an amount determined by application of the Black-Scholes option-pricing model. Accordingly, the PIPE warrants were recorded as a liability at fair value, as determined by the Black-Scholes option-pricing model, and then marked to fair value each reporting period, with changes in estimated fair value recorded through the Statement of Comprehensive Loss in other income or expense.

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Upon execution of the Purchase Agreement, the fair value of the PIPE warrants was estimated to be \$5.8 million, which was recorded as a liability. As of September 30, 2012, the fair value of the PIPE warrants was estimated to be \$5.3 million. The change in fair value for the three and nine months ended September 30, 2012, which was recorded as other income, was \$0.1 million and \$0.5 million, respectively.

As of September 30, 2012, PIPE warrants to purchase 2,630,103 shares of common stock issued in connection with the Private Placement had not been exercised and were outstanding.

## 8. Stock-Based Compensation

The Company recorded total stock-based compensation expense for stock options, stock awards and the 2011 Employee Stock Purchase Plan as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,		Period from July 13, 2005 (Inception) Through September 30, 2012
	2012	2011	2012	2011	
Expenses:					
Research and development	\$ 258	\$ 253	\$ 762	\$ 578	\$ 3,142
General and administrative	304	304	871	768	2,837
Total stock-based compensation expense	<u>\$ 562</u>	<u>\$ 557</u>	<u>\$ 1,633</u>	<u>\$ 1,346</u>	<u>\$ 5,979</u>

As of September 30, 2012 there were 866,969 shares available for future grant, 3,321,038 options outstanding and 161,096 restricted stock units outstanding under the Company's 2011 Equity Incentive Plan.

## 9. 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 three and nine months ended September 30, 2012 and 2011 (in thousands, except for share and per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2012	2011	2012	2011
Net loss	<u>\$ (8,582)</u>	<u>\$ (5,761)</u>	<u>\$ (22,841)</u>	<u>\$ (13,729)</u>
Shares used in computing net loss per share of common stock, basic and diluted	<u>22,632,573</u>	<u>19,458,640</u>	<u>20,961,886</u>	<u>16,594,051</u>
Net loss per share of common stock, basic and diluted	<u>\$ (0.38)</u>	<u>\$ (0.30)</u>	<u>\$ (1.09)</u>	<u>\$ (0.83)</u>

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:

	September 30,	
	2012	2011
Stock options to purchase common stock	3,321,038	2,395,968
Restricted stock units	161,096	257,868
Common stock warrants	3,136,300	506,197

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

*This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are subject to the "safe harbor" created by those sections. Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to them. In some cases you can identify forward-looking statements by words such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. Examples of these statements include, but are not limited to, statements regarding: the timing, release and implications of interim or final results of our clinical trials, the progress of our research programs, including clinical testing, the extent to which our issued and pending patents may protect our products and technology, our ability to identify new product candidates, the potential of such product candidates to lead to the development of commercial products, our anticipated timing for initiation or completion of our clinical trials for any of our product candidates, our future operating expenses, our future losses, our future expenditures for research and development, and the sufficiency of our cash resources. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in Part II, Item 1A of this Quarterly Report on Form 10-Q and our other filings with the SEC. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Quarterly Report on Form 10-Q. You should read this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from those we expect. Except as required by law, we assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise.*

*The following discussion and analysis should be read in conjunction with the unaudited financial statements and notes thereto included in Part I, Item 1 of this Quarterly Report on Form 10-Q and with the audited consolidated financial statements and related notes thereto included as part of our Annual Report on Form 10-K for the year ended December 31, 2011.*

### About AcelRx Pharmaceuticals

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. Our lead product candidate, the Sufentanil NanoTab PCA System, or ARX-01, is designed to improve the management of post-operative pain in patients in the hospital setting. Although widely used, the current standard of care for patients with post-operative pain, intravenous patient-controlled analgesia, or 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. We are conducting three Phase 3 trials for ARX-01. We completed enrollment of the final subject in our Phase 3 clinical trial comparing ARX-01 to IV PCA with morphine and we expect top-line data from this trial in November 2012. Top-line data from the other two Phase 3 trials are expected in the first quarter of 2013.

ARX-01 is designed to improve the management of post-operative pain in patients 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 Materiel 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 moderate-to-severe acute pain, and to prepare to enter Phase 3 development. Future development of ARX-02 and ARX-03 product candidates is contingent upon obtaining additional funding or establishing corporate partnerships.

We have established and continue to build proprietary positions for our product candidates and related technology in the United States and abroad. We continue to seek and expand our patent protection for both compositions of matter and delivery devices, as well as methods of treatment related to our 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.

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.

