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**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, 2010**

**OR**

o **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** | **84-1318182** |
|---|---|
| *(State or other jurisdiction of incorporation or organization)* | *(I.R.S. Employer Identification No.)* |
| **6725 Mesa Ridge Road, Suite 100, San Diego, CA** | **92121** |
| *(Address of principal executive offices)* | **(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 o

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 o No o

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 o Accelerated filer o Non-accelerated filer o 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 o No ☑

The number of shares outstanding of the registrant's common stock, $0.001 par value, as of April 26, 2010 was 10,289,996.

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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, 2010 (Unaudited) | December 31, 2009 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash | $ 19,812,013 | $ 8,667,404 |
| Interest and other receivables | 11,305 | 14,841 |
| Prepaid expenses | 203,999 | 290,249 |
| Total current assets | 20,027,317 | 8,972,494 |
| Property and equipment, net | 45,109 | 44,210 |
| Other assets | 2,499 | 10,513 |
| Total assets | $ 20,074,925 | $ 9,027,217 |
| **Liabilities and Stockholders' Equity** | | |
| Current liabilities | | |
| Accounts payable | $ 180,487 | $ 385,358 |
| Accrued liabilities | 951,845 | 1,379,010 |
| Accrued compensation and payroll taxes | 114,478 | 589,319 |
| Total current liabilities | 1,246,810 | 2,353,687 |
| Stockholders' equity: | | |
| 0% Series A Convertible Preferred Stock, $0.001 par value, 1,993 shares authorized; 1,993 shares issued and 0 shares outstanding as of March 31, 2010 and December 31, 2009 | — | — |
| 5% Series B Convertible Preferred Stock, $0.001 par value, 1,361 shares authorized; 1,361 shares issued and 0 shares outstanding as of March 31, 2010 and December 31, 2009 | — | — |
| 5% Series C Convertible Preferred Stock, $0.001 par value, 922 shares authorized; 922 shares issued and 0 shares outstanding as of March 31, 2010 and December 31, 2009 | — | — |
| 4.25660% Series D Convertible Preferred Stock, $0.001 par value, 11,283 shares authorized; 11,283 shares issued and 0 shares outstanding as of March 31, 2010 and December 31, 2009 | — | — |
| 3.73344597664961% Series E Convertible Preferred Stock, $0.001 par value, 19,000 shares authorized; 19,000 shares issued and 0 shares outstanding as of March 31, 2010 and 0 shares issued and outstanding as of December 31, 2009 | — | — |
| Common stock, $0.001 par value; 500,000,000 shares authorized; 10,289,996 and 8,211,410 shares issued and outstanding at March 31, 2010 and December 31, 2009, respectively | 10,290 | 8,211 |
| Additional paid-in capital | 165,774,222 | 148,703,722 |
| Deficit accumulated during the development stage | (146,956,397) | (142,038,403) |
| Total stockholders' equity | 18,828,115 | 6,673,530 |
| Total liabilities and stockholders' equity | $ 20,074,925 | $ 9,027,217 |

Note: The balance sheet at December 31, 2009 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 |
|---|---|---|---|
| | 2010 | 2009 | March 31, 2010 |
| Revenues: | | | |
| Net sales | $ — | $ — | $ 174,830 |
| Grant revenue | — | — | 129,733 |
| Licensing revenue | — | 300,000 | 1,300,000 |
| Total net revenues | | 300,000 | 1,604,563 |
| Cost of goods sold | — | — | 51,094 |
| Gross margin | — | 300,000 | 1,553,469 |
| Operating expenses: | | | |
| Research and development | 1,239,329 | 1,647,300 | 69,761,534 |
| Selling, general and administrative | 1,174,676 | 1,779,240 | 49,142,186 |
| Depreciation and amortization | 5,880 | 32,246 | 10,883,678 |
| 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 | 2,419,885 | 3,458,786 | 146,090,594 |
| Loss from operations | (2,419,885) | (3,158,786) | (144,537,125) |
| Loss on fair value of warrants | — | — | (12,239,688) |
| Interest income | 18,440 | — | 4,607,628 |
| Interest expense | (1,629) | — | (180,719) |
| Other income | — | 1,776 | 65,845 |
| Loss before cumulative effect of change in accounting principle | (2,403,074) | (3,157,010) | (152,284,059) |
| Cumulative effect of change in accounting principle | — | — | (25,821) |
| Net loss | (2,403,074) | (3,157,010) | (152,309,880) |
| Preferred stock dividends | — | — | (621,240) |
| Deemed dividends on preferred stock | (2,514,920) | — | (7,381,807) |
| Net loss applicable to common stock | $ (4,917,994) | $ (3,157,010) | $ (160,312,927) |
| Net loss per common share — basic and diluted | $ (0.48) | $ (0.87) | |
| Weighted average shares — basic and diluted | 10,143,789 | 3,610,102 | |

