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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2011

OR

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

For the transition period from _____ to _____

Commission File Number 001-32157

ADVENTRX Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

84-1318182

(I.R.S. Employer Identification No.)

12390 El Camino Real, Suite 150, San Diego, CA

(Address of principal executive offices)

92130

(Zip Code)

(858) 552-0866

(Registrant's telephone number, including area code)

N/A

(Former name, former address and former fiscal year, if changed since last report)

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.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

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

The number of shares outstanding of the registrant's common stock, \$0.001 par value per share, as of May 5, 2011 was 26,465,709.

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PART I — FINANCIAL INFORMATION**Item 1. Financial Statements****ADVENTRX Pharmaceuticals, Inc. and Subsidiaries**
(A Development Stage Enterprise)
Condensed Consolidated Balance Sheets

	March 31, 2011	December 31, 2010
	<u>(Unaudited)</u>	
Assets		
Current assets:		
Cash	\$ 46,552,168	\$ 27,978,823
Interest and other receivables	135	1,980
Prepaid expenses	<u>334,019</u>	<u>428,276</u>
Total current assets	46,886,322	28,409,079
Property and equipment, net	39,580	44,254
Other assets	<u>31,262</u>	<u>33,484</u>
Total assets	<u>\$ 46,957,164</u>	<u>\$ 28,486,817</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 898,008	\$ 479,780
Accrued liabilities	963,494	864,857
Accrued compensation and payroll taxes	<u>272,035</u>	<u>456,839</u>
Total current liabilities	<u>2,133,537</u>	<u>1,801,476</u>
Stockholders' equity:		
Common stock, \$0.001 par value; 500,000,000 shares authorized; 23,664,858 and 15,480,302 shares issued and outstanding at March 31, 2011 and December 31, 2010, respectively	23,665	15,480
Additional paid-in capital	203,885,522	182,798,982
Deficit accumulated during the development stage	<u>(159,085,560)</u>	<u>(156,129,121)</u>
Total stockholders' equity	<u>44,823,627</u>	<u>26,685,341</u>
Total liabilities and stockholders' equity	<u>\$ 46,957,164</u>	<u>\$ 28,486,817</u>

Note: The balance sheet at December 31, 2010 has been derived from audited financial statements at that date. It does not include, however, all of the information and notes required by accounting principles generally accepted in the United States of America for complete financial statements.

See accompanying notes to unaudited condensed consolidated financial statements.

ADVENTRX Pharmaceuticals, Inc. and Subsidiaries
(A Development Stage Enterprise)
Condensed Consolidated Statements of Operations
(Unaudited)

	Three months ended March 31,		Inception (June 12, 1996) through March 31, 2011
	2011	2010	
Revenues:			
Net sales	\$ —	\$ —	\$ 174,830
Licensing revenue	—	—	1,300,000
Grant revenue	—	—	618,692
Total net revenues	<u>—</u>	<u>—</u>	<u>2,093,522</u>
Cost of goods sold	<u>—</u>	<u>—</u>	<u>51,094</u>
Gross margin	<u>—</u>	<u>—</u>	<u>2,042,428</u>
Operating expenses:			
Research and development	611,293	1,239,329	72,822,260
Selling, general and administrative	1,573,746	1,174,676	54,530,960
Transaction-related expenses	799,505	—	1,129,874
Depreciation and amortization	9,871	5,880	10,907,489
In-process research and development	—	—	10,422,130
Impairment loss — write off of goodwill	—	—	5,702,130
Equity in loss of investee	—	—	178,936
Total operating expenses	<u>2,994,415</u>	<u>2,419,885</u>	<u>155,693,779</u>
Loss from operations	(2,994,415)	(2,419,885)	(153,651,351)
Loss on fair value of warrants	—	—	(12,239,688)
Interest income	32,871	18,440	4,714,932
Interest expense	—	(1,629)	(180,719)
Other income	5,105	—	68,480
Loss before cumulative effect of change in accounting principle	<u>(2,956,439)</u>	<u>(2,403,074)</u>	<u>(161,288,346)</u>
Cumulative effect of change in accounting principle	<u>—</u>	<u>—</u>	<u>(25,821)</u>
Net loss	(2,956,439)	(2,403,074)	(161,314,167)
Preferred stock dividends	—	—	(621,240)
Deemed dividends on preferred stock	—	(2,514,920)	(10,506,683)
Net loss applicable to common stock	<u>\$ (2,956,439)</u>	<u>\$ (4,917,994)</u>	<u>\$ (172,442,090)</u>
Net loss per common share — basic and diluted	<u>\$ (0.13)</u>	<u>\$ (0.48)</u>	
Weighted average shares — basic and diluted	<u>22,755,463</u>	<u>10,143,789</u>	

See accompanying notes to unaudited condensed consolidated financial statements.

ADVENTRX Pharmaceuticals, Inc. and Subsidiaries
(A Development Stage Enterprise)
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Three months ended March 31,		Inception (June 12, 1996) through March 31, 2011
	2011	2010	
Cash flows from operating activities:			
Net loss	\$ (2,956,439)	\$ (2,403,074)	\$ (161,314,167)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	9,871	5,880	10,457,491
(Gain) loss on disposals of fixed assets	(2,973)	—	56,812
Loss on fair value of warrants	—	—	12,239,688
Expenses related to employee stock options and restricted stock issued	135,318	225,490	9,359,260
Expense related to stock options issued to non-employees	—	—	204,664
Expenses paid by issuance of common stock	—	—	1,341,372
Expenses paid by issuance of warrants	—	—	573,357
Expenses paid by issuance of preferred stock	—	—	142,501
Expenses related to stock warrants issued	—	—	612,000
Accretion of discount on investments in securities	—	—	(1,604,494)
Amortization of debt discount	—	—	450,000
Forgiveness of employee receivable	—	—	30,036
Impairment loss — write-off of goodwill	—	—	5,702,130
Equity in loss of investee	—	—	178,936
In-process research and development	—	—	10,422,130
Write-off of license agreement	—	—	152,866
Write-off of assets available-for-sale	—	—	108,000
Cumulative effect of change in accounting principle	—	—	25,821
Changes in assets and liabilities, net of effect of acquisitions:			
(Increase) decrease in prepaid expenses and other assets	98,324	97,800	(612,786)
Increase (decrease) in accounts payable and accrued liabilities	332,061	(1,106,877)	2,310,245
Net cash used in operating activities	<u>(2,383,838)</u>	<u>(3,180,781)</u>	<u>(109,164,138)</u>
Cash flows from investing activities:			
Purchases of short-term investments	—	—	(111,183,884)
Proceeds from sales and maturities of short-term investments	—	—	112,788,378
Purchases of property and equipment	(14,858)	(6,780)	(1,073,725)
Proceeds from sale of property and equipment	12,635	—	66,920
Purchase of certificate of deposit	—	—	(1,016,330)
Maturity of certificate of deposit	—	—	1,016,330
Payment on obligation under license agreement	—	—	(106,250)
Cash acquired from acquisitions, net of cash paid	—	—	32,395
Issuance of note receivable — related party	—	—	(35,000)
Payments on note receivable	—	—	405,993
Advance to investee	—	—	(90,475)
Cash transferred in rescission of acquisition	—	—	(19,475)
Cash received in rescission of acquisition	—	—	230,000
Net cash provided by (used in) investing activities	<u>(2,223)</u>	<u>(6,780)</u>	<u>1,014,877</u>

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	Three months ended March 31,		Inception
	2011	2010	(June 12, 1996)
			through
			March 31, 2011
Cash flows from financing activities:			
Proceeds from sale of preferred stock	—	15,453,226	44,474,720
Proceeds of restricted cash for preferred stock dividends	—	—	633,008
Proceeds from sale of common stock	22,507,529	—	106,658,871
Proceeds from exercise of stock options	—	—	712,367
Proceeds from sale or exercise of warrants	—	317,444	14,714,258
Payment to escrow for preferred stock dividends obligation	—	—	(633,008)
Repurchase of warrants	—	—	(55,279)
Payments for financing and offering costs	(1,548,123)	(1,438,500)	(12,542,171)
Payments on notes payable and long-term debt	—	—	(605,909)
Proceeds from issuance of notes payable and detachable warrants	—	—	1,344,718
Cash paid in lieu of fractional shares for reverse stock split	—	—	(146)
Net cash provided by financing activities	<u>20,959,406</u>	<u>14,332,170</u>	<u>154,701,429</u>
Net increase in cash	18,573,345	11,144,609	46,552,168
Cash at beginning of period	27,978,823	8,667,404	—
Cash at end of period	<u>\$ 46,552,168</u>	<u>\$ 19,812,013</u>	<u>\$ 46,552,168</u>

See accompanying notes to unaudited condensed consolidated financial statements.

ADVENTRX Pharmaceuticals, Inc. and Subsidiaries
(A Development Stage Enterprise)
Notes to Condensed Consolidated Financial Statements (Unaudited)

1. Basis of Presentation

ADVENTRX Pharmaceuticals, Inc., a Delaware corporation (“ADVENTRX,” “we,” “our” or the “Company”), prepared the unaudited interim condensed consolidated financial statements included in this report in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and with the instructions of the Securities and Exchange Commission (“SEC”). Accordingly, they do not include all of the information and disclosures required by U.S. GAAP for annual audited financial statements and should be read in conjunction with our audited consolidated financial statements and related notes for the year ended December 31, 2010 included in our Annual Report on Form 10-K filed with the SEC on March 10, 2011 (“2010 Annual Report”). The condensed consolidated balance sheet as of December 31, 2010 included in this report has been derived from the audited consolidated financial statements included in the 2010 Annual Report. In the opinion of management, these consolidated financial statements include all adjustments (consisting of normal recurring adjustments) necessary for a fair presentation of the financial position, results of operations and cash flows for the periods presented. The results of operations for the interim periods shown in this report are not necessarily indicative of results expected for the full year.

The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary, SD Pharmaceuticals, Inc. All intercompany accounts and transactions have been eliminated in consolidation.

In February 2011, we entered into an agreement and plan of merger to acquire SynthRx, Inc. (“SynthRx”), a privately-held Delaware corporation developing a novel, purified, rheologic and antithrombotic compound that we will develop as “ANX-188,” in exchange for shares of our common stock. The transaction was completed on April 8, 2011. Effective April 8, 2011, SynthRx is a wholly-owned subsidiary of the Company and its accounts will be included in the condensed consolidated financial statements of the Company.

On April 23, 2010, the Company effected a 1-for-25 reverse split of its common stock, which was authorized by its stockholders at a special meeting held in August 2009. All common stock share and per share information in the condensed consolidated financial statements and notes thereto included in this report have been restated to reflect retrospective application of the reverse stock split for all periods presented ending or as of a date prior to April 23, 2010, except for par value per share and the number of authorized shares, which were not affected by the reverse stock split.

2. Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Certain balances have been reclassified in the accompanying condensed consolidated financial statements to conform to the current year presentation.

3. Share-Based Compensation Expense

Estimated share-based compensation expense related to equity awards granted to our employees and non-employee directors for the three months ended March 31, 2011 and 2010 was as follows:

	Three months ended March 31,	
	2011	2010
Selling, general and administrative expense	\$ 137,176	\$ 228,537
Research and development expense	(1,858)	(3,047)
Share-based compensation expense before taxes	135,318	225,490
Related income tax benefits	—	—
Share-based compensation expense	<u>\$ 135,318</u>	<u>\$ 225,490</u>
Net share-based compensation expense per common share — basic and diluted	<u>\$ 0.01</u>	<u>\$ 0.02</u>

There were no employee or non-employee director stock options exercised during the three months ended March 31, 2011 and 2010. During the three months ended March 31, 2011 and 2010, we granted stock options to acquire an aggregate of 244,654 and 183,381 shares, respectively, of our common stock to our employees and non-employee directors with an estimated weighted-average grant date fair value of \$2.25 and \$7.64 per share, respectively. At March 31, 2011, total unrecognized estimated compensation cost related to non-vested employee and non-employee director share-based awards granted prior to that date was \$1.4 million, which is expected to be recognized over a weighted-average period of 2.8 years.

4. Comprehensive Loss

Comprehensive loss is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources, including foreign currency translation adjustments and unrealized gains and losses on marketable securities. Our components of comprehensive loss consist only of net loss. For the three months ended March 31, 2011 and 2010, comprehensive loss was \$3.0 million and \$2.4 million, respectively.

5. Net Loss Per Common Share

Basic and diluted net loss per common share was calculated by dividing the net loss applicable to common stock for the period by the weighted-average number of common shares outstanding during the period, without consideration for our outstanding common stock equivalents because their effect would have been anti-dilutive. Common stock equivalents are included in the calculation of diluted earnings per common share only if their effect is dilutive. As of March 31, 2011 and 2010, our outstanding common stock equivalents consisted of options and warrants as follows:

	March 31,	
	2011	2010
Options	648,391	413,737
Warrants	8,556,536	1,459,874
	<u>9,204,927</u>	<u>1,873,611</u>

6. Recent Accounting Pronouncements

In October 2009, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) No. 2009-13, Revenue Recognition (ASC 605) — Multiple-Deliverable Revenue Arrangements, a consensus of the FASB Emerging Issues Task Force. The guidance modifies the fair value requirements of Accounting Standards Codification (“ASC”) subtopic 605-25 Revenue Recognition — Multiple Element Arrangements by providing principles for allocation of consideration among its multiple elements, allowing more flexibility in identifying and accounting for separate deliverables under an arrangement. An estimated selling price method is introduced for valuing the elements of a bundled arrangement if vendor-specific objective evidence or third-party evidence of selling price is not available, and significantly expands related disclosure requirements. This guidance is effective prospectively for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010. Currently, we have no multiple-deliverable revenue arrangements that would be affected by this guidance.

In March 2010, the FASB ratified the milestone method of revenue recognition. Under this standard, an entity can recognize contingent consideration earned from the achievement of a substantive milestone in its entirety in the period in which the milestone is achieved. A milestone is defined as an event (i) that can only be achieved based in whole or in part on either the entity’s performance or on the occurrence of a specific outcome resulting from the entity’s performance (ii) for which there is substantive uncertainty at the date the arrangement is entered into that the event will be achieved and (iii) that would result in additional payments being due to the entity. This guidance is effective for years beginning after June 15, 2010. We do not believe that this ratification will have a material effect on our financial statements.

In December 2010, the FASB issued ASU No. 2010-29 Business Combinations (Topic 805): Disclosure of Supplementary Pro Forma Information for Business Combinations (“ASU 2010-29”). ASU 2010-29 specifies that if a public entity presents comparative financial statements, the entity should disclose revenue and earnings of the combined entity as though the business combination(s) that occurred during the current year had occurred as of the beginning of the comparable prior annual reporting period only. The amendments in ASU 2010-29 also expand the supplemental pro forma disclosures under Topic 805 to include a description of the nature and amount of material, nonrecurring pro forma adjustments directly attributable to the business combination included in the reported pro forma revenue and earnings. The amended guidance is effective prospectively for business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2010. We will account for our acquisition of SynthRx in April 2011 in accordance with this guidance.