## Product Development Update

### *ARX-01*

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

- In April 2012, we initiated a Phase 3 open-label active-comparator study comparing ARX-01 to the current standard of care, IV PCA morphine, in patients with post-operative pain following open-abdominal surgery or major orthopedic surgery. We completed enrollment of the final subject for this trial and expect top-line data in November 2012; and
- In March 2012, we initiated a Phase 3 double-blind, placebo-controlled efficacy and safety trial of patients with post-operative pain following open-abdominal surgery. We expect top-line data for this trial in the first quarter of 2013;
- In August 2012, we initiated our third planned Phase 3 clinical trial, a double-blind, placebo-controlled efficacy and safety study of patients with post-operative pain following hip and knee replacement surgeries. We expect top-line data for this trial in the first quarter of 2013.

### *ARX-04*

ARX-04 is our product candidate for management of moderate-to-severe acute pain. In November 2012, following approval from the USAMRMC, we initiated a Phase 2 dose-finding clinical trial for ARX-04. The Phase 2 trial is a multicenter, double-blind, placebo-controlled efficacy and safety trial in patients with post-operative pain following bunionectomy surgery.

## 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 private placements of convertible preferred stock, proceeds from our initial public offering, or IPO, proceeds from our recent private placement equity offering and proceeds received from our debt financings. We will need to raise additional capital to fund our operations, including product candidate development activities. Additional capital may not be available on 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.

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 \$1.8 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 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 \$22.8 million for the nine months ended September 30, 2012 and \$20.1 million during the year ended December 31, 2011. As of September 30, 2012, we had cash, cash equivalents and investments totaling \$23.4 million compared to \$35.8 million as of December 31, 2011. As of September 30, 2012, we had an accumulated deficit of \$111.5 million.

On June 1, 2012, we issued an aggregate of 2,922,337 shares of common stock and warrants to purchase up to 2,630,103 shares of common stock, or the PIPE warrants, for aggregate gross proceeds of \$10.0 million, in a private placement equity offering, or the Private Placement. On August 31, 2012, we entered into At Market Issuance Sales Agreement, or the Sales Agreement, with MLV & Co. LLC, or MLV, pursuant to which we may elect to issue and sell shares of our common stock having an aggregate offering price of the lesser of (i) an amount we can continue to offer and sell under the eligibility requirements of the Form S-3 and (ii) \$7.5 million, from time to time through MLV as our sales agent. We are not obligated to make any sales of common stock under the Sales Agreement and, to date, we have not sold any common stock pursuant to this agreement.

We believe that our current cash, cash equivalents and investments will be sufficient to fund the Company's current operations into the second quarter of 2013, including support for the continuing development of our lead product candidate, ARX-01. We will need to raise additional funding or otherwise enter into collaborations to fund future operations. If we are unable to raise additional capital to fund our operations, we may not be able to complete our final planned ARX-01 Phase 3 study, which we initiated in August 2012, and will need to curtail planned activities to reduce costs. Doing so may affect our ability to operate effectively. See "Liquidity and Capital Resources" for additional discussion.

## **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. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected. Our critical accounting policies and estimates are detailed in our Annual Report on Form 10-K for the year ended December 31, 2011. There have been no significant changes in our critical accounting policies and estimates during the nine months ended September 30, 2012 from those previously disclosed in our Annual Report on Form 10-K.

## **Results of Operations**

### ***Comparison of Three and Nine Months Ended September 30, 2012 and 2011***

#### *Revenue*

To date, we have not generated any revenue from commercial sales. We do not expect to receive any such revenue from any product candidate 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 from the grant award for the three and nine months ended September 30, 2012 was \$0.2 million and \$0.7 million, respectively, compared to \$0.4 million and \$0.4 million for the three and nine months ended September 30, 2011. From inception of the grant through September 30, 2012, we have generated grant revenue of \$1.8 million.

#### *Research and Development Expenses*

Conducting research and development is central to our business model. The majority of our operating expenses in 2012 and 2011 have been for research and development activities related to ARX-01. 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
- 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.

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We track external development expenses on a program-by-program basis. Our internal 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 three and nine months ended September 30, 2012 and 2011 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2012	2011	2012	2011
ARX-01	\$5,546	\$2,566	\$12,354	\$4,942
ARX-04	86	168	380	182
Overhead	1,316	1,213	4,379	3,798
Total research and development expenses	<u>\$6,948</u>	<u>\$3,947</u>	<u>\$17,113</u>	<u>\$8,922</u>

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 increase as we progress with our ARX-01 Phase 3 clinical trials, and subject to additional funding, complete all the requisite preparatory activities to submit a new drug application, or NDA, to the FDA. Additionally, our research and development expenses will increase as we conduct the ARX-04 Phase 2 clinical trial.

Total research and development expenses for the three and nine months ended September 30, 2012 and 2011 were as follows (in thousands, except percentages):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2012	2011	Change	%	2012	2011	Change	%
Research and development expenses	\$6,948	\$3,947	\$3,001	76%	\$17,113	\$8,922	\$8,191	92%

The \$3.0 million increase during the three months ended September 30, 2012 as compared to the three months ended September 30, 2011 was primarily attributable to an increase of \$3.0 million related to Phase 3 clinical trial development for our ARX-01 program. We are conducting three ARX-01 Phase 3 trials, all of which were initiated in 2012.