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 |
|---|---|---|---|
| | 2010 | 2009 | March 31, 2010 |
| Cash flows from operating activities: | | | |
| Net loss | $ (2,403,074) | $ (3,157,010) | $ (152,309,880) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Depreciation and amortization | 5,880 | 32,246 | 10,433,678 |
| Loss on disposals of fixed assets | — | 279 | 55,516 |
| Loss on fair value of warrants | — | — | 12,239,688 |
| Expenses related to employee stock options and restricted stock issued | 225,490 | 173,958 | 8,663,489 |
| 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 | — | — | (1,249,853) |
| Amortization of debt discount | — | — | 450,000 |
| Accretion of discount on investments in securities | — | — | (354,641) |
| 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 | 97,800 | (57,879) | (465,172) |
| Increase (decrease) in accounts payable and accrued liabilities | (1,106,877) | (1,534,852) | 1,423,518 |
| Net cash used in operating activities | (3,180,781) | (4,543,258) | (101,619,844) |
| 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 | (6,780) | — | (1,037,134) |
| Proceeds from sale of property and equipment | — | — | 49,906 |
| 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 | (6,780) | — | 1,034,454 |
| Cash flows from financing activities: | | | |
| Proceeds from sale of preferred stock | 15,453,226 | — | 29,474,719 |
| Proceeds from sale of common stock | — | — | 84,151,342 |
| Proceeds from exercise of stock options | — | — | 712,367 |
| Proceeds from sale or exercise of warrants | 317,444 | — | 14,714,258 |
| Repurchase of warrants | — | — | (55,279) |
| Payments for financing and offering costs | (1,438,500) | — | (9,338,813) |
| Payments on notes payable and long-term debt | — | — | (605,909) |
| Proceeds from issuance of notes payable and detachable warrants | — | — | 1,344,718 |
| Net cash provided by financing activities | 14,332,170 | — | 120,397,403 |
| Net increase (decrease) in cash | $ 11,144,609 | $ (4,543,258) | $ 19,812,013 |
| Cash at beginning of period | 8,667,404 | 9,849,904 | — |
| Cash at end of period | $ 19,812,013 | $ 5,306,646 | $ 19,812,013 |

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, 2009 included in our Annual Report on Form 10-K filed with the SEC on March 18, 2010 ("2009 Annual Report"). The condensed consolidated balance sheet as of December 31, 2009 included in this report has been derived from the audited consolidated financial statements included in the 2009 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 subsidiaries, SD Pharmaceuticals, Inc. and ADVENTRX (Europe) Ltd. up until its dissolution. ADVENTRX (Europe) Ltd. was dissolved by us in December 2009. All intercompany accounts and transactions have been eliminated in consolidation.

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 (See Note 11, "Subsequent Events"). All common stock share and per share information in the unaudited interim condensed consolidated financial statements and notes thereto included in this report have been restated to reflect retrospective application of the reverse stock split, 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 consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

## 3. Share-Based Compensation Expense

Estimated share-based compensation expense related to equity awards granted to employees, including our non-employee directors, for the three months ended March 31, 2010 and 2009 was as follows:

| | Three months ended March 31, | |
|---|---|---|
| | 2010 | 2009 |
| Selling, general and administrative expense | $ 228,537 | $ 199,334 |
| Research and development expense | (3,047) | (25,376) |
| Share-based compensation expense before taxes | 225,490 | 173,958 |
| Related income tax benefits | — | — |
| Share-based compensation expense | $ 225,490 | $ 173,958 |
| Net share-based compensation expense per common share — basic and diluted | $ 0.02 | $ 0.05 |

In January 2009, we granted restricted stock units under our 2008 Omnibus Incentive Plan to seven employees that represented the right to receive in the aggregate 148,000 shares of our common stock. These units were to vest immediately prior to a strategic transaction (as defined in the documentation evidencing the grant of the units). We would record share-based compensation expense in connection with these restricted stock units, if at all, only if a strategic transaction was consummated. All of the restricted stock units granted in January 2009 were subsequently canceled in the first, second and third quarters of 2009 as a result of employee terminations and resignations and in connection with certain compensation arrangements with our remaining employees. As of March 31, 2009, restricted stock units representing the right to receive an aggregate of 130,000 shares of our common stock were outstanding, and, as of March 31, 2010, no restricted stock units were outstanding.