7. Licensing Revenue

In June 2010, we announced that we had entered into a license agreement with respect to our know-how to develop, make, use and sell ANX-510, or CoFactor® (5,10-methylenetetrahydrofolate), with Theragence, Inc., a California corporation (“Theragence”). Pursuant to the agreement, we granted to Theragence an exclusive worldwide license, including the right to grant sublicenses under certain circumstances, to conduct research on and to develop, make, have made, use, offer for sale, sell, have sold and import licensed products in any field or use. We are entitled to receive royalties on net sales of licensed products and commercial milestone payments of up to approximately \$30 million based on aggregate gross sales of licensed products in the United States, European Union and Japan. Theragence agreed to use commercially reasonable efforts to research, develop and commercialize at least one licensed product. We discontinued active work on our CoFactor program in October 2008.

In March 2009, we announced that we and our wholly-owned subsidiary, SD Pharmaceuticals, Inc., had entered into a license agreement with respect to our product candidate ANX-514 (docetaxel emulsion for injection) with Shin Poong Pharmaceutical Co., Ltd., a company organized under the laws of the Republic of Korea (“Shin Poong”), pursuant to which we granted to Shin Poong an exclusive license, including the right to sublicense, to research, develop, make, have made, use, offer for sale, sell and import licensed products, in each case solely for the treatment of cancer by intravenous administration of formulations of docetaxel as emulsified products and solely in South Korea. Under the terms of the agreement, we received an upfront licensing fee of \$0.3 million in April 2009, and are entitled to receive a regulatory milestone payment of either \$0.2 million or \$0.4 million upon receipt of regulatory approval for marketing a licensed product in South Korea (the amount depends on whether the Korea Food and Drug Administration requires Shin Poong to conduct a bioequivalence or clinical study in human subjects prior to receipt of regulatory approval), one-time commercial milestone payments tied to annual net sales of licensed products in an aggregate amount of up to \$1.5 million and royalty payments on net sales of licensed products. Shin Poong is responsible for all development and commercial activities related to ANX-514 in South Korea. We agreed to pay Shin Poong \$0.1 million if the Korea Food and Drug Administration required Shin Poong to conduct a bioequivalence or clinical trial in human subjects prior to receipt of regulatory approval and we elect not to supply product to conduct such trial. In September 2010, pursuant to the terms of the license agreement, we elected to make the \$0.1 million cash payment to Shin Poong in lieu of supplying product for the ANX-514 trial in human subjects required by the Korea Food and Drug Administration.

8. Grant Revenue

In November 2010, the Internal Revenue Service notified us that an aggregate amount of \$488,959 in grants had been awarded to us under the qualifying therapeutic discovery project (“QTDP”) program established under Section 48D of the Internal Revenue Code as a result of the Patient Protection and Affordable Care Act of 2010. We submitted applications in July 2010 for qualified investments we made, or expected to make, in 2009 and 2010 in our ANX-530, or Exelbine™, and ANX-514 programs, and a grant in the amount of \$244,479 was approved for each of those programs. These grants are not taxable for federal income tax purposes. We received full payment of the grants in November 2010, all of which we recognized as revenue in the three month period ended December 31, 2010 because the criteria under our revenue recognition policy were met in that period.

9. Supplementary Cash Flow Information

Noncash investing and financing transactions presented separately from the condensed consolidated statements of cash flows for the three months ended March 31, 2011 and 2010 and for the period from inception (June 12, 1996) through March 31, 2011 are as follows:

	Three months ended March 31,		Inception (June 12, 1996) through March 31, 2011
	2011	2010	
Supplemental disclosures of cash flow information			
Interest paid	\$ —	\$ 1,629	\$ 180,719
Income taxes paid	—	—	—
Supplemental disclosures of non-cash investing and financing activities:			
Issuance of warrants, common stock and preferred stock for:			
Conversion of notes payable and accrued interest	—	—	1,213,988
Prepaid services to consultants	—	—	1,482,781
Conversion of preferred stock	—	49,849	13,674
Acquisitions	—	—	24,781,555
Payment of dividends	—	—	213,000
Financial advisor services in connection with private placements	1,061,910	724,286	3,615,464
Acquisition of treasury stock in settlement of a claim	—	—	34,747
Cancellation of treasury stock	—	—	(34,747)
Assumptions of liabilities in acquisitions	—	—	1,235,907
Acquisition of license agreement for long-term debt	—	—	161,180
Cashless exercise of warrants	—	—	4,312
Dividends accrued	—	—	621,040
Trade asset converted to available-for-sale asset	—	—	108,000
Dividends extinguished	—	—	408,240
Trade payable converted to note payable	—	—	83,948
Issuance of warrants for return of common stock	—	—	50,852
Detachable warrants issued with notes payable	—	—	450,000
Cumulative preferred stock dividends	—	3,546,774	13,502,403

10. Stockholders' Equity

Reverse Stock Split

At a special meeting of our stockholders held on August 25, 2009, our stockholders approved a proposal to authorize our board of directors, in its discretion, to effect a reverse split of our outstanding common stock without further action by our stockholders. In April 2010, our board of directors approved a 1-for-25 reverse split of our common stock and on April 23, 2010 at 4:01 p.m. Eastern time, the reverse stock split became effective. As a result of the reverse stock split, each 25 shares of our issued and outstanding common stock were automatically reclassified as and changed into one share of our common stock. The reverse stock split reduced the number of our issued and outstanding shares of common stock as of April 23, 2010 from approximately 257.3 million shares to approximately 10.3 million shares. No fractional shares were issued in connection with the reverse stock split. Stockholders who were entitled to fractional shares instead became entitled to receive a cash payment in lieu of receiving fractional shares (after taking into account and aggregating all shares of our common stock then held by such stockholder) equal to the fractional share interest multiplied by \$4.6275 (the per share closing price of our common stock (on a post-split basis) as determined by the NYSE Amex on April 23, 2010). The reverse stock split affected all of the holders of our common stock uniformly. Shares of our common stock underlying outstanding options and warrants were proportionately reduced and the exercise prices of outstanding options and warrants were proportionately increased in accordance with the terms of the agreements governing such securities. All common stock share and per share information in the condensed consolidated financial statements and notes thereto included in this report have been restated to reflect retrospective application of the reverse stock split for all periods presented ending or as of a date on or prior to April 23, 2010, except for par value per share and the number of authorized shares, which were not affected by the reverse stock split.

3.73344597664961% Series E Convertible Preferred Stock

In January 2010, we completed a registered direct equity financing raising gross proceeds of \$19.0 million involving the issuance of units consisting of 19,000 shares of our 3.73344597664961% Series E Convertible Preferred Stock with a stated value of \$1,000 per share ("Series E Stock") and 30-month warrants to purchase up to an aggregate of 498,488 shares of our common stock. In the aggregate, the shares of Series E Stock we issued were convertible into 1,993,965 shares of our common stock. All of the shares of our Series E Stock have been converted into common stock and are no longer outstanding. Our Series E Stock would have accrued a cumulative annual dividend of 3.73344597664961% per share until January 7, 2015, and no dividend thereafter. In accordance with the terms of the Series E Stock, because the Series E Stock was converted prior to January 7, 2015, we paid the holders an amount equal to the total dividend that would have accrued in respect of the shares converted from the issuance date through January 7, 2015, or \$186.67 per \$1,000 of stated value of the shares converted. We received approximately \$14.0 million in net proceeds from the financing after deducting the approximately \$3.5 million we placed into escrow accounts to pay the aggregate dividend payment in respect of our Series E Stock, placement agent's fees and expenses and other offering expenses. We may receive up to approximately \$4.4 million of additional proceeds from the exercise of the warrants issued in the January 2010 financing. Those warrants, which have an exercise price of \$8.75 per share, are exercisable any time on or before July 6, 2012, subject to certain beneficial ownership limitations.

The convertible feature of our Series E Stock and the terms of the warrants issued in connection with our Series E Stock provide for a rate of conversion or exercise that was below the market value of our common stock at issuance. The convertible feature of our Series E Stock is characterized as BCF. The estimated relative fair values of the shares of our Series E Stock and the warrants issued in connection with such stock were calculated as approximately \$12.4 million and \$3.0 million, respectively. The value of the BCF was determined using the intrinsic value method and calculated as approximately \$2.5 million. Because our Series E Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series E Stock was issued. The fair value of the warrants was determined using the Black-Scholes option-pricing model as of the date of issuance assuming a 30-month term, stock volatility of 275.79%, and a risk-free interest rate of 1.325%. The value of the BCF was treated as a deemed dividend to the holders of our Series E Stock and, due to the potential immediate convertibility of our Series E Stock at issuance, was recorded as an increase to additional paid-in capital and accumulated deficit at the time of issuance.

We also issued warrants to purchase up to 99,696 shares of our common stock at an exercise price of \$11.91 per share to the placement agent in the January 2010 financing as additional consideration for its services in connection with the financing. These warrants had a fair value of approximately \$724,000 using the Black-Scholes option-pricing model as of the date of issuance assuming a 4.5-year term, stock volatility of 209.46%, and a risk-free interest rate of 2.37%. The warrants became exercisable on July 7, 2010 and are exercisable at any time on or before June 3, 2014.

2.19446320054018% Series F Convertible Preferred Stock

In May 2010, we completed a registered direct equity financing raising gross proceeds of \$19.2 million involving the issuance of units consisting of 19,217.13 shares of our 2.19446320054018% Series F Convertible Preferred Stock with a stated value of \$1,000 per share ("Series F Stock"), 5-year warrants to purchase up to an aggregate of 1,816,608 shares of our common stock and 1-year warrants to purchase up to an aggregate of 778,548 shares of our common stock. In the aggregate, the shares of Series F Stock we issued were convertible into 5,190,312 shares of our common stock. All of the shares of our Series F Stock have been converted into common stock and are no longer outstanding. Our Series F Stock would have accrued a cumulative annual dividend of 2.19446320054018% per share until May 6, 2020, and no dividend thereafter. In accordance with the terms of the Series F Stock, because the Series F Stock was converted prior to May 6, 2020, upon conversion of the shares, we paid the holders an amount equal to the total dividend that would have accrued in respect of the shares converted from the issuance date through May 6, 2020, or \$219.45 per \$1,000 of stated value of the shares converted, less the amount of any dividend paid on such shares before their conversion. Dividend payments were due on January 1, April 1, July 1 and October 1. Because 2,884.57 shares of our Series F Stock were outstanding at the time of the July 1, 2010 and October 1, 2010 dividend payment dates, we paid aggregate dividends of approximately \$25,300 to the holders of those outstanding shares and such previously paid amounts were subtracted from the payments due in respect of those shares at the time of their conversion. We received approximately \$13.3 million in net proceeds from the financing after deducting the approximately \$4.2 million we placed into escrow accounts to pay the aggregate dividend payment in respect of our Series F Stock, placement agent and financial advisor fees and other offering expenses. We may receive up to approximately \$9.5 million of additional proceeds from the exercise of the warrants issued in the May 2010 financing. The exercise price of the warrants is \$3.65 per share. Subject to certain beneficial ownership limitations, the 5-year warrants are exercisable any time on or before May 6, 2015 and the 1-year warrants are exercisable any time on or before May 20, 2011.

The convertible feature of our Series F Stock and the terms of the warrants issued in connection with our Series F Stock provide for a rate of conversion or exercise that was below the market value of our common stock at issuance. The convertible feature of our Series F Stock is characterized as BCF. The estimated relative fair values of the shares of our Series F Stock and the warrants issued in connection with such stock were calculated as approximately \$10.1 million and \$4.9 million, respectively. The value of the BCF was determined using the intrinsic value method and calculated as approximately \$3.1 million. Because our Series F Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series F Stock was issued. The fair value of the 5-year warrants was determined using the Black-Scholes option-pricing model as of the date of issuance assuming a 5-year term, stock volatility of 202%, and a risk-free interest rate of 2%. The fair value of the 1-year warrants was determined using the Black-Scholes option-pricing model as of the date of issuance assuming a 1-year term, stock volatility of 361%, and a risk-free interest rate of 0.4%. The value of the BCF was treated as a deemed dividend to the holders of our Series F Stock and, due to the potential immediate convertibility of our Series F Stock at issuance, was recorded as an increase to additional paid-in capital and accumulated deficit at the time of issuance.

Common Stock Financing

In January 2011, we completed a registered direct equity financing involving the issuance of units consisting of 8,184,556 shares of our common stock, 5-year warrants to purchase up to an aggregate of 2,046,139 shares of our common stock and 1-year warrants to purchase up to an aggregate of 2,046,139 shares of our common stock. The gross proceeds of this financing were \$22.5 million, and we received \$21.0 million in net proceeds after deducting the fees and expenses of our placement agent and our other offering expenses. We may receive up to \$11.3 million of additional proceeds from the exercise of the warrants issued in this financing. Those warrants have an exercise price of \$2.75 per share. The 5-year warrants are exercisable any time on or before January 11, 2016 and the 1-year warrants are exercisable any time on or before January 19, 2012, subject to certain beneficial ownership limitations.

Common Stock Issued for Warrants Exercised

In January 2010, we issued 84,651 shares of our common stock and received net proceeds of \$0.3 million in connection with the exercise, at an exercise price of \$3.75 per share, of the remaining warrants issued in our June 2009 financing.

Warrants

During January 2011, we issued warrants to the investors in our registered direct equity financing and to the placement agent for that financing. See details of the equity financings above.

During 2010, we issued warrants to the investors in our January 2010 and May 2010 registered direct equity financings. We also issued warrants to the placement agent for the January 2010 registered direct equity financing. See details of the equity financings above.