The \$8.2 million increase during the nine months ended September 30, 2012 as compared to the nine months ended September 30, 2011 was primarily attributable to an increase of \$7.4 million related to Phase 3 clinical trial development for our ARX-01 program. In addition, there was an increase of \$0.2 million related to our ARX-04 development program, which we initiated in the second quarter of 2011. There were also increases in personnel-related expenses, including stock-based compensation of \$0.2 million and in allocated overhead expenses of \$0.3 million.

### *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 as we continue to build our corporate infrastructure in support of continued development of our product candidates.

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Total general and administrative expenses for the three and nine months ended September 30, 2012 and 2011 were as follows (in thousands, except percentages):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2012	2011	Change	%	2012	2011	Change	%
General and administrative	\$1,410	\$1,866	\$(456)	(24)%	\$5,290	\$5,086	\$ 204	4%

The \$0.5 million decrease during the three months ended September 30, 2012 as compared to the three months ended September 30, 2011 was primarily due to decreases in personnel related expenses, including consulting, of \$0.2 million, and decreases in marketing research efforts associated with ARX-01 of \$0.1 million and legal expenses, including patent prosecution, of \$0.1 million.

There were no significant changes in general and administrative related expenses during the nine months ended September 30, 2012 as compared to the nine months ended September 30, 2011.

#### *Interest Expense*

Total interest expense for the three and nine months ended September 30, 2012 and 2011 was as follows (in thousands, except percentages):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2012	2011	Change	%	2012	2011	Change	%
Interest expense	\$573	\$377	\$196	52%	\$1,765	\$1,891	\$(126)	(7)%

The \$0.2 million increase in interest expense was due to a higher average debt balance during the three months ended September 30, 2012 as compared to the three months ended September 30, 2011. During both periods we incurred interest expense related to our \$20.0 million loan and security agreement with Hercules Technology II, L.P. and Hercules Technology Growth Capital, Inc., collectively referred to as Hercules, which we entered into on June 29, 2011. We borrowed \$20.0 million in two tranches of \$10.0 million; \$10.0 million was borrowed upon execution of the agreement in June 2011 and the second \$10.0 million was borrowed in December 2011.

The \$0.1 million decrease in interest expense during the nine months ended September 30, 2012 as compared to the nine months ended September 30, 2011 was primarily attributable to interest and the debt discount amortization recorded during the nine months ended September 30, 2011 related to convertible promissory notes issued in September 2010 which converted immediately prior to the IPO in February 2011. While the average debt balance during the nine months ended September 30, 2012 was higher than during the same period in 2011, the nine months ended September 30, 2011 included a \$1.1 million charge to interest expense related to the unamortized debt discounts associated with the conversion of the aforementioned promissory notes.

#### *Interest Income and Other Income (Expense), net*

Total interest income and other income (expense), net for the three and nine months ended September 30, 2012 and 2011 was as follows (in thousands, except percentages):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2012	2011	Change	%	2012	2011	Change	%
Interest Income and Other Income (Expense), net.	\$183	\$21	\$162	771%	\$608	\$1,722	\$(1,114)	(65)%

The \$0.2 million increase in interest income and other income (expense) during the three months ended September 30, 2012 as compared to the three months ended September 30, 2011 was primarily due to the decrease in estimated fair value of the PIPE warrants issued in connection with our Private Placement, completed in June 2012. A decrease in the estimated fair value of the PIPE warrants is recorded as other income.

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The \$1.1 million decrease in interest income and other income (expense) during the nine months ended September 30, 2012 as compared to the nine months ended September 30, 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. 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.

Interest income and other income (expense) during the nine months ended September 30, 2012 primarily reflects the decrease in estimated fair value of the PIPE warrants issued in connection with our Private Placement and the decrease in estimated fair value of the contingent put option liability associated with our loan and security agreement with Hercules.

## 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 September 30, 2012, we have received net proceeds of \$54.9 million from the sale of convertible preferred stock, \$9.1 million from our Private Placement, \$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.

On August 31, 2012, we entered into the Sales Agreement with MLV which provides that, upon the terms and subject to the conditions and limitations set forth in the agreement, we may elect to issue and sell shares of our common stock having an aggregate offering price of the lesser of (i) an amount we can continue to offer and sell under the eligibility requirements of the Form S-3 and (ii) \$7.5 million, from time to time through MLV as our sales agent. The issuance and sale of shares by us under the Sales Agreement with MLV, if any, are subject to the continued effectiveness of our registration statement on Form S-3, which was declared effective by the SEC on August 31, 2012. We are not obligated to make any sales of common stock under the Sales Agreement. The offering of shares of our common stock pursuant to the Sales Agreement will terminate upon the earlier of (1) the sale of all common stock subject to the Sales Agreement, (2) August 31, 2015 and (3) the termination of the Sales Agreement. To date, we have not sold any common stock pursuant to the Sales Agreement.