There were no employee stock options exercised during the three months ended March 31, 2010 and 2009. During the three months ended March 31, 2010, we granted stock options to acquire an aggregate of 183,381 shares of our common stock to our employees and non-employee directors with an estimated weighted-average grant-date fair value of $7.64 per share. At March 31, 2010, total unrecognized estimated compensation cost related to non-vested employee and non-employee director share-based awards granted prior to that date was $1.3 million, which is expected to be recognized over a weighted-average period of 3.2 years. During the three months ended March 31, 2009, we granted no stock options to our employees or non-employee directors.

## 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, 2010 and 2009, comprehensive loss was $2.4 million and $3.2 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 common stock equivalents. Options, warrants and restricted stock units are considered to be common stock equivalents and are only included in the calculation of diluted earnings per common share when their effect is dilutive.

We have excluded the following options, warrants and restricted stock units from the calculation of diluted net loss per common share for the three months ended March 31, 2010 and 2009 because their effect is anti-dilutive:

| | 2010 | 2009 |
|---|---|---|
| Warrants | 1,459,874 | 534,938 |
| Options | 413,737 | 140,391 |
| Restricted stock units | — | 130,000 |
| | 1,873,611 | 805,329 |

## 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 updated guidance will be effective for our fiscal year 2011 for revenue arrangements entered into or materially modified in fiscal years beginning on or after June 15, 2010 and may be applied prospectively or retroactively. Early adoption is permitted, but early adoption in a period other than the first reporting period in the fiscal year requires retroactive application back to the beginning of the year. We are evaluating the effect, if any, that the adoption of this guidance will have on our consolidated financial statements.

## 7. Licensing Revenue

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) (the "License Agreement") 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 License Agreement, we would receive an upfront licensing fee of $0.3 million, 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. If the Korea Food and Drug Administration requires 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, which supply obligation is subject to limitations, we will pay Shin Poong $0.1 million.

We received the $0.3 million upfront licensing fee in April 2009. We recognized $0.3 million in licensing revenue in the three-month period ended March 31, 2009 because we met the criteria under our revenue recognition policy in that period.

## 8. 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, 2010 and 2009 and for the period from inception (June 12, 1996) through March 31, 2010 are as follows:

| | Three months ended March 31, | | Inception (June 12, 1996) through |
|---|---|---|---|
| | 2010 | 2009 | March 31, 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 | — | 147,186 |
| Acquisitions | — | — | 24,781,555 |
| Payment of dividends | — | — | 213,000 |
| Financial advisor services in connection with private placements | 724,286 | — | 2,553,554 |
| 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 | — | 9,285,274 |

## 9. Severance Related Expenses

In January 2009, as part of a restructuring to reduce operating costs, we completed a workforce reduction of six employees. As a result of that workforce reduction, we recorded severance related charges of $193,000, of which $96,000 was recorded in research and development and the balance of which was recorded in selling, general and administrative. We recorded $144,000 of such severance related charges in the first quarter of 2009 and the balance was recorded in the second quarter of 2009. As of June 30, 2009, all severance related costs related to the January 2009 workforce reduction had been paid.

In April 2009, we completed a workforce reduction of nine employees. As a result of that workforce reduction, we recorded severance related charges of $190,000, of which $128,000 was recorded in research and development and the balance of which was recorded in selling, general and administrative. We recorded $114,000 of such severance related charges in the first quarter of 2009 and the balance was recorded in the second quarter of 2009. As of June 30, 2009, all severance related costs related to the April 2009 workforce reduction had been paid.

**10. Equity Transactions**

***0% Series A Convertible Preferred Stock***

In June 2009, we completed a registered direct equity financing raising gross proceeds of approximately $2.0 million involving the issuance of 1,993 shares of our 0% Series A Convertible Preferred Stock with a stated value of $1,000 per share ("Series A Stock"), and 5-year warrants to purchase up to 324,651 shares of our common stock at an exercise price of $3.75 per share. In the aggregate, the shares of Series A Stock we issued were convertible into 721,447 shares of our common stock. All of the shares of the Series A Stock have been converted into common stock and are no longer outstanding. We received approximately $1.7 million in net proceeds from the financing, after deducting the placement agent's fees and expenses and other offering expenses. In December 2009, in connection with the exercise of warrants issued in the June 2009 financing, we issued 240,000 shares of our common stock and received net proceeds of $0.9 million. In January 2010, in connection with the exercise of the remaining warrants issued in the June 2009 financing, we issued an additional 84,651 shares of our common stock and received an additional $0.3 million of net proceeds. All of the warrants we issued in the June 2009 financing have been exercised and are no longer outstanding.