At March 31, 2011, outstanding warrants to purchase shares of common stock are as follows:

Warrants	Exercise Price	Expiration Date
432,429	\$ 56.5000	July 2012
36,071	\$ 3.7500	June 2014
19,007	\$ 4.4750	July 2014
14,183	\$ 4.0625	August 2014
216,000	\$ 3.6700	October 2014
144,000	\$ 5.8750	October 2014
498,488	\$ 8.7475	July 2012
99,696	\$ 11.9125	June 2014
1,816,608	\$ 3.6500	May 2015
778,548	\$ 3.6500	May 2011
2,046,139	\$ 2.7500	January 2012
2,046,139	\$ 2.7500	January 2016
409,228	\$ 3.4400	April 2015
<u>8,556,536</u>		

11. Subsequent Events**SynthRx**

In February 2011, we entered into an agreement and plan of merger to acquire SynthRx in exchange for shares of our common stock. The transaction was completed on April 8, 2011. We initially intend to develop ANX-188 for the treatment of pediatric patients with sickle cell disease in acute crisis and, if we are able to reach agreement with the FDA on a study protocol on a timely basis, we may initiate a phase 3 clinical trial of ANX-188 for that indication in 2012. In connection with the consummation of this acquisition, we issued 2,800,851 shares of our common stock to SynthRx's stockholders, 1,938,773 of which are subject to repurchase by us in the event development of ANX-188 does not achieve the first milestone described below. We could issue up to an aggregate of 13,478,050 additional shares of our common stock to SynthRx's stockholders if the development of ANX-188 achieves certain milestones, as described below, and our stockholders approve the issuance of such milestone-related shares, as required by NYSE Amex rules. If our stockholders do not approve the issuance of the milestone-related shares, under the terms of the merger agreement, we would be required to pay SynthRx's stockholders in cash the value of the milestone-related shares we would have otherwise issued, with all such cash payments made in quarterly installments and, with respect to the cash value associated with 12,478,050 of the milestone-related shares, payable at a rate of 35% of net sales of ANX-188 for the applicable calendar quarter. Of the shares issuable in connection with achievement of milestones, up to 1,000,000 shares would be issuable upon the dosing of the first patient in a phase 3 clinical study that the FDA has indicated may be sufficient to support approval of a new drug application covering the use of ANX-188 for the treatment of sickle cell crisis in children (the "ANX-188 NDA"), which we refer to as the First Milestone; 3,839,400 shares would be issuable upon acceptance for review of the ANX-188 NDA by the FDA, which we refer to as the Second Milestone; and 8,638,650 shares would be issuable upon approval by the FDA of the ANX-188 NDA, which we refer to as the Third Milestone.

Due to the timing of the SynthRx acquisition, the preliminary accounting for the business combination is not yet complete. Financial results of the acquired business and preliminary accounting for the business combination in accordance with ASC 805 - Business Combinations will be included in our condensed consolidated financial statements starting with the quarterly period ending June 30, 2011.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the condensed consolidated financial statements and related notes appearing elsewhere in this report. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties, and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors, including but not limited to those identified under "Forward Looking Statements" below and those discussed under the section entitled "Risk Factors," in Item 1A of Part I of our annual report on Form 10-K for the year ended December 31, 2010.

Overview

We are a specialty pharmaceutical company focused on acquiring, developing and commercializing proprietary product candidates. Two of our lead product candidates, Exelbine™, or ANX-530 (vinorelbine injectable emulsion) and ANX-514 (docetaxel emulsion for injection), are novel emulsion formulations of currently marketed chemotherapy drugs. Our other lead product candidate, ANX-188, is a novel, purified, rheologic and antithrombotic compound, which we initially are developing as a first-in-class treatment for pediatric patients with sickle cell disease in acute crisis.

We have devoted substantially all of our resources to research and development, or R&D, or to acquisition of our product candidates. We have not yet marketed or sold any products or generated any significant revenue and have incurred significant losses since inception. We had a loss from operations of \$3.0 million for the quarter ended March 31, 2011 and cash of approximately \$46.6 million at March 31, 2011.

In November 2010, we submitted a new drug application, or NDA, for Exelbine to the U.S. Food and Drug Administration, or FDA, and in January 2011, we announced that the FDA accepted the Exelbine NDA for filing and established a Prescription Drug User Fee Act, or PDUFA, goal date of September 1, 2011 to finish its review of the Exelbine NDA.

In February 2011, we met with the FDA to discuss ANX-514 and the data package we presented to the FDA to support approval of ANX-514 based on data from our bioequivalence study of ANX-514. The FDA indicated that a randomized safety study comparing ANX-514 and Taxotere®, a branded formulation of docetaxel, would be required to support approval of ANX-514. The study would be primarily descriptive but with a sample size sufficient to demonstrate a comparable safety profile. The FDA recommended that the study also collect data on response rate and duration of response. We are developing a study protocol for submission to the FDA and intend to continue discussions with the FDA regarding the phase 3 clinical study and requirements for ANX-514's approval.

In April 2011, we completed our acquisition of SynthRx, Inc., a privately-held company, pursuant to the Agreement and Plan of Merger, dated February 12, 2011, by and among us, SRX Acquisition Corporation, a wholly owned subsidiary of ours, SynthRx and an individual who was a principal stockholder of SynthRx, and SynthRx became a wholly owned subsidiary of ours. SynthRx's lead product candidate is a novel, purified, rheologic and antithrombotic compound, poloxamer 188, which we are developing as ANX-188. In connection with the completion of the acquisition, we issued 2,800,851 shares of our common stock to the former SynthRx stockholders, 1,938,773 of which are subject to repurchase by us in the event development of ANX-188 does not achieve the First Milestone, as described below, and 200,000 of which are subject to escrow to indemnify us against breaches of representations and warranties in the merger agreement, and we assumed \$0.3 million of SynthRx's transaction expenses, some of which are subject to dispute. We could issue up to an aggregate of 13,478,050 additional shares of our common stock to the former SynthRx stockholders if the development of ANX-188 achieves certain milestones, as described below, and our stockholders approve the issuance of such milestone-related shares, as required by NYSE Amex rules. If our stockholders do not approve the issuance of the milestone-related shares on or before December 31, 2011, the merger agreement requires that, in connection with the achievement of any of the milestones described below, we pay the former SynthRx stockholders the cash value of the milestone shares we otherwise would have issued, with all such cash payments made in quarterly installments and, with respect to the cash value associated with 12,478,050 of the milestone-related shares, payable at a rate of 35% of net sales of ANX-188 for the applicable calendar quarter. We cannot determine the amount of the potential cash payments to the former SynthRx stockholders because the amount of such payments, if any, will be determined based on the 10-day volume weighted average of the closing prices of our common stock immediately prior to achievement of the applicable milestone, and the market price of our common stock historically has been, and likely will continue to be, highly volatile. Of the shares issuable in connection with achievement of milestones, up to 1,000,000 shares would be issuable upon the dosing of the first patient in a phase 3 clinical study that the FDA has indicated may be sufficient to support approval of a new drug application covering the use of ANX-188 for the treatment of sickle cell crisis in children, or the ANX-188 NDA, which we refer to as the First Milestone; 3,839,400 shares would be issuable upon acceptance for review of the ANX-188 NDA by the FDA, which we refer to as the Second Milestone; and 8,638,650 shares would be issuable upon approval by the FDA of the ANX-188 NDA, which we refer to as the Third Milestone.

We anticipate that our cash as of March 31, 2011 will be sufficient to fund our currently planned level of operations for at least the next 12 months. However, we may pursue development and/or commercialization activities for our current or future product candidates, at levels or on timelines, or we may incur unexpected expenses, that shorten the period through which our operating funds will sustain us. We may also acquire new technologies, product candidates and/or products and the cost to acquire, develop and/or commercialize such new technologies, product candidates and/or products may shorten the period through which our operating funds will sustain us. In addition, we may seek to raise substantial additional capital to support activities that we believe will enhance the value of our programs and increase stockholder value. We may not be able to obtain additional financing on a timely basis or on acceptable terms, if at all.

The FDA has accepted our proposed proprietary name, "Exelbine," for ANX-530. The FDA's acceptance of our Exelbine brand name is conditioned upon its review of an Exelbine NDA and its confirmation of the information in the NDA regarding the safety of interchanging Exelbine with other vinorelbine injectable products. We are developing commercial names for our other product candidates. All trademarks, service marks or trade names appearing in this report, including but not limited to Navelbine® and Taxotere®, are the property of their respective owners. Use or display by us of other parties' trademarks, service marks, trade names, trade dress or products is not intended to and does not imply a relationship with, or endorsements or sponsorship of, us by the trademark, service mark, trade name, trade dress or product owners.

Recent Financing

In January 2011, we raised \$21.0 million in net proceeds through the issuance and sale of units consisting of 8,184,556 shares of our common stock, 5-year warrants to purchase up to an aggregate of 2,046,139 shares of our common stock and 1-year warrants to purchase up to an aggregate of 2,046,139 shares of our common stock. The gross proceeds of this financing were \$22.5 million, and we received \$21.0 million in net proceeds after deducting the fees and expenses of our placement agent and our other offering expenses. We may receive up to \$11.3 million of additional proceeds from the exercise of the warrants issued in this financing. Those warrants have an exercise price of \$2.75 per share. The 5-year warrants are exercisable any time on or before January 11, 2016 and the 1-year warrants are exercisable any time on or before January 19, 2012, subject to certain beneficial ownership limitations.

Reverse Stock Split

On April 23, 2010, we effected a 1-for-25 reverse split of our common stock, which was authorized by our stockholders at a special meeting held in August 2009. The reverse stock split reduced the number of our issued and outstanding shares of common stock as of April 23, 2010 from approximately 257.3 million shares to approximately 10.3 million shares. All common stock share and per share information included in this report have been restated to reflect retrospective application of the reverse stock split for periods ending or as of a date prior to April 23, 2010, except for par value per share and the number of authorized shares, which were not affected by the reverse stock split.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon consolidated financial statements and condensed consolidated financial statements that we have prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these consolidated financial statements requires management to make a number of assumptions and estimates that affect the reported amounts of assets, liabilities, revenues and expenses in the condensed consolidated financial statements and accompanying notes included in this report. On an on-going basis, we evaluate these estimates and assumptions, including those related to recognition of expenses in service contracts, license agreements and share-based compensation. Management bases its estimates on historical information and assumptions believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition. We may enter into revenue arrangements that contain multiple deliverables. In these cases, revenue is recognized when all of the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the seller's price to the buyer is fixed and determinable; and (4) collectability is reasonably assured.

Revenue from licensing agreements is recognized based on the performance requirements of the agreement. Revenue is deferred for fees received before earned. Nonrefundable upfront fees that are not contingent on any future performance by us are recognized as revenue when the license term commences and the revenue recognition criteria are met. Nonrefundable upfront fees, where we have ongoing involvement or performance obligations, are recorded as deferred revenue and recognized as revenue over the life of the contract, the period of the performance obligation or the development period, whichever is appropriate in light of the circumstances.

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Payments related to substantive, performance-based milestones in an agreement are recognized as revenue upon the achievement of the milestones as specified in the underlying agreement when they represent the culmination of the earnings process. Royalty revenue from licensed products will be recognized when earned in accordance with the terms of the applicable license agreements.

We recognize revenues from federal government research grants during the period in which we receive the grant funds, or their collection is reasonably assured, and we incur the qualified expenditures.

R&D Expenses. R&D expenses consist of expenses incurred in performing R&D activities, including salaries and benefits, facilities and other overhead expenses, bioequivalence and clinical trials, research-related manufacturing services, contract services and other outside expenses. R&D expenses are charged to operations as the underlying work is performed. Advance payments, including nonrefundable amounts, for goods or services that will be used or rendered for future R&D activities are deferred and capitalized. Such amounts will be recognized as an expense as the related goods are delivered or the related services are performed. If the goods will not be delivered, or services will not be rendered, then the capitalized advance payment is charged to expense.

Milestone payments that we make in connection with in-licensed technology or product candidates are expensed as incurred when there is uncertainty in receiving future economic benefits from the licensed technology or product candidates. We consider the future economic benefits from the licensed technology or product candidates to be uncertain until such licensed technology is incorporated into products that, or such product candidates, are approved for marketing by the FDA or when other significant risk factors are abated. For accounting purposes, management has viewed future economic benefits for all of our licensed technology or product candidates to be uncertain.

Payments in connection with our bioequivalence and clinical trials are often made under contracts with multiple contract research organizations that conduct and manage these trials on our behalf. The financial terms of these agreements are subject to negotiation and vary from contract to contract and may result in uneven payment flows. Generally, these agreements set forth the scope of work to be performed at a fixed fee or unit price or on a time-and-material basis. Payments under these contracts depend on factors such as the successful enrollment or treatment of patients or the completion of other milestones. Expenses related to bioequivalence and clinical trials are accrued based on our estimates and/or representations from service providers regarding work performed, including actual level of patient enrollment, completion of patient studies, and trial progress. Other incidental costs related to patient enrollment or treatment are accrued when reasonably certain. If the contracted amounts are modified (for instance, as a result of changes in the bioequivalence or clinical trial protocol or scope of work to be performed), we modify our accruals accordingly on a prospective basis. Revisions in scope of contract are charged to expense in the period in which the facts that give rise to the revision become reasonably certain. Because of the uncertainty of possible future changes to the scope of work in bioequivalence and clinical trials contracts, we are unable to quantify an estimate of the reasonably likely effect of any such changes on our consolidated results of operations or financial position. Historically, we have had no material changes in our bioequivalence and clinical trial expense accruals that would have had a material impact on our consolidated results of operations or financial position.

Transaction-Related Expenses. Transaction-related expenses consist of legal, accounting, financial and business development advisory fees associated with the acquisition of SynthRx and the evaluation of potential acquisition targets.

Purchased In-Process Research and Development. We adopted the Financial Accounting Standards Board's, or FASB's, changes to Accounting Standards Codification, or ASC, 805, "Business Combinations," effective January 1, 2009. The adoption of the changes to ASC 805 did not have a material effect on our consolidated results of operations or financial position.

In accordance with previous accounting guidance effective through December 31, 2008, we accounted for the costs associated with any purchased in-process research and development, or IPR&D, as an expense on the statement of operations upon acquisition. These amounts represented an estimate of the fair value of purchased IPR&D for projects that, as of the acquisition date, had not yet reached technological feasibility, had no alternative future use, and had uncertainty in generating future economic benefits. We determined the future economic benefits from the purchased IPR&D to be uncertain until such technology is incorporated into products approved for marketing by the FDA or when other significant risk factors are abated.

Share-based Compensation Expenses. We account for share-based compensation awards granted to employees, including non-employee members of our board of directors, in accordance with ASC 718, "Compensation — Stock Compensation." Share-based compensation expense is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee's requisite service period. As share-based compensation expense is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures are estimated based on historical experience. Although estimates of share-based compensation expenses are significant to our consolidated financial statements, they are not related to the payment of any cash by us.

We estimate the fair value of stock option awards on the date of grant using the Black-Scholes option-pricing model, or Black-Scholes model. The determination of the fair value of share-based payment awards on the date of grant using an option-pricing model is affected by the price of our common stock as well as assumptions regarding a number of complex and subjective variables. These variables include, but are not limited to, our expected share price volatility over the term of the awards, actual and projected employee stock option exercise behaviors, a risk-free interest rate and expected dividends. We may elect to use different assumptions under the Black-Scholes model in the future, which could materially affect our net income or loss and net income or loss per share.

We account for share-based compensation awards granted to non-employees by determining the fair value of the share-based compensation awards granted as either the fair value of the consideration received or the fair value of the equity instruments issued, whichever is more reliably measurable. If the fair value of the equity instruments issued is used, it is measured using the share price and other measurement assumptions as of the earlier of (1) the date at which a commitment for performance by the counterparty to earn the equity instruments is reached or (2) the date at which the counterparty's performance is complete.