As of September 30, 2012, we had cash, cash equivalents and investments totaling \$23.4 million compared to \$35.8 million as of December 31, 2011. The decrease was primarily attributable to capital required to fund our continuing operations, including advancement of our lead product candidate, ARX-01, partially offset by proceeds from our Private Placement, which we completed in June 2012. Our most significant use of capital pertains to salaries and benefits for our employees and clinical trial expenses related to our development programs.

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

The following is summary of our cash flows for the periods indicated and has been derived from our condensed financial statements which are included elsewhere in this Form 10-Q (in thousands):

	Nine Months Ended	
	September 30,	
	2012	2011
Net cash used in operating activities	\$(18,783)	\$(9,296)
Net cash provided by (used in) investing activities	7,276	(31,541)
Net cash provided by financing activities	7,434	39,607

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*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.

Cash used in operating activities of \$18.8 million during the nine months ended September 30, 2012 primarily reflected a net loss of \$22.8 million, partially offset by a net change of \$1.7 million in our operating assets and liabilities primarily related to accounts payable. In addition, we had non-cash charges of \$1.6 million in stock-based compensation and \$0.5 million for interest on our debt, partially offset by \$0.6 million of non-cash benefits primarily related to the revaluation of the PIPE warrants.

Cash used in operating activities for the nine months ended September 30, 2011 primarily reflects the net loss for the period, partially offset by a net change of \$2.7 million in our operating assets and liabilities primarily related to accounts payable and accrued liabilities. In addition, we had non-cash charges of \$1.5 million for interest on our debt and \$1.3 million in stock-based compensation, which were offset by \$1.7 million of non-cash benefits for the revaluation of the warrant liability and the write off of the call option liability.

*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 nine months ended September 30, 2012, cash provided by investing activities of \$7.3 million was primarily a result of \$31.5 million in proceeds from maturity of investments, partially offset by \$23.5 million for purchases of investments.

During the nine months ended September 30, 2011, cash used in investing activities of \$31.5 million was primarily a result of \$33.3 million used for purchases of investments and \$1.8 million for purchases of property and equipment, partially offset by \$3.5 million in proceeds from maturity of 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 September 30, 2012, we had outstanding debt of \$17.7 million, net of debt discounts of \$0.6 million.

During the nine months ended September 30, 2012, cash provided by financing activities was primarily a result of the Private Placement, pursuant to which, on June 1, 2012, we issued an aggregate of 2,922,337 shares of common stock and PIPE warrants to purchase up to 2,630,103 shares of common stock for net proceeds of \$9.1 million. These proceeds were partially offset by payments of long-term debt of \$1.8 million related to our loan and security agreement with Hercules.

During the nine months ended September 30, 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, proceeds of \$9.8 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.

*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 and clinical trial activities. We believe that our available cash resources and funding from the USAMRMC grant, will support our currently planned operations into the second quarter of 2013, including support for our continuing development of our product candidates. Future capital requirements will be substantial and we will need to raise additional capital to fund our operations, including product candidate development activities. If we are unable to raise additional capital to fund our operations, we may not be able to complete our final planned ARX-01 Phase 3 study, which we initiated in August 2012, and will need to curtail planned clinical activities to reduce costs. Doing so may affect our ability to operate effectively. 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 on 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.

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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;
- 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.

We expect to satisfy our future cash needs through our public or private equity offerings, including our Sales Agreement with MLV, debt financings or corporate collaboration and licensing arrangements. We cannot be certain that additional funding of any kind will be available on acceptable terms, or at all. The sale of additional equity or convertible debt securities could result in significant dilution to our stockholders. If additional funds are raised through the issuance of debt securities, these securities could have rights senior to those associated with our common stock and could contain covenants that would restrict our operations. Any product development, licensing, distribution or sale agreements that we enter into may require us to relinquish valuable rights, including with respect to our product candidates that we would otherwise seek to commercialize or develop ourselves. If adequate funds are not available, we would be required to reduce our workforce, delay, reduce the scope of one or more of our research and development programs in advance of the date on which we exhaust our cash resources to ensure that we have sufficient capital to meet our obligations and continue on a path designed to preserve stockholder value.

#### **Off-Balance Sheet Arrangements**

Through September 30, 2012, we have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

#### **Item 3. 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.

During the nine months ended September 30, 2012, our market risks have not changed materially from those discussed in Item 7A of our Form 10-K for the year ended December 31, 2011 filed with the SEC.