The convertible feature of our Series A Stock and the terms of the warrants issued in connection with our Series A Stock provided 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 A Stock is characterized as a beneficial conversion feature ("BCF"). The estimated relative fair values of the shares of our Series A Stock and the warrants issued in connection with such stock were calculated as approximately $1.2 million and $531,000, respectively. The value of the BCF was determined using the intrinsic value method and calculated as approximately $1.2 million. Because our Series A Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series A 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 five-year term, stock volatility of 197.01%, and a risk-free interest rate of 2.81%. The value of the BCF was treated as a deemed dividend to the holders of our Series A Stock and, due to the potential immediate convertibility of our Series A 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 36,071 shares of our common stock at an exercise price of $3.75 per share to the placement agent in the June 2009 financing as additional consideration for its services in connection with the financing. These warrants had a fair value of approximately $132,000 using the Black-Scholes option-pricing model as of the date of issuance assuming a five-year term, stock volatility of 196.5%, and a risk-free interest rate of 2.85%. The warrants became exercisable on December 13, 2009 and are exercisable at any time on or before June 12, 2014.

***5% Series B Convertible Preferred Stock***

In July 2009, we completed a registered direct equity financing raising gross proceeds of approximately $1.4 million involving the issuance of 1,361 shares of our 5% Series B Convertible Preferred Stock with a stated value of $1,000 per share ("Series B Stock"). In the aggregate, the shares of Series B Stock we issued were convertible into 380,167 shares of our common stock. All of the shares of our Series B Stock have been converted into common stock and are no longer outstanding. Our Series B Stock would have accrued a cumulative annual dividend of 5% per share until July 6, 2014, and no dividend thereafter. In accordance with the terms of the Series B Stock, because the Series B Stock was converted prior to July 6, 2014, 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 July 6, 2014, or $250 per $1,000 of stated value of the shares converted. We received approximately $0.8 million in net proceeds from the financing after deducting the $340,250 we placed into an escrow account to pay the aggregate dividend payment in respect of our Series B Stock, placement agent's fees and expenses and other offering expenses.

The convertible feature of our Series B Stock and the value of the dividend in respect thereof provided for a rate of conversion that was below the market value of our common stock at issuance. The convertible feature of our Series B Stock is characterized as a BCF. The estimated relative fair value of the shares of our Series B Stock was calculated as approximately $1.0 million. The value of the BCF was determined using the intrinsic value method and calculated as approximately $215,000. Because our Series B Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series B Stock was issued. The value of the BCF was treated as a deemed dividend to the holders of our Series B Stock and, due to the potential immediate convertibility of our Series B 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 19,007 shares of our common stock at an exercise price of $4.48 per share to the placement agent in the July 2009 financing as additional consideration for its services in connection with the financing. These warrants had a fair value of approximately $60,000 using the Black-Scholes option-pricing model as of the date of issuance assuming a five-year term, stock volatility of 197.37%, and a risk-free interest rate of 2.4%. The warrants became exercisable on January 7, 2010 and are exercisable at any time on or before July 6, 2014.

***5% Series C Convertible Preferred Stock***

In August 2009, we completed a registered direct equity financing raising gross proceeds of approximately $0.9 million involving the issuance of 922 shares of our 5% Series C Convertible Preferred Stock with a stated value of $1,000 per share ("Series C Stock"). In the aggregate, the shares of Series C Stock we issued were convertible into 283,692 shares of our common stock. All of the shares of our Series C Stock have been converted into common stock and are no longer outstanding. Our Series C Stock would have accrued a cumulative annual dividend of 5% per share until February 10, 2012, and no dividend thereafter. In accordance with the terms of the Series C Stock, because the Series C Stock was converted prior to February 10, 2012, 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 February 10, 2012, or $125 per $1,000 of stated value of the shares converted. We received approximately $0.7 million in net proceeds from the financing after deducting the $115,250 we placed into an escrow account to pay the aggregate dividend payment in respect of our Series C Stock, placement agent's fees and expenses and other offering expenses.

The convertible feature of our Series C Stock and the value of the dividend in respect thereof provided for a rate of conversion that was below the market value of our common stock at issuance. The convertible feature of our Series C Stock is characterized as a BCF. The estimated relative fair value of the shares of our Series C Stock was calculated as approximately $807,000. The value of the BCF was determined using the intrinsic value method and calculated as approximately $186,000. Because our Series C Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series C Stock was issued. The value of the BCF was treated as a deemed dividend to the holders of our Series C Stock and, due to the potential immediate convertibility of our Series C 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 14,183 shares of our common stock at an exercise price of $4.06 per share to the placement agent in the August 2009 financing as additional consideration for its services in connection with the financing. These warrants had a fair value of approximately $48,000 using the Black-Scholes option-pricing model as of the date of issuance assuming a five-year term, stock volatility of 198.94%, and a risk-free interest rate of 2.75%. The warrants became exercisable on February 10, 2010 and are exercisable at any time on or before August 10, 2014.