Income Taxes. We account for income taxes and the related accounts under the liability method in accordance with ASC 740, "Income Taxes." Deferred tax assets and liabilities are determined based on the differences between the financial statement carrying amounts and the income tax bases of assets and liabilities. A valuation allowance is applied against any net deferred tax asset if, based on available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

The tax effects from an uncertain tax position can be recognized in our consolidated financial statements only if the position is more likely than not of being sustained upon an examination by tax authorities. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained.

Convertible Instruments. At issuance, we value separately embedded beneficial conversion features present in convertible securities. Embedded beneficial conversion features are recognized by allocating to additional paid-in capital and accumulated deficit that portion of the net proceeds from the sale of the convertible security equal to the intrinsic value of the beneficial conversion feature. Intrinsic value is calculated as the difference, as of the commitment date, between the conversion price of the convertible security and the fair value of the common stock underlying the convertible security, which for us is the closing price of a share of our common stock on the NYSE Amex multiplied by the number of shares of our common stock into which the convertible security is convertible. If the intrinsic value of the beneficial conversion feature is greater than the net proceeds allocated to the convertible security, the amount of the discount assigned to the beneficial conversion feature is limited to the amount of the net proceeds. In our registered direct equity financings that closed in June, July, August and October 2009 and in January and May 2010, we issued convertible preferred stock securities with non-detachable conversion features that were in-the-money as of the commitment date, which we recognized as beneficial conversion features. All of the shares of the convertible preferred stock we issued in these financings have been converted into common stock at fixed conversion rates. The embedded beneficial conversion features were valued separately and recognized by allocating to additional paid-in capital and accumulated deficit a portion of the net proceeds equal to the intrinsic value of the beneficial conversion features.

The foregoing is not intended to be a comprehensive list of all of our accounting policies. In most cases, the accounting treatment of a particular transaction is specifically dictated by accounting principles generally accepted in the U.S.

Results of Operations

A general understanding of the drug development process is critical to understanding our results of operations. Drug development in the U.S. and most countries throughout the world is a process that includes several steps defined by the FDA and similar regulatory authorities in foreign countries. The FDA approval processes relating to new drug products differ depending on the nature of the particular product candidate for which approval is sought. With respect to any product candidate with active ingredients not previously approved by the FDA, a prospective drug product manufacturer is required to submit an NDA that includes complete reports of pre-clinical, clinical and laboratory studies and extensive manufacturing information to demonstrate such product's safety and effectiveness. The NDA process generally requires, before the submission of the NDA, filing of an investigational new drug application, or IND, pursuant to which permission is sought to begin clinical testing of the new product candidate. An NDA based on published safety and effectiveness studies conducted by others, or previous findings of safety and effectiveness by the FDA, may be submitted under Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act, or the FDCA.

Generally, with respect to any product candidate with active ingredients not previously approved by the FDA, an NDA must be supported by data from at least phase 1, phase 2 and phase 3 clinical trials. Phase 1 clinical trials can be expected to last from 6 to 18 months, phase 2 clinical trials can be expected to last from 12 to 24 months and phase 3 clinical trials can be expected to last from 18 to 36 months. However, clinical development timelines vary widely, as do the total costs of clinical trials and the likelihood of success. We anticipate that we will make determinations as to which of our R&D programs to pursue and how much funding to direct to each R&D program on an ongoing basis in response to the scientific, nonclinical and clinical success of the underlying product candidate, our ongoing assessment of its market potential and our available resources.

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Future expenditures on R&D programs are subject to many uncertainties, including whether we will further develop our product candidates with a partner or independently. At this time, due to such uncertainties and the risks inherent in drug product development and the associated regulatory process, we cannot estimate with reasonable certainty the duration of or costs to complete our R&D programs or whether or when or to what extent revenues will be generated from the commercialization and sale of any of our product candidates. The duration and costs of our R&D programs, in particular those associated with clinical and bioequivalence trials and research-related manufacturing, can vary significantly among programs as a result of a variety of factors, including:

- the number of trials necessary to demonstrate the safety and efficacy of a product candidate;
- the number of patients who participate in the trials;
- the number and location of sites included in trials and the rate of site approval for the trial;
- the rates of patient recruitment and enrollment;
- the ratio of randomized to evaluable patients;
- the time and cost of process development activities related to our product candidates;
- the costs of manufacturing our product candidates;
- with respect to bioequivalence or comparative trials, the availability and cost of reference or control product in the jurisdiction of each site;
- the duration of patient treatment and follow-up;
- the time and cost of stability studies, including the need to identify critical parameters, methods to evaluate and test these parameters and validation of such methods and tests; and
- the costs, requirements, timing of and the ability to secure regulatory approvals.

The difficult process of seeking regulatory approvals for our product candidates, in particular any containing new chemical entities, and compliance with applicable regulations requires the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals could cause our R&D expenditures to increase and, in turn, have a material and unfavorable effect on our results of operations. We cannot be certain when, if ever, we will generate revenues from sales of any of our product candidates.

While many of our R&D expenses are transacted in U.S. dollars, certain significant expenses are required to be paid in foreign currencies and expose us to transaction gains and losses that could result from changes in foreign currency exchange rates. In particular, our current contract manufacturer, which is also our intended commercial manufacturer, for Exelbine is located outside the U.S. and generally we pay for its services in Euros. As a result, our exposure to currency risk likely will increase as we move Exelbine towards commercialization and increase the services we request from this manufacturer. We include realized gains and losses from foreign currency transactions in operations as incurred.

We operate our business and evaluate our company on the basis of a single reportable segment, which is the business of acquiring, developing and commercializing proprietary product candidates.

Comparison of Three Months Ended March 31, 2011 and 2010

Revenue. We recognized no revenue for the three months ended March 31, 2011 and 2010.

We have not generated any revenue from product sales to date, and we do not expect to generate revenue from product sales until such time, if any, that we have obtained approval from a regulatory agency to sell one or more of our product candidates, which we cannot predict will occur.

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R&D Expenses. We maintain and evaluate our R&D expenses by the type of cost incurred rather than by project. We maintain and evaluate R&D expenses by type primarily because we outsource a substantial portion of our work and our R&D personnel and consultants work across multiple programs rather than dedicating their time to one particular program. We began maintaining such expenses by type on January 1, 2005. The following table summarizes our consolidated R&D expenses by type for each of the periods listed:

	Three months ended March 31,		January 1, 2005
	2011	2010	through March 31, 2011
External bioequivalence and clinical trial fees and expenses	\$ 90,233	\$ 27,773	\$ 24,108,295
External nonclinical study fees and expenses (1)	453,609	1,182,085	27,708,280
Personnel costs	69,309	32,518	10,613,305
Share-based compensation expense	(1,858)	(3,047)	2,918,127
Total	\$ 611,293	\$ 1,239,329	\$ 65,348,007

(1) External nonclinical study fees and expenses include preclinical, research-related manufacturing, quality assurance and regulatory expenses.

R&D expenses decreased by \$0.6 million, or approximately 51%, to \$0.6 million for the three months ended March 31, 2011, compared to \$1.2 million for the same period in 2010. The decrease in R&D expenses for the three months ended March 31, 2011 compared to the same period in 2010 was due primarily to a \$0.7 million decrease in external nonclinical study fees and expenses. This decrease resulted primarily from a \$0.5 million decrease in research-related manufacturing expenses for ANX-514 and a \$0.2 million decrease in fees for regulatory consulting services related to ANX-514.

We expect R&D expenses to increase in 2011 relative to 2010 to support development of ANX-514 and ANX-188 and any other technologies and/or product candidates we may acquire, including the potential addition of new clinical, regulatory and manufacturing personnel.

Selling, General and Administrative Expenses. Selling, general and administrative, or SG&A, expenses increased by \$0.4 million, or approximately 34%, to \$1.6 million for the three months ended March 31, 2011, compared to \$1.2 million for the same period in 2010. This increase resulted primarily from a \$0.2 million increase in personnel costs, mainly due to an accrual for estimated bonus expense related to 2011 performance, and a \$0.2 million increase in fees for legal services primarily related to commercial-readiness activities for Exelbine.

We expect SG&A expenses to increase in 2011 relative to 2010 as we prepare for the commercial launch of Exelbine and, should it be approved, as we launch Exelbine, and any other products we may acquire, including the potential addition of sales and marketing personnel, and to support development of ANX-514 and ANX-188 and any other technologies, product candidates and/or products we may acquire.

Transaction-Related Expenses. Transaction-related expenses were \$0.8 million for the three months ended March 31, 2011, compared to \$0 for the same period in 2010. Transaction-related expenses for the three months ended March 31, 2011 consisted of legal, accounting, financial and business development advisory fees associated with the acquisition of SynthRx and the evaluation of potential acquisition targets.

Interest and Other Income. Interest income amounted to \$32,871 for the three months ended March 31, 2011, compared to \$18,440 for the same period in 2010. The increase in interest income for the three months ended March 31, 2011 was attributable primarily to overall larger invested balances in 2011 as compared to 2010. Even though we raised a substantial amount of additional capital through our registered direct equity financings in 2009 through January 2011, we expect that interest income will continue to be low due to negligible interest rates.

Net Loss Applicable to Common Stock. Net loss applicable to common stock was \$3.0 million, or \$0.13 per share, for the three months ended March 31, 2011, compared to net loss applicable to common stock of \$4.9 million, or \$0.48 per share, for the same period in 2010. Included in net loss applicable to common stock for the three months ended March 31, 2010 was non-cash deemed dividend expense of \$2.5 million related to our January 2010 registered direct equity financing.

Liquidity and Capital Resources

We have a history of annual losses from operations and we have funded our operations primarily through sales of our equity securities. We had a net loss of \$3.0 million for the three months ended March 31, 2011 and cash of approximately \$46.6 million as of March 31, 2011.

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In January 2011, we completed a registered direct equity financing involving the issuance of units consisting of shares of our common stock and common stock purchase warrants. This financing resulted in \$22.5 million in gross proceeds, and we received \$21.0 million in net proceeds after deducting the fees and expenses of our placement agent and our other offering expenses.

We may receive up to \$0.8 million, \$4.4 million, \$9.5 million and \$11.3 million of additional net proceeds from the exercise of warrants issued in the registered direct equity financings we completed in October 2009, January and May 2010 and January 2011, respectively; however, the exercise of these warrants is subject to certain beneficial ownership limitations. In addition, we may receive up to \$3.7 million of additional net proceeds from the exercise of warrants issued to our placement agent as additional consideration for services in connection with certain of our registered direct equity financings.

For a more detailed discussion of our 2010 and 2011 equity financings, see Note 10, "Stockholders' Equity," in the Notes to Condensed Consolidated Financial Statements (Unaudited) in this report.

For a discussion of our liquidity and capital resources outlook, see "Management Outlook" below.

Operating activities. Net cash used in operating activities was \$2.4 million for the three months ended March 31, 2011 compared to \$3.2 million for the same period in 2010. The decrease in cash used in operating activities was primarily due to lower development expenses for ANX-514.

Investing activities. Net cash used in investing activities was \$2,223 for the three months ended March 31, 2011 compared to \$6,780 for the same period in 2010. The difference was primarily due to an increase in purchases of property and equipment, which was offset by the receipt of proceeds from the sale of property and equipment.

Financing activities. Net cash provided by financing activities was \$21.0 million for the three months ended March 31, 2011 compared to \$14.3 million for the same period in 2010. The cash provided by financing activities for the three months ended March 31, 2011 reflects net proceeds of \$21.0 million from our January 2011 registered direct equity financing. The cash provided by financing activities for the three months ended March 31, 2010 reflects adjusted net proceeds of \$14.0 million from our January 2010 registered direct equity financing and proceeds of \$0.3 million from the exercise of warrants issued in our June 2009 registered direct equity financing.

Management Outlook

We anticipate that our cash as of March 31, 2011 will be sufficient to fund our currently planned level of operations for at least the next 12 months. However, our future capital uses and requirements will be affected by numerous forward-looking factors that, depending on their actual outcome, could shorten or extend the period through which our operating funds will sustain us. These factors include, but are not limited to: the extent to which we acquire new technologies, product candidates, products or businesses; the scope, prioritization and number of development and/or commercialization programs we pursue; the rate of progress and costs of development and regulatory approval activities associated with our product candidates, including conducting manufacturing process development activities and manufacturing clinical trial material; the rate of progress and costs to comply with post-approval requirements imposed on our products candidates, should any be approved; the extent to which we partner or collaborate with third parties to develop, seek regulatory approval of and commercialize our product candidates or products, or sell or license our product candidates or products to others; the costs and timing of acquiring and/or developing sales, marketing and distribution capabilities and associated regulatory compliance and administrative capabilities to commercialize Exelbine in the U.S., regardless of whether Exelbine is ultimately approved by the FDA; the costs and timing of acquiring or developing similar commercialization capabilities for other of our current product candidates, and any product candidates or products we may acquire in the future, and whether any of our product candidates for which we receive regulatory approval, if any, achieve broad market acceptance. In addition, currently, we have only six full-time employees and one part-time employee and rely on third parties to perform many essential services for us. Increasing the size of our workforce will also impact the period through which our operating funds will sustain us, but the timing and extent to which we do so is difficult to predict as it will be influenced by the rate of progress of development and regulatory approval of our product candidates and whether we partner them, as well as the extent to which we acquire and develop new technologies, product candidates, products or businesses.

We continue to undertake commercial-readiness activities with respect to Exelbine to prepare for its launch in the U.S., should the FDA approve our Exelbine NDA. In preparing for the potential commercial launch of Exelbine, we expect to develop and/or acquire internal marketing, distribution and sales capabilities and associated regulatory compliance capabilities, as well as contract with third parties to supplement and enhance our internal capabilities. Such activities may result in a substantial increase in our workforce in 2011. We continue to evaluate the relative benefits of developing or acquiring these capabilities, as well as the use of third parties. Currently, we cannot forecast with certainty our future commercial launch-related expenses for Exelbine in part because we cannot forecast with certainty whether we will develop or acquire internal marketing, distribution, sales and associated regulatory compliance capabilities or the extent to which we will rely on third parties to supplement these capabilities and to what degree variations of such arrangements will affect our commercialization plans and expenses. However, our preliminary estimate of Exelbine commercialization-related expenses for the remainder of 2011 is approximately \$4 million.

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We also continue to develop ANX-514 following our February 2011 meeting with the FDA. We are in the process of developing a protocol for a phase 3 clinical trial of ANX-514 for submission to the FDA. In 2011, we expect to use capital to develop the phase 3 trial protocol, conduct manufacturing process development activities and manufacture clinical trial material that would enable us to initiate a clinical trial of ANX-514 should we reach agreement with the FDA as to the trial protocol. In parallel, we also expect to continue to pursue partnering and other strategic opportunities for ANX-514, including its sale or exclusive license to a third party. However, partnering and other strategic options may not be available on acceptable terms, if at all. As our discussions with the FDA progress, if we determine the anticipated capital requirements associated with continued development of ANX-514 are not financially justifiable, we may determine to discontinue this program. Currently, we cannot forecast with any degree of certainty the costs associated with our continued development of ANX-514 during 2011.