#### **Item 4. Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the rules and regulations thereunder, is recorded, processed, summarized and reported within the time periods specified in the U.S. Securities and Exchange Commission's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

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*Evaluation of disclosure controls and procedures.* As required by Rule 13a-15(b) under the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

*Changes in internal control over financial reporting.* There have been no changes in our internal control over financial reporting during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## **PART II. OTHER INFORMATION**

### **Item 1. 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 1A. Risk Factors**

*This Quarterly Report on Form 10-Q 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. You should carefully consider these risk factors, together with all of the other information included in this Quarterly Report on Form 10-Q as well as our other publicly available filings with the U.S. Securities and Exchange Commission, or SEC.*

*We have marked with an asterisk (\*) those risks described below that reflect substantive changes from, or additions to, the risks described in our Annual Report on Form 10-K for the year ended December 31, 2011.*

### **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 September 30, 2012, we had an accumulated deficit of \$111.5 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 Materiel Command for

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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, which will require additional funding;
- launching and commercializing ARX-01, including building a hospital-directed sales force in the U.S. and collaborating with third parties internationally, which will require additional funding; 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.

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.

***We require substantial additional capital and may be unable to raise capital, which would force us to delay, reduce or eliminate our product development programs and could cause us to cease operations. We cannot be certain that funds will be available and, if they are not available, we may not be able to continue as a going concern which may result in actions that could adversely impact our stockholders . \****

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 our Phase 3 ARX-01 studies. As of September 30, 2012, we had working capital of \$13.1 million.

We believe that our current cash, cash equivalents and investments will be sufficient to fund our current operations into the second quarter of 2013, including support for continuing development of our lead product candidate, ARX-01. We would be able to extend this time period to the extent that we can access additional capital through equity offerings, including our Sales Agreement with MLV. However, 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, based on our current estimates of clinical trial expenditures and enrollment pace, and to commence preparation of a New Drug Application, or NDA. 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. To raise capital, we may seek to sell additional equity or debt securities, obtain a credit facility or enter into product development, license or distribution agreements with third parties or divest one or more of our product candidates. Any product development, licensing, distribution or sale agreements that we enter into may require us to relinquish valuable rights. We may not be able to obtain sufficient additional funding or enter into a strategic transaction in a timely manner.

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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 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.

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 through the second quarter of 2013 and beyond, complete the final planned ARX-01 Phase 3 study, complete the development activities required to submit a NDA to the FDA, nor pursue commercialization efforts, all of which would have a material adverse effect on our business, operating results and prospects. If adequate funds are not available, we would be required to reduce our workforce, delay, reduce the scope of or eliminate one or more of our research and development programs in advance of the date on which we exhaust our cash resources to ensure that we have sufficient capital to meet our obligations and continue on a path designed to preserve stockholder value.

***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, including under our Sales Agreement with MLV, 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 borrowed \$20.0 million in two tranches of \$10.0 million each, represented by secured convertible term promissory notes. The interest rate is 8.50%, with the initial 12 months of the facility requiring interest only payments. The notes issued pursuant to the loan and security agreement mature on December 1, 2014. Since entering into the agreement with Hercules, we have been making monthly interest-only payments to Hercules of approximately \$140,000 per month until June 30, 2012. According to the terms of the Hercules agreement, on July 1, 2012, we began repaying Hercules principal, with equal monthly payments of \$742,000, consisting of both principal and interest payments. As of September 30, 2012, the outstanding principal owed to Hercules was \$18.2 million. We granted 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. In order to continue our planned operations and satisfy our debt obligations with Hercules, we will need to raise additional capital in the future. Additional capital may not be available in terms acceptable to us, or at all. 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. We believe our existing capital resources will be adequate to support operations into the second quarter of 2013 and will be adequate to complete all three ARX-01 Phase 3 clinical trials based on our current estimates of clinical trial expenditures and enrollment pace. However, if our estimates are not accurate or additional funds are not available to support our operations through and beyond the second quarter of 2013, we would be required to delay our final Phase 3 clinical study in advance of the date on which we exhaust our cash resources to ensure that we have sufficient capital to meet our obligations and continue on a path designed to preserve stockholder value.

Contingent on our ability to raise additional funding, we intend to use these completed trials, if successful, as a basis to submit an NDA for ARX-01 in the third quarter of 2013. There is no guarantee that our Phase 3 clinical trials, or any of the remaining Human Factors studies, pharmacokinetic studies, or PK studies, or non-clinical studies to be included in the NDA, will be completed on schedule or at all, or if completed, will be successful. Even after we submit an NDA, the FDA could require us to complete further studies and delay approval of the NDA. Any such additional studies would require significant additional resources and would have a material adverse effect on our business.

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 all required Phase 3 clinical trials. Negative or inconclusive results of a Phase 3 clinical trial 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 as our product candidates are tested in a larger number of patients in our Phase 3 clinical trials, and results in one of our Phase 3 trials do not guarantee similar results in any other Phase 3 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 are currently conducting three Phase 3 studies for ARX-01 and we initiated a Phase 2 study for ARX-04 in November 2012. Our 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;
- 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 completion of the ongoing 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 for 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 our ARX-01 Phase 2 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 to be presented to the FDA through the Center for Drug Evaluation and Research. 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 combination product approval under an NDA.

***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 or the European Medicines Agency, or EMA, 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.

***The process for obtaining approval of an NDA is time consuming, subject to unanticipated delays and costs, and requires the commitment of substantial resources. \****

If the FDA determines that the clinical trials submitted for a product candidate in support of an NDA were not conducted in full compliance with the applicable protocols for these studies, as well as with applicable regulations and standards, or if the

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FDA does not agree with our interpretation of the results of such studies, the FDA may reject the data that resulted from such studies. The rejection of data from clinical trials required to support an NDA could negatively impact our ability to obtain marketing authorization for a product candidate and would have a material adverse effect on our business and financial condition.

In addition, an NDA may not be approved, or approval may be delayed, as a result of changes in FDA policies for drug approval during the review period. For example, although many products have been approved by the FDA in recent years under Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act, or FDCA, objections have been raised to the FDA's interpretation of Section 505(b)(2). If challenges to the FDA's interpretation of Section 505(b)(2) are successful, the FDA may be required to change its interpretation, which could delay or prevent the approval of such an NDA. Any significant delay in the review or approval of an NDA that we submit would have a material adverse effect on our business and financial condition.

***Regulatory authorities may not approve our product candidates even if they meet safety and efficacy endpoints in clinical trials.\****

The FDA and other foreign regulatory agencies, such as the EMA, can delay, limit or deny marketing approval for many reasons, including:

- a product candidate may not be considered safe or effective;
- the manufacturing processes or facilities we have selected may not meet the applicable requirements; and
- changes in their approval policies or adoption of new regulations may require additional work on our part.

Part of the regulatory approval process includes compliance inspections of manufacturing facilities to ensure adherence to applicable regulations and guidelines. The regulatory agency may delay, limit or deny marketing approval of our product candidates as a result of such inspections.

Any delay in, or failure to receive or maintain, approval for any of our product candidates could prevent us from generating meaningful revenues or achieving profitability.

Our product candidates may not be approved even if they achieve their endpoints in clinical trials. Regulatory agencies, including the FDA, or their advisors may disagree with our trial design and our interpretations of data from preclinical studies and clinical trials. Regulatory agencies may change requirements for approval even after a clinical trial design has been approved. The FDA exercises significant discretion over the regulation of combination products, including the discretion to require separate marketing applications for the drug and device components in a combination product. To date, our products are being regulated as drug products under the new drug application process administered by the FDA. The FDA could in the future require additional regulation of our products under the medical device provisions of the FDCA. Our systems are designed to comply with Quality Systems Regulation, or QSR, which sets forth the FDA's current good manufacturing practice requirements for medical devices, and other applicable government regulations and corresponding foreign standards. If we fail to comply with these regulations, it could have a material adverse effect on our business and financial condition.

Regulatory agencies also may approve a product candidate for fewer or more limited indications than requested or may grant approval subject to the performance of post-marketing studies. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates.

***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. In addition, we will continue to be subject to FDA and foreign regulatory authority review and periodic inspections to ensure adherence to applicable regulations. 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.

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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.

***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 or regions regarding safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries or regions, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country or region. 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;

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- 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;
- a failure to comply with the Drug Enforcement Administration, or DEA, regulations;
- 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;
- 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.

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***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 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 commercial supplies out of this facility and issues may arise in production at 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 more summative Human Factors studies prior to submitting the NDA. However, we cannot predict if the Phase 3 device will be fully functional or acceptable throughout all the Phase 3 clinical trials or for commercial use. If we need to modify the Phase 3 device either during or after the 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 our Phase 3 clinical studies. We continue to rely on contract manufacturers, component fabricators and secondary service providers to produce the necessary ARX-01 devices for the 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.

***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 three 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

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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 Materiel Command, or USAMRMC.***

In May 2011, we received a grant from the USAMRMC, effective June 1, 2011, in which the USAMRMC granted a \$5.6 million award 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 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 May 31, 2013, with a final report due on June 30, 2013. The grant gives the USAMRMC the option to extend the term of the grant and provide additional funding for the research. In November 2012, following approval from the USAMRMC, we initiated a Phase 2 dose-finding clinical trial for ARX-04.

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. 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.

USAMRMC may fail to perform their responsibilities under the agreement, which may result in termination of the agreement. 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, nurses, patients and pharmacy and therapeutics committees.*

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, nurses, patients and pharmacy and therapeutics committees, or P&T Committees, 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.

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 new funding 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

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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
- 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 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. The fentanyl iontophoretic transdermal system, IONSYS, originally developed by ALZA Corporation and Ortho-McNeil Pharmaceutical, Inc., both Johnson & Johnson subsidiaries, is an approved product, and is currently under development by Incline Therapeutics, 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.

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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 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.