In April 2011, we completed our acquisition of SynthRx, Inc. and SynthRx became a wholly owned subsidiary of ours. SynthRx's lead product candidate is a novel, purified, rheologic and antithrombotic compound, poloxamer 188, which we are developing as ANX-188. Initially, we are developing ANX-188 as a first-in-class treatment for pediatric patients with sickle cell disease in acute crisis, and, if we are able to reach agreement with the FDA on a study protocol on a timely basis, we may initiate a phase 3 clinical trial of ANX-188 for that indication in 2012. In parallel, we expect to prepare to initiate the clinical trial, including conducting manufacturing process development activities and manufacturing clinical material, which could enable us to initiate it in 2012. We also expect to increase our workforce in connection with our development of ANX-188. Until we reach agreement with the FDA on a phase 3 trial protocol, we cannot forecast with any degree of certainty the costs that would be associated with our development of ANX-188 for the treatment pediatric patients with sickle cell disease in acute crisis. However, our preliminary estimate of third party costs related to this development program through submission of an NDA is approximately \$15 million to \$25 million.

In connection with the completion of the SynthRx acquisition, we issued 2,800,851 shares of our common stock to the former SynthRx stockholders, 1,938,773 of which are subject to repurchase by us in the event development of ANX-188 does not achieve the First Milestone and 200,000 of which are subject to escrow to indemnify us against breaches of representations and warranties in the merger agreement, and we assumed \$0.3 million of SynthRx's transaction expenses, some of which are subject to dispute. We could issue up to an aggregate of 13,478,050 additional shares of our common stock to the former SynthRx stockholders if the development of ANX-188 achieves the First Milestone, Second Milestone and Third Milestone and our stockholders approve the issuance of such milestone-related shares, as required by NYSE Amex rules. If our stockholders do not approve the issuance of the milestone-related shares on or before December 31, 2011, the merger agreement requires that we pay the former SynthRx stockholders the cash value of any milestone shares we otherwise would have issued in connection with the achievement of First Milestone, Second Milestone and Third Milestone. Any such cash payment will be payable in quarterly installments. Any cash payment due as a result of achievement of the First Milestone will be payable at a rate of \$1.0 million per calendar quarter. Any cash payment due as a result of achievement of the Second Milestone or Third Milestone will be payable at a rate of 35% of net sales of ANX-188 for the applicable calendar quarter. We cannot determine the amount of the potential cash payments to the former SynthRx stockholders because the amount of such payments, if any, will be determined based on the 10-day volume weighted average of the closing prices of our common stock immediately prior to achievement of the applicable milestone, and the market price of our common stock historically has been, and likely will continue to be, highly volatile.

We continue to spend significant time and attention identifying and evaluating additional opportunities to expand our product pipeline and may do so through one or more in-license, asset acquisition or merger transactions. We continue to believe that, due to a challenging capital raising environment, many drug development programs with substantial potential currently are available at attractive valuations. If we seek to expand our product pipeline through a merger or other business combination with one of these companies, given our recent market capitalization and our desire to preserve our cash for development activities, such a transaction may result in our stockholders owning less than a majority of the voting securities of the surviving entity. The process of identifying and evaluating various opportunities may be lengthy and complex and divert management's attention from our current development programs, and we may not be able to acquire or acquire rights to additional technologies, product candidates and/or products on acceptable terms, or at all. We have limited resources to identify, evaluate and negotiate the acquisition of new technologies, product candidates and/or products or rights thereto and to integrate them into our current infrastructure. Supplementing our current resources to complete one or more transactions may be costly. We anticipate that our capital requirements will increase in future periods if we are successful in expanding our product pipeline.

We may also seek or need to raise additional capital through public or private sales of our equity securities or debt financings. However, we may not be able to obtain additional financing on a timely basis or on acceptable terms, if at all.

Recent Accounting Pronouncements

See Note 6, “Recent Accounting Pronouncements,” of the Notes to the Condensed Consolidated Financial Statements (Unaudited) in this report for a discussion of recent accounting announcements and their effect, if any, on us.

Forward Looking Statements

This quarterly report, particularly Part I, Item 2, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including statements we make regarding our business strategy, expectations and plans, our objectives for future operations and our future financial position. Forward-looking statements can be identified by words such as “believe,” “may,” “could,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “indicate” and similar expressions. Examples of forward-looking statements include, but are not limited to, statements we make regarding expanding our product pipeline, activities related to developing and seeking regulatory approval for Exelbine, ANX-514 and ANX-188, seeking to partner or collaborate with third parties with respect to the development and commercialization of our product candidates, the sale or exclusive license of one or more of our product candidate programs, raising additional capital, and our belief that we have sufficient liquidity to fund our currently planned level of operations for at least the next 12 months. The foregoing is not an exclusive list of all forward-looking statements we make.

We have based the forward-looking statements we make on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. The forward-looking statements we make are subject to risks and uncertainties that could cause our actual results to differ materially from those reflected in such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to the following:

- the extent to which we acquire new technologies, product candidates, products or businesses and our ability to integrate them, including the assets we recently acquired from SynthRx, Inc., successfully into our operations;
- our ability, or that of a future partner, to successfully develop and obtain regulatory approval for our product candidates and, if approved, to successfully commercialize them in the U.S. and/or elsewhere;
- our ability to obtain stockholder approval of the issuance of the up to 13,478,050 milestone-related shares in connection with our acquisition of SynthRx, Inc. on a timely basis, or at all, and our ability to pay cash in lieu of those milestone-related shares if our stockholders do not approve the issuance of those shares;
- our ability to obtain stockholder approval to complete other product pipeline expansion transactions, if necessary, on a timely basis, or at all;
- the potential that we may enter into a merger or other business combination whereby the stockholders who own the majority of our voting securities prior to the transaction own less than a majority after the transaction;
- the potential that we may enter into one or more commercial partnerships or other strategic transactions relating to our product candidates, and the terms of any such transactions;
- our ability to obtain additional funding to develop and commercialize our current product candidates and any product candidates or products we may acquire in the future, on a timely basis or on acceptable terms, or at all;
- the extent to which we rebuild our workforce and our ability to attract and retain qualified personnel and manage growth;
- delays in the commencement or completion of nonclinical testing, bioequivalence or clinical trials of or manufacturing, regulatory or launch activities related to our product candidates;
- the success of future clinical or bioequivalence trials;
- our ability to develop or acquire sales, marketing and distribution capabilities to commercialize any of our product candidates for which we obtain regulatory approval;

- whether any of our product candidates for which we receive regulatory approval, if any, achieve broad market acceptance;
- our ability to maintain our relationships with the single source manufacturers and suppliers for certain of our product candidates and their component materials and the ability of such manufacturers and suppliers to successfully and consistently manufacture and supply, as applicable, our products and their component materials on a commercial scale, if we receive regulatory approval to commercialize our product candidates;
- the satisfactory performance of third parties on whom we rely significantly to conduct our nonclinical testing and bioequivalence and clinical studies and other aspects of our development programs;
- undesirable side effects that our product candidates may cause;
- our ability to protect our intellectual rights with respect to our product candidates and proprietary technology;
- claims against us for infringing the proprietary rights of third parties;
- competition in the marketplace for our products, if any are approved;
- healthcare reform measures and reimbursement policies that, if not favorable to our products, could hinder or prevent our products' commercial success;
- potential product liability exposure and, if successful claims are brought against us, liability for a product or product candidate;
- our ability to maintain compliance with NYSE Amex continued listing standards and maintain the listing of our common stock on the NYSE Amex or another national securities exchange; and
- the other factors that are described in the section entitled "Risk Factors," in Item 1A of Part I of our annual report on Form 10-K for the year ended December 31, 2010.

Except as required by law, we do not intend to update the forward-looking statements discussed in this report publicly or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

In light of these risks and uncertainties and our assumptions, the forward-looking events and circumstances discussed in this report and in the documents incorporated in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in such forward-looking statements. Accordingly, you are cautioned not to place undue reliance on such forward-looking statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Under the rules and regulations of the U.S. Securities and Exchange Commission, or SEC, as a smaller reporting company we are not required to provide the information required by this item.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, we conducted an evaluation, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of March 31, 2011.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) under the Exchange Act that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

In the normal course of business, we may become subject to lawsuits and other claims and proceedings. Such matters are subject to uncertainty and outcomes are often not predictable with assurance.

Item 1A. Risk Factors

Under the rules and regulations of the SEC, as a smaller reporting company we are not required to provide the information required by this item.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

As partial consideration for its services as placement agent in connection with our January 2011 registered direct equity financing, on January 11, 2011, we issued to Rodman & Renshaw, LLC, or its designee, warrants to purchase an aggregate of up to 409,228 shares of our common stock at an exercise price of \$3.44 per share, which warrants were exercisable upon issuance and may be exercised any time on or before April 1, 2015. These warrants were offered and sold by us in reliance upon exemptions from the registration statement requirements by Section 4(2) of the Securities Act of 1933, as amended, as transactions by an issuer not involving a public offering.

Item 3. Defaults Upon Senior Securities

None.

Item 4. (Removed and Reserved)

Item 5. Other Information

None.

Item 6. Exhibits

An Exhibit Index has been attached as part of this report and is incorporated herein by reference.

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.

ADVENTRX Pharmaceuticals, Inc.

Date: May 9, 2011

By: /s/ Brian M. Culley
Brian M. Culley
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Patrick L. Keran
Patrick L. Keran
President and Chief Operating Officer
(Principal Financial Officer)

EXHIBIT INDEX

Exhibit	Description
2.1(1) †	Agreement and Plan of Merger, dated February 12, 2011, by and among the registrant, SRX Acquisition Corporation, SynthRx, Inc. and, solely with respect to Sections 2 and 8, the Stockholders' Agent.
10.1(2)	Engagement Letter Agreement, dated January 5, 2011, by and between the registrant and Rodman & Renshaw, LLC
10.2(2)	Form of Securities Purchase Agreement, dated January 6, 2011, governing the issuance and sale of the registrant's common stock and 5-year and 1-year common stock purchase warrants
10.3(2)	Form of [Series A/B] Common Stock Purchase Warrant issued on January 11, 2011 by the registrant to the purchasers of the registrant's common stock and to Rodman & Renshaw, LLC
10.4(1) †	Stockholders' Voting and Transfer Restriction Agreement, dated February 12, 2011, by and among the registrant, each of the principal stockholders of SynthRx, Inc. and, solely with respect to Section 3(c), the Stockholders' Agent.
10.5(1) †	License Agreement, dated June 8, 2004, between SynthRx, Inc. and CytRx Corporation, as amended by that certain Letter Agreement Re: Amendment to License Agreement, dated August 3, 2006, and that certain Agreement and Amendment No. 2 to License Agreement, dated December 1, 2010.
10.6#	Incentive Stock Option Grant Agreement under the 2008 Omnibus Incentive Plan, effective as of February 1, 2011, by and between the registrant and Brian M. Culley
10.7#	Incentive Stock Option Grant Agreement under the 2008 Omnibus Incentive Plan, effective as of February 1, 2011, by and between the registrant and Patrick L. Keran
10.8# (3)	Offer letter, dated February 11, 2011, to Brandi L. Roberts
10.9#	Offer letter, dated March 28, 2011, to R. Martin Emanuele
10.10#	Director Compensation Policy, adopted March 16, 2011
31.1	Certification of principal executive officer pursuant to Rules 13a-14(a)/15d-14(a)
31.2	Certification of principal financial officer pursuant to Rules 13a-14(a)/15d-14(a)
32.1*	Certification of principal executive officer and principal financial officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

† Indicates that confidential treatment has been requested or granted to certain portions, which portions have been omitted and filed separately with the SEC

Indicates management contract or compensatory plan

* This certification is being furnished solely to accompany this report pursuant to 18 U.S.C. 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is not to be incorporated by reference into any filing of the registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

- (1) Filed with the registrant's Current Report on Form 8-K on April 11, 2011 (SEC file number 001-32157-11752769)
- (2) Filed with the registrant's Current Report on Form 8-K on January 7, 2011 (SEC file number 001-32157-11515655)
- (3) Filed with the registrant's Current Report on Form 8-K on March 22, 2011 (SEC file number 001-32157-11704394)

ADVENTRX Pharmaceuticals, Inc. 2008 Omnibus Incentive Plan

Incentive Stock Option Grant Agreement

THIS INCENTIVE STOCK OPTION GRANT AGREEMENT (this "Agreement"), effective as of February 1, 2011 (the "Grant Date"), is entered into by and between ADVENTRX Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Brian M. Culley (the "Grantee").

1. Grant of Option. The Company hereby grants to the Grantee a stock option (the "Option") to purchase 100,000 shares of common stock of the Company, par value \$0.001 per share (the "Shares"), at the exercise price of \$2.29 per Share (the "Exercise Price"). The Option is intended to qualify as an incentive stock option under Section 422 of the Code.

2. Subject to the Plan. This Agreement is subject to the provisions of the ADVENTRX Pharmaceuticals, Inc. 2008 Omnibus Incentive Plan (the "Plan"), and, unless the context requires otherwise, terms used herein shall have the same meaning as in the Plan. In the event of a conflict between the provisions of the Plan and this Agreement, the Plan shall control.

3. Term of Option. Unless the Option terminates earlier pursuant to the provisions of this Agreement, the Option shall expire on the tenth anniversary of the Grant Date.

4. Vesting. The Option shall become vested with respect to twenty five percent (25%) on each of January 1, 2012, January 1, 2013, January 1, 2014 and January 1, 2015; provided, however, that the Grantee is then providing Services.

5. Exercise of Option

(a) Manner of Exercise. To the extent vested, the Option may be exercised, in whole or in part, by delivering written notice to the Company in accordance with paragraph (g) of Section 8 in such form as the Company may require from time to time. Such notice shall specify the number of Shares subject to the Option as to which the Option is being exercised, and shall be accompanied by full payment of the Exercise Price of such Shares in a manner permitted under the terms of Section 5.5 of the Plan, except that payment with previously acquired Shares may only be made with the consent of the Committee. The Option may be exercised only in multiples of whole Shares and no fractional Shares shall be issued.

(b) Issuance of Shares. Upon exercise of the Option and payment of the Exercise Price for the Shares as to which the Option is exercised, the Company shall issue to the Grantee the applicable number of Shares in the form of fully paid and nonassessable Shares.

(c) Capitalization Adjustments. The number of Shares subject to the Option and the Exercise Price shall be equitably and appropriately adjusted, if applicable, as provided in Section 12.2 of the Plan.

(d) Withholding. No Shares will be issued on exercise of the Option unless and until the Grantee pays to the Company, or makes satisfactory arrangements with the Company for payment of, any federal, state or local taxes required by law to be withheld in respect of the exercise of the Option. The Grantee hereby agrees that the Company may withhold from the Optionee's wages or other remuneration the applicable taxes. At the discretion of the Company, the applicable taxes may be withheld in kind from the Shares otherwise deliverable to the Grantee on exercise of the Option, up to the Grantee's minimum required withholding rate or such other rate that will not trigger a negative accounting impact.

(e) Notice of Disposition. Grantee agrees to notify the Company in writing within fifteen (15) days after the date of any disposition of any of the Shares issued upon exercise of the Option that occurs within the later of two (2) years after the Grant Date or within one (1) year after such Shares are transferred to the Grantee.

6. Termination of Option

(a) Termination of Employment or Service Relationship Other Than Due to Retirement, Death, Disability, Involuntary Termination or Cause. Unless the Option has earlier terminated, the Option shall terminate in its entirety, regardless of whether the Option is vested, ninety (90) days after the date the Grantee ceases to provide Services for any reason other than, as applicable, the Grantee's Retirement, death, Disability, Involuntary Termination or termination for Cause. Except as provided in paragraphs (b), (c), (d) or (e) of this Section, any portion of the Option that is not vested at the time the Grantee ceases to provide Services shall immediately terminate.

(b) Retirement. Upon the Retirement of the Grantee, unless the Option has earlier terminated, the Option shall continue in effect (and, for purposes of vesting pursuant to Section 4, the Grantee shall be deemed to continue to be providing Services) until the earlier of (i) two (2) years after the Grantee's Retirement (or, if later, the fifth anniversary of the Grant Date) or (ii) the expiration of the Option's term pursuant to Section 3. For purposes of this Agreement, "Retirement" shall mean termination of the Grantee's employment with the Company and its Subsidiaries, or a successor company (or a subsidiary or parent thereof) and their respective subsidiaries, other than for Cause (a) if (i) the Grantee is then at least age 60 and (ii) the sum of the Grantee's age and years of continuous service with the Company and its Subsidiaries is then equal to at least 70 or (b) if the Committee characterizes such termination as a "Retirement" for purposes of this Agreement. For clarity, this Section 6(b) shall apply only to Grantees who are Employees at the time of termination.

(c) Death. Upon the Grantee's death, unless the Option has earlier terminated, the Grantee's executor or personal representative, the person to whom the Option shall have been transferred by will or the laws of descent and distribution, or such other permitted transferee, as the case may be, may exercise the Option in accordance with paragraph (a) of Section 5, to the extent vested, provided such exercise occurs within twelve (12) months after the date of the Grantee's death or by the end of the term of the Option pursuant to Section 3, whichever is earlier.

(d) Disability. In the event that the Grantee ceases to provide Services by reason of Disability, unless the Option has earlier terminated, the Option may be exercised, in accordance with paragraph (a) of Section 5, to the extent vested, provided such exercise occurs within six (6) months after the date of Disability or by the end of the term of the Option pursuant to Section 3, whichever is earlier. For purposes of this Agreement, "Disability" shall mean the Grantee's becoming disabled within the meaning of Section 22(e) (3) of the Code, or as otherwise determined by the Committee in its discretion. The Committee may require such proof of Disability as the Committee in its sole and absolute discretion deems appropriate and the Committee's determination as to whether the Grantee has incurred a Disability shall be final and binding on all parties concerned.

(e) Involuntary Termination. In the event that the Grantee ceases to provide Services as an Employee by reason of an Involuntary Termination, unless the Option has earlier terminated, the Option shall, immediately prior to such Involuntary Termination, vest and become exercisable with respect to 25% of the total number of Shares subject to this Option (or 25,000 Shares), and the Option may be exercised, in accordance with paragraph (a) of Section 5, to the extent vested as of such Involuntary Termination (for clarity, after taking into account the foregoing acceleration provision of this paragraph (e)), provided such exercise occurs by the close of business on the last calendar day of the 12th full calendar month following the date of such Involuntary Termination. For purposes of this Agreement, "Involuntary Termination" shall mean: (i) without the Grantee's express written consent, an action by the Company's Board of Directors or external events causing or immediately portending a material reduction or alteration of the Grantee's duties, position or responsibilities relative to the Grantee's duties, position or responsibilities in effect immediately prior to such reduction or alteration, or the removal of the Grantee from such position, duties or responsibilities; (ii) without the Grantee's express written consent, a material reduction by the Company of the Grantee's base salary as in effect immediately prior to such reduction; (iii) without the Grantee's express written consent, the relocation of the Grantee's principal place of employment with the Company by more than fifty (50) miles; or (iv) any termination of the Grantee by the Company without Cause or as a result of the Retirement of the Grantee.

(f) Termination for Cause. Upon termination by the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof) of the Grantee's employment or service relationship for Cause, unless the Option has earlier terminated, the Option shall immediately terminate in its entirety and shall thereafter not be exercisable to any extent whatsoever. For purposes of this Agreement, "Cause" shall mean (i) any act of personal dishonesty taken by the Grantee in connection with his or her responsibilities as an employee which is intended to result in substantial personal enrichment of the Grantee; (ii) Grantee's conviction of a felony that the Company's Board of Directors reasonably believes has had or will have a material detrimental effect on the Company's reputation or business; (iii) a willful act by the Grantee that constitutes misconduct and is materially injurious to the Company; or (iv) continued willful violations by the Grantee of the Grantee's obligations to the Company after there has been delivered to the Grantee a written demand for performance from the Company that describes the basis for the Company's belief that the Grantee has not substantially performed his or her duties.

(f) Automatic Extension of Exercise Period. Notwithstanding any provisions of paragraphs (a), (b), (c), (d) or (e) of this Section to the contrary, if exercise of the Option following termination of employment or service during the time period set forth in the applicable paragraph or sale during such period of the Shares acquired on exercise would violate any of the provisions of federal securities laws (or any Company policy related thereto), the time period to exercise the Option shall be extended until the later of (i) forty-five (45) days after the date that the exercise of the Option and sale of the Shares acquired on exercise would not be a violation of federal securities laws (or a related Company policy), or (ii) the end of the time period set forth in the applicable paragraph.

7. Change in Control.

(a) Effect on Option. In the event of a Change in Control, unless the Option has earlier terminated, the Option shall vest and become exercisable with respect to fifty percent (50%) of the then unvested Shares on the day prior to the date of the Change in Control and shall vest and become exercisable with respect to the remaining fifty percent (50%) of the then unvested Shares on the one (1) year anniversary of the Change in Control; provided, however, that the Grantee is then providing Services.

(b) Assumption or Substitution. Subject to paragraph (a) of this Section 7, in the event of a Change in Control, to the extent the successor company (or a subsidiary or parent thereof) does not assume or substitute for the Option on substantially the same terms and conditions (which may include settlement in the common stock of the successor company (or a subsidiary or parent thereof)), the Option (i) shall become fully vested and exercisable on the day prior to the date of the Change in Control if the Grantee (A) is then providing Services or (B) was the subject of an Involuntary Termination in connection with, related to or in contemplation of the Change in Control and (ii) may be exercised, in accordance with paragraph (a) of Section 5, provided such exercise occurs by the close of business on the last calendar day of the 24th full calendar month following the date of such Involuntary Termination.

(c) Tail. Subject to paragraph (a) of this Section 7, in the event of a Change in Control, to the extent the successor company (or a subsidiary or parent thereof) assumes or substitutes for the Option on substantially the same terms and conditions (which may include providing for settlement in the common stock of the successor company (or a subsidiary or parent thereof)), and in the event of an Involuntary Termination of the Grantee within 12 months following the date of the Change in Control, the Option shall become fully vested and exercisable, and may be exercised by the Grantee at any time until the close of business on the last calendar day of the 24th full calendar month following the date of such Involuntary Termination.

8. Miscellaneous.

(a) No Rights of Stockholder. The Grantee shall not have any of the rights of a stockholder with respect to the Shares subject to this Option until such Shares have been issued upon the due exercise of the Option.

(b) No Registration Rights; No Right to Settle in Cash. The Company has no obligation to register with any governmental body or organization (including, without limitation, the U.S. Securities and Exchange Commission ("SEC")) any of (a) the offer or issuance of any Award, (b) any Shares issuable upon the exercise of any Award, or (c) the sale of any Shares issued upon exercise of any Award, regardless of whether the Company in fact undertakes to register any of the foregoing. In particular, in the event that any of (x) any offer or issuance of any Award, (y) any Shares issuable upon exercise of any Award, or (z) the sale of any Shares issued upon exercise of any Award are not registered with any governmental body or organization (including, without limitation, the SEC), the Company will not under any circumstance be required to settle its obligations, if any, under this Plan in cash.

(c) Nontransferability of Option. The Option shall be nontransferable otherwise than by will or the laws of descent and distribution, and during the lifetime of the Grantee, the Option may be exercised only by the Grantee or, during the period the Grantee is under a legal disability, by the Grantee's guardian or legal representative. Notwithstanding the foregoing, the Grantee may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the Grantee's death, shall thereafter be entitled to exercise the Option.

(d) Severability. If any provision of this Agreement shall be held unlawful or otherwise invalid or unenforceable in whole or in part by a court of competent jurisdiction, such provision shall (i) be deemed limited to the extent that such court of competent jurisdiction deems it lawful, valid and/or enforceable and as so limited shall remain in full force and effect, and (ii) not affect any other provision of this Agreement or part thereof, each of which shall remain in full force and effect.

(e) Governing Law. This Agreement shall be governed by, and interpreted in accordance with, the laws of the State of California, other than its conflict of laws principles.

(f) Headings. The headings in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

(g) Notices. All notices required or permitted under this Agreement shall be in writing and shall be sufficiently made or given if hand delivered or mailed by registered or certified mail, postage prepaid. Notice by mail shall be deemed delivered on the date on which it is postmarked.

Notices to the Company should be addressed to:

ADVENTRX Pharmaceuticals, Inc.
12390 El Camino Real, Suite 150
San Diego, CA 92130
Attention: Legal

Notice to the Grantee should be addressed to the Grantee at the Grantee's address as it appears on the records of the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof).

The Company or the Grantee may by writing to the other party, designate a different address for notices. If the receiving party consents in advance, notice may be transmitted and received via facsimile or via such other electronic transmission mechanism as may be available to the parties. Such notices shall be deemed delivered when received.

(h) Agreement Not a Contract. This Agreement (and the grant of the Option) is not an employment or service contract, and nothing in the Option shall be deemed to create in any way whatsoever any obligation on Grantee's part to continue as an employee or director of or consultant to the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof), or of the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof) to continue Grantee's service as such an employee, director or consultant.

(i) Entire Agreement; Modification. This Agreement and the Plan contain the entire agreement between the parties with respect to the subject matter contained herein and may not be modified, except as provided in the Plan or in a written document signed by each of the parties hereto, and may be rescinded only by a written agreement signed by both parties.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the Grant Date.

ADVENTRX PHARMACEUTICALS, INC.

By: /s/ Patrick L. Keran

/s/ Brian M. Culley

Grantee

ADVENTRX Pharmaceuticals, Inc. 2008 Omnibus Incentive Plan

Incentive Stock Option Grant Agreement

THIS INCENTIVE STOCK OPTION GRANT AGREEMENT (this "Agreement"), effective as of February 1, 2011 (the "Grant Date"), is entered into by and between ADVENTRX Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Patrick L. Keran (the "Grantee").

1. **Grant of Option.** The Company hereby grants to the Grantee a stock option (the "Option") to purchase 100,000 shares of common stock of the Company, par value \$0.001 per share (the "Shares"), at the exercise price of \$2.29 per Share (the "Exercise Price"). The Option is intended to qualify as an incentive stock option under Section 422 of the Code.

2. **Subject to the Plan.** This Agreement is subject to the provisions of the ADVENTRX Pharmaceuticals, Inc. 2008 Omnibus Incentive Plan (the "Plan"), and, unless the context requires otherwise, terms used herein shall have the same meaning as in the Plan. In the event of a conflict between the provisions of the Plan and this Agreement, the Plan shall control.

3. **Term of Option.** Unless the Option terminates earlier pursuant to the provisions of this Agreement, the Option shall expire on the tenth anniversary of the Grant Date.

4. **Vesting.** The Option shall become vested with respect to twenty five percent (25%) on each of January 1, 2012, January 1, 2013, January 1, 2014 and January 1, 2015; provided, however, that the Grantee is then providing Services.

5. **Exercise of Option**

(a) **Manner of Exercise.** To the extent vested, the Option may be exercised, in whole or in part, by delivering written notice to the Company in accordance with paragraph (g) of Section 8 in such form as the Company may require from time to time. Such notice shall specify the number of Shares subject to the Option as to which the Option is being exercised, and shall be accompanied by full payment of the Exercise Price of such Shares in a manner permitted under the terms of Section 5.5 of the Plan, except that payment with previously acquired Shares may only be made with the consent of the Committee. The Option may be exercised only in multiples of whole Shares and no fractional Shares shall be issued.

(b) **Issuance of Shares.** Upon exercise of the Option and payment of the Exercise Price for the Shares as to which the Option is exercised, the Company shall issue to the Grantee the applicable number of Shares in the form of fully paid and nonassessable Shares.

(c) **Capitalization Adjustments.** The number of Shares subject to the Option and the Exercise Price shall be equitably and appropriately adjusted, if applicable, as provided in Section 12.2 of the Plan.

(d) **Withholding.** No Shares will be issued on exercise of the Option unless and until the Grantee pays to the Company, or makes satisfactory arrangements with the Company for payment of, any federal, state or local taxes required by law to be withheld in respect of the exercise of the Option. The Grantee hereby agrees that the Company may withhold from the Optionee's wages or other remuneration the applicable taxes. At the discretion of the Company, the applicable taxes may be withheld in kind from the Shares otherwise deliverable to the Grantee on exercise of the Option, up to the Grantee's minimum required withholding rate or such other rate that will not trigger a negative accounting impact.

(e) Notice of Disposition. Grantee agrees to notify the Company in writing within fifteen (15) days after the date of any disposition of any of the Shares issued upon exercise of the Option that occurs within the later of two (2) years after the Grant Date or within one (1) year after such Shares are transferred to the Grantee.

6. Termination of Option

(a) Termination of Employment or Service Relationship Other Than Due to Retirement, Death, Disability, Involuntary Termination or Cause. Unless the Option has earlier terminated, the Option shall terminate in its entirety, regardless of whether the Option is vested, ninety (90) days after the date the Grantee ceases to provide Services for any reason other than, as applicable, the Grantee's Retirement, death, Disability, Involuntary Termination or termination for Cause. Except as provided in paragraphs (b), (c), (d) or (e) of this Section, any portion of the Option that is not vested at the time the Grantee ceases to provide Services shall immediately terminate.