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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 will need significantly greater amounts of sufentanil to 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. However, there can be no assurance that the commercial production technology transfer process will be completed in a timely manner which could result in a delay in product launch.

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.

***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 September 30, 2012, we had 23 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;
- 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**

### ***If our pending patent applications fail to issue, our business could 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 October 1, 2012, we are the owner of record of one issued European patent which expires in 2027, one Mexican patent which expires in 2029, five issued U.S. patents which provide coverage through at least 2027, and we are pursuing 15 U.S. non-provisional patent applications, one pending international Patent Cooperation Treaty applications and 59 foreign national applications, including seven 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.

There is also no assurance that any patents issued to us will not become the subject of a re-examination, will provide us with competitive advantages, will not be challenged by any third parties, or that the patents of others will not prevent the commercialization of products incorporating our technology. Furthermore, there can be no guarantee that others will not independently develop similar products, duplicate any of our products, or design around our patents.

### ***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.

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. Many of the substantive changes to patent law associated with the Leahy-Smith Act will not become effective until March 16, 2013. Accordingly, it is not yet 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.

Competitors or third parties may infringe our patents. We may be required to file patent infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, or that the third party's technology does not in fact infringe upon our patents. An adverse determination of any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our related pending patent applications at risk of not issuing. Litigation may fail and, even if successful, may result in substantial costs and be a distraction to our management. We may not be able to prevent misappropriation of our proprietary rights, particularly in countries outside the United States where patent rights may be more difficult to enforce. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential or sensitive information could be compromised by disclosure in the event of litigation. In addition, during the course of litigation there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

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;
- 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 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 the United States, Canada, the European Union and India. We have also registered our NANOTAB mark in the United States, Hong Kong and Singapore, and our “ACCELERATE, INNOVATE, ALLEVIATE,” mark 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 submit an NDA;
- any delay in submitting an NDA for any of our product candidates, including ARX-01, 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;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;

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- 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 third quarter of 2012 was approximately 37,000 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 75% of our outstanding voting stock as of October 1, 2012. 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 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. However, our independent registered public accounting firm is not currently required to deliver an attestation report on the effectiveness of our internal control over financial reporting as we qualify for an exemption as a non-accelerated filer under the applicable SEC rules and regulations.

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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 stockholders. 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 September 30, 2012, we had 22.6 million shares of common stock outstanding, all of which are 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. Sales of stock by our 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. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction 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.

***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, including pursuant to our Sales Agreement with MLV, 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

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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;
- 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 2. Unregistered Sales of Equity Securities and 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. All of the proceeds from the offering were used to fund our clinical development and general working capital requirements.

## **Item 3. Defaults Upon Senior Securities**

None.

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

Not applicable.

## **Item 5. Other Information**

None.

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**Item 6. Exhibits**

<u>Exhibit Number</u>	<u>Description of the Document</u>
3.1	Amended and Restated Certificate of Incorporation of the Registrant, currently in effect. <sup>(1)</sup>
3.2	Bylaws of the Registrant, currently in effect. <sup>(2)</sup>
4.1	Reference is made to Exhibits 3.1 through 3.2.
4.2	Specimen Common Stock Certificate of the Registrant. <sup>(3)</sup>
4.3	Amended and Restated Investor's Rights Agreement, among the Registrant and certain of its security holders, dated as of November 23, 2009. <sup>(4)</sup>
4.4	Warrant to Purchase Stock of the Registrant, issued to Wells Fargo Bank, N.A., dated March 15, 2007. <sup>(5)</sup>
4.5	Warrant to Purchase Preferred Stock of the Registrant, issued to Pinnacle Ventures II Equity Holdings, L.L.C., dated September 16, 2008. <sup>(6)</sup>
4.6	Warrant to Purchase Stock issued to Hercules Technology II, L.P., dated as of June 29, 2011. <sup>(7)</sup>
4.7	Warrant to Purchase Stock issued to Hercules Technology Growth Capital, Inc., dated as of June 29, 2011. <sup>(8)</sup>
4.8	Form of Warrant issued to certain purchasers pursuant to the Securities Purchase Agreement dated May 29, 2012, between the Registrant and the purchasers identified therein. <sup>(9)</sup>
10.24	At Market Issuance Sales Agreement, dated August 31, 2012, by and between the Registrant and MLV & Co. LLC. <sup>(10)</sup>
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.LAB	XBRL Taxonomy Extension Label Linkbase Document **
101.PRE	XBRL Taxonomy Extension Presentation Document **

<sup>(1)</sup> 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.

<sup>(2)</sup> 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.

<sup>(3)</sup> 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.

<sup>(4)</sup> 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.

<sup>(5)</sup> 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.

<sup>(6)</sup> 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.

<sup>(7)</sup> 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.

<sup>(8)</sup> 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.