(b) Retirement. Upon the Retirement of the Grantee, unless the Option has earlier terminated, the Option shall continue in effect (and, for purposes of vesting pursuant to Section 4, the Grantee shall be deemed to continue to be providing Services) until the earlier of (i) two (2) years after the Grantee's Retirement (or, if later, the fifth anniversary of the Grant Date) or (ii) the expiration of the Option's term pursuant to Section 3. For purposes of this Agreement, "Retirement" shall mean termination of the Grantee's employment with the Company and its Subsidiaries, or a successor company (or a subsidiary or parent thereof) and their respective subsidiaries, other than for Cause (a) if (i) the Grantee is then at least age 60 and (ii) the sum of the Grantee's age and years of continuous service with the Company and its Subsidiaries is then equal to at least 70 or (b) if the Committee characterizes such termination as a "Retirement" for purposes of this Agreement. For clarity, this Section 6(b) shall apply only to Grantees who are Employees at the time of termination.

(c) Death. Upon the Grantee's death, unless the Option has earlier terminated, the Grantee's executor or personal representative, the person to whom the Option shall have been transferred by will or the laws of descent and distribution, or such other permitted transferee, as the case may be, may exercise the Option in accordance with paragraph (a) of Section 5, to the extent vested, provided such exercise occurs within twelve (12) months after the date of the Grantee's death or by the end of the term of the Option pursuant to Section 3, whichever is earlier.

(d) Disability. In the event that the Grantee ceases to provide Services by reason of Disability, unless the Option has earlier terminated, the Option may be exercised, in accordance with paragraph (a) of Section 5, to the extent vested, provided such exercise occurs within six (6) months after the date of Disability or by the end of the term of the Option pursuant to Section 3, whichever is earlier. For purposes of this Agreement, "Disability" shall mean the Grantee's becoming disabled within the meaning of Section 22(e) (3) of the Code, or as otherwise determined by the Committee in its discretion. The Committee may require such proof of Disability as the Committee in its sole and absolute discretion deems appropriate and the Committee's determination as to whether the Grantee has incurred a Disability shall be final and binding on all parties concerned.

(e) Involuntary Termination. In the event that the Grantee ceases to provide Services as an Employee by reason of an Involuntary Termination, unless the Option has earlier terminated, the Option shall, immediately prior to such Involuntary Termination, vest and become exercisable with respect to 25% of the total number of Shares subject to this Option (or 25,000 Shares), and the Option may be exercised, in accordance with paragraph (a) of Section 5, to the extent vested as of such Involuntary Termination (for clarity, after taking into account the foregoing acceleration provision of this paragraph (e)), provided such exercise occurs by the close of business on the last calendar day of the 12th full calendar month following the date of such Involuntary Termination. For purposes of this Agreement, "Involuntary Termination" shall mean: (i) without the Grantee's express written consent, an action by the Company's Board of Directors or external events causing or immediately portending a material reduction or alteration of the Grantee's duties, position or responsibilities relative to the Grantee's duties, position or responsibilities in effect immediately prior to such reduction or alteration, or the removal of the Grantee from such position, duties or responsibilities; (ii) without the Grantee's express written consent, a material reduction by the Company of the Grantee's base salary as in effect immediately prior to such reduction; (iii) without the Grantee's express written consent, the relocation of the Grantee's principal place of employment with the Company by more than fifty (50) miles; or (iv) any termination of the Grantee by the Company without Cause or as a result of the Retirement of the Grantee.

(f) Termination for Cause. Upon termination by the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof) of the Grantee's employment or service relationship for Cause, unless the Option has earlier terminated, the Option shall immediately terminate in its entirety and shall thereafter not be exercisable to any extent whatsoever. For purposes of this Agreement, "Cause" shall mean (i) any act of personal dishonesty taken by the Grantee in connection with his or her responsibilities as an employee which is intended to result in substantial personal enrichment of the Grantee; (ii) Grantee's conviction of a felony that the Company's Board of Directors reasonably believes has had or will have a material detrimental effect on the Company's reputation or business; (iii) a willful act by the Grantee that constitutes misconduct and is materially injurious to the Company; or (iv) continued willful violations by the Grantee of the Grantee's obligations to the Company after there has been delivered to the Grantee a written demand for performance from the Company that describes the basis for the Company's belief that the Grantee has not substantially performed his or her duties.

(f) Automatic Extension of Exercise Period. Notwithstanding any provisions of paragraphs (a), (b), (c), (d) or (e) of this Section to the contrary, if exercise of the Option following termination of employment or service during the time period set forth in the applicable paragraph or sale during such period of the Shares acquired on exercise would violate any of the provisions of federal securities laws (or any Company policy related thereto), the time period to exercise the Option shall be extended until the later of (i) forty-five (45) days after the date that the exercise of the Option and sale of the Shares acquired on exercise would not be a violation of federal securities laws (or a related Company policy), or (ii) the end of the time period set forth in the applicable paragraph.

7. Change in Control.

(a) Effect on Option. In the event of a Change in Control, unless the Option has earlier terminated, the Option shall vest and become exercisable with respect to fifty percent (50%) of the then unvested Shares on the day prior to the date of the Change in Control and shall vest and become exercisable with respect to the remaining fifty percent (50%) of the then unvested Shares on the one (1) year anniversary of the Change in Control; provided, however, that the Grantee is then providing Services.

(b) Assumption or Substitution. Subject to paragraph (a) of this Section 7, in the event of a Change in Control, to the extent the successor company (or a subsidiary or parent thereof) does not assume or substitute for the Option on substantially the same terms and conditions (which may include settlement in the common stock of the successor company (or a subsidiary or parent thereof)), the Option (i) shall become fully vested and exercisable on the day prior to the date of the Change in Control if the Grantee (A) is then providing Services or (B) was the subject of an Involuntary Termination in connection with, related to or in contemplation of the Change in Control and (ii) may be exercised, in accordance with paragraph (a) of Section 5, provided such exercise occurs by the close of business on the last calendar day of the 24th full calendar month following the date of such Involuntary Termination.

(c) Tail. Subject to paragraph (a) of this Section 7, in the event of a Change in Control, to the extent the successor company (or a subsidiary or parent thereof) assumes or substitutes for the Option on substantially the same terms and conditions (which may include providing for settlement in the common stock of the successor company (or a subsidiary or parent thereof)), and in the event of an Involuntary Termination of the Grantee within 12 months following the date of the Change in Control, the Option shall become fully vested and exercisable, and may be exercised by the Grantee at any time until the close of business on the last calendar day of the 24th full calendar month following the date of such Involuntary Termination.

8. Miscellaneous.

(a) No Rights of Stockholder. The Grantee shall not have any of the rights of a stockholder with respect to the Shares subject to this Option until such Shares have been issued upon the due exercise of the Option.

(b) No Registration Rights; No Right to Settle in Cash. The Company has no obligation to register with any governmental body or organization (including, without limitation, the U.S. Securities and Exchange Commission ("SEC")) any of (a) the offer or issuance of any Award, (b) any Shares issuable upon the exercise of any Award, or (c) the sale of any Shares issued upon exercise of any Award, regardless of whether the Company in fact undertakes to register any of the foregoing. In particular, in the event that any of (x) any offer or issuance of any Award, (y) any Shares issuable upon exercise of any Award, or (z) the sale of any Shares issued upon exercise of any Award are not registered with any governmental body or organization (including, without limitation, the SEC), the Company will not under any circumstance be required to settle its obligations, if any, under this Plan in cash.

(c) Nontransferability of Option. The Option shall be nontransferable otherwise than by will or the laws of descent and distribution, and during the lifetime of the Grantee, the Option may be exercised only by the Grantee or, during the period the Grantee is under a legal disability, by the Grantee's guardian or legal representative. Notwithstanding the foregoing, the Grantee may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the Grantee's death, shall thereafter be entitled to exercise the Option.

(d) Severability. If any provision of this Agreement shall be held unlawful or otherwise invalid or unenforceable in whole or in part by a court of competent jurisdiction, such provision shall (i) be deemed limited to the extent that such court of competent jurisdiction deems it lawful, valid and/or enforceable and as so limited shall remain in full force and effect, and (ii) not affect any other provision of this Agreement or part thereof, each of which shall remain in full force and effect.

(e) Governing Law. This Agreement shall be governed by, and interpreted in accordance with, the laws of the State of California, other than its conflict of laws principles.

(f) Headings. The headings in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

(g) Notices. All notices required or permitted under this Agreement shall be in writing and shall be sufficiently made or given if hand delivered or mailed by registered or certified mail, postage prepaid. Notice by mail shall be deemed delivered on the date on which it is postmarked.

Notices to the Company should be addressed to:

ADVENTRX Pharmaceuticals, Inc.
12390 El Camino Real, Suite 150
San Diego, CA 92130
Attention: Legal

Notice to the Grantee should be addressed to the Grantee at the Grantee's address as it appears on the records of the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof).

The Company or the Grantee may by writing to the other party, designate a different address for notices. If the receiving party consents in advance, notice may be transmitted and received via facsimile or via such other electronic transmission mechanism as may be available to the parties. Such notices shall be deemed delivered when received.

(h) Agreement Not a Contract. This Agreement (and the grant of the Option) is not an employment or service contract, and nothing in the Option shall be deemed to create in any way whatsoever any obligation on Grantee's part to continue as an employee or director of or consultant to the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof), or of the Company or a Subsidiary or a successor company (or a subsidiary or parent thereof) to continue Grantee's service as such an employee, director or consultant.

(i) Entire Agreement; Modification. This Agreement and the Plan contain the entire agreement between the parties with respect to the subject matter contained herein and may not be modified, except as provided in the Plan or in a written document signed by each of the parties hereto, and may be rescinded only by a written agreement signed by both parties.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the Grant Date.

ADVENTRX PHARMACEUTICALS, INC.

By: /s/ Brian M. Culley

/s/ Patrick L. Keran
Grantee

March 28, 2011

R. Martin Emanuele
4406 Maroon Circle
Broomfield, CO 80023

Dear Marty:

ADVENTRX Pharmaceuticals, Inc. (the "Company") offers to employ you on a full-time basis on the terms and conditions stated in this letter agreement. This letter agreement will become effective upon the closing of the Merger (as defined in that certain Agreement And Plan Of Merger by and among Adventrx Pharmaceuticals, SRX Acquisition Corporation, SynthRx, Inc. and R. Martin Emanuele, as Stockholders Agent, dated February 12, 2011 (the "Agreement")). Your starting date will be April 27, 2011.

The Company will employ you as Senior Vice President, Development reporting to the Company's Chief Executive Officer (the "CEO"), Brian M. Culley. You acknowledge that, in this position, you may become a "Section 16 reporting person," which means the Company would be required to disclose certain personal information about you in its filings with the U.S. Securities and Exchange Commission and its other public disclosures, and you agree and consent to the Company's disclosure of such information. Subject to oversight and approval by the CEO and the Company's Board of Directors, you will be responsible for planning and directing the development and regulatory approval of purified P188, including the design and execution of clinical trials, providing support to other functional areas in connection with the P188 program and for such other responsibilities that are consistent with your position and title as may be assigned to you from time to time by the CEO and/or the Company's Board of Directors. The Company understands and agrees that you have substantial prior experience with the P188 compound and, during the first 12 months of your employment with us, as part of decision-making with respect to CMC and regulatory matters, will request the leadership of its CMC and regulatory functional areas to give your viewpoints due consideration in light of your background.

Your initial annual base salary shall be \$275,000, less standard payroll deductions and withholding, which would be payable in accordance with our standard payroll policies.

You will be eligible for an incentive award payable in cash or stock, the target amount of which will be 30% of base salary earned in calendar year 2011, based on the Company's achievement of corporate goals determined from time to time by our Board of Directors (or a committee thereof) and/or your achievement of personal goals determined from time to time by you and Mr. Culley. In the event the Company adopts a short-term incentive/bonus plan in the future, subject to the foregoing, this incentive award will be granted subject to, but you will otherwise participate as set forth in, such plan on the same terms and conditions generally applicable to other similarly situated employees of the Company.

If your employment with the Company terminates at any time as a result of an Involuntary Termination (as defined below), and you deliver (and do not revoke) the Release (as defined below), then you shall receive the following severance benefits:

(a) An amount payable by the Company to you equal to (i) the difference, if positive, between \$275,000 and the actual amount of base salary paid to you while a Company employee plus, (ii) nine (9) months (the "Benefit Period") of your then-current base salary, less standard withholdings, which amount shall be payable in a lump-sum on the date determined as described below.

(b) An amount payable by the Company to you equal to the estimated cost of continuing your health care coverage and the coverage of your dependents who are covered at the time of the Involuntary Termination under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, for a period equal to the Benefit Period, which amount shall be payable in a lump-sum on the date determined as described below.

As a condition of receiving the foregoing benefits, you must execute and not revoke a general release of claims, which will also confirm any post-termination obligations and/or restrictions applicable to you (the "Release"), such that the Release becomes effective no later than 60 days following the Termination Date (as defined below) (the "Release Deadline"). Such benefits shall be paid on the date the Release is effective; provided, however, that, in the event your separation occurs at a time during the calendar year where it would be possible for the Release to become effective in the calendar year following the calendar year in which your separation occurs, any severance that would be considered deferred compensation (as defined in Section 409A of the Internal Revenue Code of 1986, as amended ("Section 409A")) will be paid within fifteen (15) days following the Release Deadline.

"Termination Date" shall mean the effective date of your "separation from service" within the meaning of Section 409A (the "Separation from Service"). If upon the Termination Date you are a "specified employee" (as defined in Section 409A), then solely to the extent necessary to comply with Section 409A and avoid the imposition of taxes under Section 409A, the Company shall defer payment of any deferred compensation (as defined in Section 409A) which is payable as a result of and within six (6) months following the Separation from Service until the earlier of: (a) the first business day of the seventh month following the Separation from Service, or (b) ten (10) days after the Company receives written notification of your death. All such delayed payments shall be made without accrual of interest.

"Cause" shall mean (i) any significant act of personal dishonesty by you in connection with your responsibilities as an employee; (ii) acts or omissions constituting recklessness or willful misconduct on your part with respect to your obligations or otherwise relating to the business of the Company; (iii) any material breach or continued willful violations by you of your obligations to the Company, including under any offer letter, confidentiality and inventions assignment agreement or other agreement by and between you and the Company (other than in your capacity as a signatory to the Agreement in your capacity as Stockholders' Agent), which is not cured during a period of thirty (30) days after written notice from the Company; (iv) your conviction (including any plea of guilty or nolo contendere) of any felony or other criminal act involving dishonesty or moral turpitude; or (v) any material failure by you to comply with written policies of the Company

"Involuntary Termination" shall mean (i) without your express written consent, a material reduction or alteration of your duties, position or responsibilities relative to your duties, position or responsibilities in effect immediately prior to such reduction or alteration, or your removal from such position, duties or responsibilities; (ii) without your express written consent, a material reduction by the Company of your base salary as in effect immediately prior to such reduction; (iii) without your express written consent, the relocation of your principal place of employment with the Company by more than fifty (50) miles and (iv) any termination of your employment by the Company without Cause. Except in the case of a termination of you by the Company without Cause, an "Involuntary Termination" shall not be deemed to occur until the Company has received written notice from you of the occurrence of an Involuntary Termination and had thirty (30) days after the Company's receipt of such notice to cure or remedy such Involuntary Termination (the "Remedy Period"). Any such notice provided by you shall indicate the specific termination provision relied upon, shall set forth in reasonable detail the facts and circumstances claimed to provide a basis for termination under the provision so indicated, and shall specify the Termination Date. In order to be effective, a resignation for Involuntary Termination must occur within ten (10) business days after the end of the Remedy Period in which the Company failed to cure or remedy the Involuntary Termination and you must have provided the foregoing written notice of the occurrence of an Involuntary Termination event to the Company within ninety (90) days of your awareness of the initial existence of the applicable Involuntary Termination event. The items referenced above constitute the exclusive list of the reasons that shall be considered "Involuntary Termination" for the termination of your employment by you as an Involuntary Termination.