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- <sup>(9)</sup> Incorporated herein by reference to Exhibit 4.8 to the Registrant's current report on Form 8-K (File No. 001-35068), as filed with the SEC on May 30, 2012.
- <sup>(10)</sup> 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 August 31, 2012.
- \* The certifications attached as Exhibit 32.1 accompany this Quarterly Report on Form 10-Q 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.
- \*\* Pursuant to applicable securities laws and regulations, we are deemed to have complied with the reporting obligation relating to the submission of interactive data files in such exhibits and are not subject to liability under any anti-fraud provisions of the federal securities laws as long as we have made a good faith attempt to comply with the submission requirements and promptly amend the interactive data files after becoming aware that the interactive data files fail to comply with the submission requirements. In accordance with Rule 406T of Regulation S-T, the information in these exhibits is furnished and deemed not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of Section 18 of the Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such filing.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: November 6, 2012

**AcelRx Pharmaceuticals, Inc.**  
(Registrant)

/s/ James H. Welch

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James H. Welch  
Chief Financial Officer  
(Duly Authorized and Principal Financial and Accounting Officer)

**EXHIBIT INDEX**

<u>Exhibit Number</u>	<u>Description of the Document</u>
3.1	Amended and Restated Certificate of Incorporation of the Registrant, currently in effect. <sup>(1)</sup>
3.2	Bylaws of the Registrant, currently in effect. <sup>(2)</sup>
4.1	Reference is made to Exhibits 3.1 through 3.2.
4.2	Specimen Common Stock Certificate of the Registrant. <sup>(3)</sup>
4.3	Amended and Restated Investor's Rights Agreement, among the Registrant and certain of its security holders, dated as of November 23, 2009. <sup>(4)</sup>
4.4	Warrant to Purchase Stock of the Registrant, issued to Wells Fargo Bank, N.A., dated March 15, 2007. <sup>(5)</sup>
4.5	Warrant to Purchase Preferred Stock of the Registrant, issued to Pinnacle Ventures II Equity Holdings, L.L.C., dated September 16, 2008. <sup>(6)</sup>
4.6	Warrant to Purchase Stock issued to Hercules Technology II, L.P., dated as of June 29, 2011. <sup>(7)</sup>
4.7	Warrant to Purchase Stock issued to Hercules Technology Growth Capital, Inc., dated as of June 29, 2011. <sup>(8)</sup>
4.8	Form of Warrant issued to certain purchasers pursuant to the Securities Purchase Agreement dated May 29, 2012, between the Registrant and the purchasers identified therein. <sup>(9)</sup>
10.24	At Market Issuance Sales Agreement, dated August 31, 2012, by and between the Registrant and MLV & Co. LLC. <sup>(10)</sup>
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.LAB	XBRL Taxonomy Extension Label Linkbase Document **
101.PRE	XBRL Taxonomy Extension Presentation Document **

<sup>(1)</sup> 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.

<sup>(2)</sup> 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.

<sup>(3)</sup> 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.

<sup>(4)</sup> 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.

<sup>(5)</sup> 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.

<sup>(6)</sup> 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.

<sup>(7)</sup> 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.

<sup>(8)</sup> 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.

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- <sup>(9)</sup> Incorporated herein by reference to Exhibit 4.8 to the Registrant's current report on Form 8-K (File No. 001-35068), as filed with the SEC on May 30, 2012.
- <sup>(10)</sup> 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 August 31, 2012.
- \* The certifications attached as Exhibit 32.1 accompany this Quarterly Report on Form 10-Q 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.
- \*\* Pursuant to applicable securities laws and regulations, we are deemed to have complied with the reporting obligation relating to the submission of interactive data files in such exhibits and are not subject to liability under any anti-fraud provisions of the federal securities laws as long as we have made a good faith attempt to comply with the submission requirements and promptly amend the interactive data files after becoming aware that the interactive data files fail to comply with the submission requirements. In accordance with Rule 406T of Regulation S-T, the information in these exhibits is furnished and deemed not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of Section 18 of the Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such filing.

## CERTIFICATIONS

I, Richard A. King, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AcetRx Pharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 6, 2012

/s/ Richard A. King  
Richard A. King  
Chief Executive Officer and Director  
(Principal Executive Officer)

## CERTIFICATIONS

I, James H. Welch, certify that:

1. I have reviewed this quarterly report on Form 10-Q of AcelRx Pharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 6, 2012

/s/ James H. Welch

James H. Welch  
Chief Financial Officer  
(Principal Financial Officer)

CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Richard A. King, Chief Executive Officer of AcetRx Pharmaceuticals, Inc. (the "Company"), and James H. Welch, Chief Financial Officer of the Company, each hereby certifies that, to the best of his or her knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended September 30, 2012, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act, and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

**In Witness Whereof**, the undersigned have set their hands hereto as of the 6th day of November, 2012.

/s/ Richard A. King

Richard A. King  
Chief Executive Officer

/s/ James H. Welch

James H. Welch  
Chief Financial Officer

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of AcetRx Pharmaceuticals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