As our employee, you would be entitled to participate in our employee benefit programs, including our medical, dental, life insurance and 401(k) programs, on the same terms as our other full-time employees. These programs, as well as other employee benefits and policies, are described in further detail in our Policies and Procedures Manual. We reserve the right to modify or amend at our sole discretion the terms of any and all employee benefit programs from time to time without advance notice to our employees. Notwithstanding our employee vacation policy set forth in the Policies and Procedures Manual, you will be entitled to 20 vacation days per year, which will accrue in accordance with our general vacation accrual policy, including any maximum accrual limits set forth therein.

Your employment with us will be "at will" and not for a specified term. We make no express or implied commitment that your employment will have a minimum or fixed term, that we may take adverse employment action only for cause or that your employment is terminable only for cause. We may terminate your employment with or without cause and with or without advance notice at any time and for any reason. Any contrary representations or agreements that may have been made to you are superseded by this letter agreement. The at-will nature of your employment described in this letter agreement shall constitute the entire agreement between you and ADVENTRX concerning the nature and duration of your employment. Although your job duties, title and compensation and benefits may change over time, the at-will nature of your employment with us can only be changed in a written agreement signed by you and our Chief Executive Officer or President.

Our proprietary rights and confidential information are among our most important assets. In addition to signing this letter agreement, as a condition to your employment you must also sign the Confidential Information, Non-Solicitation and Invention Assignment Agreement for Employees presented to you concurrently herewith (the "Company Confidentiality Agreement"). As more fully described in the Company Confidentiality Agreement, we require that, in the course of your employment with us, you not use or disclose to us any confidential information, including trade secrets, of any former employer or other person to whom you have an obligation of confidentiality. Rather, you will be expected to use only that information which is generally known and used by persons with training and experience comparable to your own, which is common knowledge in the industry or otherwise legally in the public domain, or which is otherwise provided or developed by us. During our discussions about your proposed job duties, you assured us that you would be able to perform those duties within the guidelines just described. Accordingly, you further agree that you will not bring on to our premises any unpublished documents or property belonging to any former employer or other person to whom you have an obligation of confidentiality.

In addition, as an employee, we require that you comply with all of our policies and procedures, including, without limitation, our Policies and Procedures Manual, Code of Business Conduct and Ethics and our Insider Trading and Disclosure Policy, copies of which will, at your request, be provided to you prior to your beginning work with us. You may be required to sign certain documents acknowledging your receipt and understanding of these and other documents. Violation of any of our policies or procedures would be cause for disciplinary action including termination.

Your employment with us is also conditioned upon your ability to provide adequate documentation of your legal right to work in the United States. If you make any misrepresentations to us or omit to state a material fact necessary in order to make another statement made not misleading in connection therewith, we may void this letter agreement or, if you are already employed, terminate your employment.

This letter agreement and documents attached hereto, if any, or referenced herein shall be governed pursuant to the laws of the State of California as applied to agreements between California residents entered into to be performed entirely within California.

If any portion of this letter agreement shall, for any reason, be held invalid or unenforceable, or contrary to public policy or any law, the remainder of this letter agreement shall not be affected by such invalidity or unenforceability, but shall remain in full force and effect, as if the invalid or unenforceable term or portion thereof had not existed within this letter agreement.

If you accept and agree with the terms and conditions set forth in this letter agreement, please so indicate by countersigning below. Please sign below to accept the terms and conditions set forth herein and return the fully executed letter to me by April 5, 2011. You should keep one copy of this letter agreement for your own records.

Sincerely,

ADVENTRX Pharmaceuticals, Inc.

/s/ Brian M. Culley

Brian M. Culley
Chief Executive Officer

ACCEPTED AND AGREED:

/s/ R. Martin Emanuele

R. Martin Emanuele

Date: April 5, 2011

ADVENTRX PHARMACEUTICALS, INC.

DIRECTOR COMPENSATION POLICY
(adopted March 16, 2011)

Non-employee members of the board of directors (the "Board") of ADVENTRX Pharmaceuticals, Inc. (the "Company") shall, beginning January 1, 2011, be eligible to receive cash and equity compensation as set forth in this Director Compensation Policy. The cash compensation described in this Director Compensation Policy shall be paid or be made, as applicable, automatically and without further action of the Board or any committee of the Board, to each member of the Board who is not an employee of the Company or any parent or subsidiary of the Company (each, a "Non-Employee Director") who may be eligible to receive such cash compensation, unless such Non-Employee Director declines the receipt of such cash compensation by written notice to the Company. The option grants described in this policy shall be approved by the Board at the time of grant in such amounts and otherwise on the terms and conditions as set forth herein. This Director Compensation Policy shall remain in effect until it is revised or rescinded by further action of the Board. This Director Compensation Policy shall be administered and interpreted by the Board, in its sole and absolute discretion, and the Board retains full discretion to modify its terms or cancel it at any time.

1. Cash Compensation.

(a) Quarterly Retainers.

(i) Each Non-Employee Director shall be eligible to receive a quarterly retainer of \$5,000, or \$20,000 per year, for service on the Board. In addition,

(A) a Non-Employee Director serving as Lead Independent Director or, if there is no Lead Independent Director, a Non-Employee Director serving as Chair of the Board shall be eligible to receive an additional quarterly retainer of \$5,000, or \$20,000 per year, for service as Lead Independent Director or Chair of the Board, as applicable;

(B) a Non-Employee Director serving as Chair of the Board's Audit Committee shall be eligible to receive an additional quarterly retainer of \$1,875, or \$7,500 per year, for service as Chair of the Audit Committee;

(C) a Non-Employee Director serving as Chair of any committee of the Board other than the Board's Audit Committee, compensation for which is addressed in Section 1(a)(i)(B) above, including its Compensation Committee, its Nominating and Governance Committee, its Research and Development Committee and other ad hoc committees, shall be eligible to receive an additional quarterly retainer of \$875, or \$3,500 per year, for service as Chair of such committee.

(b) Meeting Stipends. Each Non-Employee Director shall be eligible to receive a \$1,000 stipend for each Board meeting attended (whether in person or by telephone, videoconference or other comparable communication device) and each Non-Employee Director who serves on a committee of the Board shall be eligible to receive a \$1,000 stipend for each meeting of each such committee that such Non-Employee Director attends (whether in person or by telephone, videoconference or other comparable communication device).

(c) New Directors; Departing Directors; Change in Status. A person (i) who is initially elected or appointed to the Board or as Lead Independent Director or as Chair of the Board or Chair of a committee of the Board following March 16, 2011 and who is a Non-Employee Director at the time of such initial election or appointment or (ii) whose service on the Board as a Non-Employee Director or as Lead Independent Director or as Chair of the Board or Chair of a committee of the Board begins or ends prior to the end of the applicable quarter, shall receive a pro-rated portion of the quarterly fees described above based on (x) the number of (full or partial) days for which the person served on the Board as a Non-Employee Director or as Lead Independent Director or as Chair of the Board or Chair of a committee of the Board and (y) a 90-day quarter. For clarity, each such person shall be immediately eligible for meeting stipends.

(d) Payment. All quarterly retainers and meeting stipends shall be payable in arrears following the end of each calendar quarter.

2. Equity Compensation.

(a) Definitions. For purposes of this Section 2, the following terms shall have the following meanings:

(i) "Current Allocation" shall mean the product of (A) 0.0396%, multiplied by (B) the number of shares of common stock issued and outstanding as of the applicable date. For clarity, (X) the applicable date for each newly elected/appointed director shall be the Appointment Date and (Y) the applicable date for each Annual Option shall be the date of the applicable annual meeting of stockholders.

(ii) "Make-Up Amount" shall mean the difference between (A) the Current Allocation as of the date of the current-year annual meeting of stockholders, minus (B) the Current Allocation applicable to the prior year's annual meeting of stockholders (or, for Non-Employee Directors who were not Non-Employee Directors at the time of the prior year's annual meeting of stockholders, the Current Allocation as of the date of such Non-Employee Director's Appointment Date (as defined in Section 2(c))).

(b) 2008 Plan. Anything in this Director Compensation Policy to the contrary notwithstanding, the options described in this Director Compensation Policy shall be granted under and shall be subject to the terms and provisions of the Company's 2008 Omnibus Incentive Plan, as amended and/or restated from time to time (the "2008 Plan"), and shall be granted subject to the execution and delivery of option agreements, including attached exhibits, if any, in substantially the same forms previously approved by the Board or a committee of the Board, setting forth the vesting schedule applicable to such options and such other terms as may be required by the 2008 Plan. In addition, the approval and granting of the options described below shall be subject to and contingent upon the Company's compliance with, or the waiver thereof, of any contractual obligations applicable to the Company's approval or granting of such options (all as determined by the Company in its sole and absolute discretion).

(c) New Non-Employee Directors. Each newly elected or appointed Non-Employee Director or member of the Board who becomes a Non-Employee Director (each, a "New Non-Employee Director") shall be eligible to receive, in connection with such New Non-Employee Director's election or appointment to the Board or change in status (the "Appointment Date"), the following:

(i) a non-qualified stock option (each, an "Inducement Option") to purchase such number of shares of common stock as is equal to the Current Allocation (subject to adjustment as provided in the 2008 Plan); and

(ii) provided the New Non-Employee Director was not initially elected at an annual meeting of stockholders and such New Non-Employee Director's Appointment Date is more than 30 days before the date of the next annual meeting of stockholders, a non-qualified stock option (each, a "Pro-Rated Annual Option") to purchase that number of shares of common stock as is equal to (A) x (B), where:

(A) = the quotient of (I) the Current Allocation, divided by (II) 12; subject to adjustment as provided in the 2008 Plan; and

(B) = The number of full 30-day periods between such New Non-Employee Director's Appointment Date and the date of the next annual meeting of stockholders (or, if, on the Appointment Date, the date of the next annual meeting of stockholders has not been set by the Board, the one-year anniversary of the prior year's annual meeting of stockholders) (such number of 30-day periods, the "Number of Months Until Meeting").

(d) Annual Options. In connection with each annual meeting of stockholders, each Non-Employee Director shall be eligible to receive a non-qualified stock option (each, an "Annual Option") to purchase such number of shares of common stock as is equal to the Current Allocation (subject to adjustment as provided in the 2008 Plan), plus, if applicable, the Make-Up Amount.

The "Make-Up Amount" shall be included in the Annual Option for a Non-Employee Director only if: (i) the Make-Up Amount with respect to such Non-Employee Director exceeds 20% of the Current Allocation as of the date of the current-year annual meeting of stockholders; (ii) the Company's market capitalization (shares outstanding multiplied by stock price) has not exceeded \$100 million for a sustained period (e.g., 20 trading days), as determined unanimously by the Board; and (iii) the Board unanimously determines to include the Make-Up Amount in such Annual Option.

(e) Termination of Employment of Employee Directors. Members of the Board who are employees of the Company or any parent or subsidiary of the Company who subsequently terminate their employment with the Company and any parent or subsidiary of the Company and remain on the Board will, to the extent that they are otherwise eligible, be eligible to receive, after termination from employment with the Company and any parent or subsidiary of the Company, an Inducement Option, a Pro-Rated Annual Option and an Annual Option, all as described in this Section 2.

(f) Terms of Options Granted to Non-Employee Directors.

(i) Exercise Price. The per share exercise price of each option granted to a Non-Employee Director shall equal 100% of the Fair Market Value (as defined in the 2008 Plan) of a share of common stock on the date the option is granted.

(ii) Vesting.

(A) Each Inducement Option granted to a New Non-Employee Director shall become vested and exercisable in thirty-six substantially equal monthly installments of $1/36^{\text{th}}$ of the shares subject to such option at the end of each successive month following the Appointment Date of such New Non-Employee Director, subject to such director's continuing service (as defined in the 2008 Plan) through such dates.

(B) Each Pro-Rated Annual Option granted to a New Non-Employee Director shall become vested and exercisable in such number of substantially equal monthly installments (which number shall be equal to the Number of Months Until Meeting) of such fraction of the shares subject to such option (which fraction shall be equal to $1/\text{the Number of Months Until Meeting}$) at the end of each successive month following the Appointment Date of such New Non-Employee Director, subject to such director's continuing service (as defined in the 2008 Plan) through such dates.

(C) Each Make-Up Option granted to a Non-Employee Director shall become vested and exercisable in twelve substantially equal monthly installments of $1/12$ of the shares subject to such option at the end of each successive month following June 3, 2009, subject to such director's continuing service (as defined in the 2008 Plan) through such dates.

(D) Each Annual Option granted to a Non-Employee Director shall become vested and exercisable in twelve substantially equal monthly installments of $1/12^{\text{th}}$ of the shares subject to such option at the end of each successive month following the date of applicable annual meeting of stockholders, subject to such director's continuing service (as defined in the 2008 Plan) through such dates.

(iii) Term. The term of each option granted to a Non-Employee Director shall be the shorter of (x) ten years from the date the option is granted and (y) three years from the date such Non-Employee Director ceases to provide Services (as defined in the 2008 Plan) for any reason other than such Non-Employee Director's death or disability.

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15(d)-14(a)
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Brian M. Culley, certify that:

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

May 9, 2011

/s/ Brian M. Culley

Brian M. Culley
Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO
SECURITIES EXCHANGE ACT RULES 13a-14(a) AND 15(d)-14(a)
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Patrick L. Keran, certify that:

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

May 9, 2011

/s/ Patrick L. Keran

Patrick L. Keran

President and Chief Operating Officer
(Principal Financial Officer)

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of ADVENTRX Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2011, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Brian M. Culley, principal executive officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (i) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 9, 2011

/s/ Brian M. Culley

Brian M. Culley
Chief Executive Officer
(Principal Executive Officer)

In connection with the Quarterly Report of ADVENTRX Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the quarter ended March 31, 2011, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Patrick L. Keran, principal financial officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (i) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 9, 2011

/s/ Patrick L. Keran

Patrick L. Keran
President and Chief Operating Officer
(Principal Financial Officer)