***4.25660% Series D Convertible Preferred Stock***

In October 2009, we completed a registered direct equity financing raising gross proceeds of approximately $11.3 million involving the issuance of 11,283 shares of our 4.25660% Series D Convertible Preferred Stock with a stated value of $1,000 per share ("Series D Stock"), and 5-year warrants to purchase up to an aggregate of 792,000 shares of our common stock. In the aggregate, the shares of Series D Stock we issued were convertible into 2,400,000 shares of our common stock. All of the shares of our Series D Stock have been converted into common stock and are no longer outstanding. Our Series D Stock would have accrued a cumulative annual dividend of 4.25660% per share until October 9, 2020, and no dividend thereafter. In accordance with the terms of the Series D Stock, because the Series D Stock was converted prior to October 9, 2020, 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 October 9, 2020, or $468.23 per $1,000 of stated value of the shares converted. We received approximately $5.1 million in net proceeds from the financing after deducting the approximately $5.3 million we placed into an escrow account to pay the aggregate dividend payment in respect of our Series D Stock, placement agent's fees and expenses and other offering expenses. In December 2009, in connection with the exercise of warrants issued in the October 2009 financing, we issued 576,000 shares of our common stock and received net proceeds of $2.1 million. We may receive an additional $0.8 million of net proceeds from the exercise of the remaining warrants issued in the October 2009 financing. Those warrants, which have an exercise price of $3.67 per share, are exercisable any time on or before October 9, 2014, subject to certain beneficial ownership limitations.

The convertible feature of our Series D Stock and the terms of the warrants issued in connection with our Series D 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 D Stock is characterized as BCF. The estimated relative fair values of the shares of our Series D Stock and the warrants issued in connection with such stock were calculated as approximately $3.9 million and $1.3 million, respectively. The value of the BCF was determined using the intrinsic value method and calculated as approximately $3.3 million. Because our Series D Stock did not have a stated redemption date, the value of the BCF was fully realized at the time our Series D 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 five-year term, stock volatility of 197.63%, and a risk-free interest rate of 2.36%. The value of the BCF was treated as a deemed dividend to the holders of our Series D Stock and, due to the potential immediate convertibility of our Series D 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 144,000 shares of our common stock at an exercise price of $5.88 per share to the placement agent in the October 2009 financing as additional consideration for its services in connection with the financing. These warrants had a fair value of approximately $452,000 using the Black-Scholes option-pricing model as of the date of issuance assuming a five-year term, stock volatility of 197.63%, and a risk-free interest rate of 2.36%. The warrants are exercisable at any time on or after April 7, 2010 and on or before October 6, 2014.

***3.733445976649 61% 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 19,000 shares of our 3.733445976649 61% 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 3.733445976649 61% 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 an escrow account 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 209.36%, and a risk-free interest rate of 2.37%. The warrants are exercisable at any time on or after July 7, 2010 and on or before June 3, 2014.

***Common Stock Issued for Warrants Exercised***

As described above, 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 of the remaining warrants issued in the June 2009 financing at an exercise price of $3.75 per share.

## 11. Subsequent Events

In accordance with ASC 855, we have evaluated subsequent events through the date and time the financial statements were issued.

***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 last reported 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 price of outstanding options and warrants was proportionately increased in accordance with the terms of the agreements governing such securities. All common stock share and per share information in the unaudited interim condensed consolidated financial statements and notes thereto included in this report have been restated to reflect retrospective application of the reverse stock split, except for par value per share and the number of authorized shares, which were not affected by the reverse stock split.

***Timing of Exelbine NDA Resubmission***

In March 2010, we announced that we had received a refusal-to-file letter from the U.S. Food and Drug Administration, or FDA. In the letter, the FDA indicated that the data included in our a new drug application, or NDA, for ANX-530, or Exelbine™, from the intended commercial manufacturing site was insufficient to support a commercially-viable expiration dating period. The FDA identified only this one chemistry, manufacturing and controls, or CMC, reason for the refusal to file. In April 2010, based on input from the FDA, we announced that we intend to resubmit the Exelbine NDA in the fourth quarter of 2010.

**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 Item 1A, "Risk Factors," in Part I of our annual report on Form 10-K for the year ended December 31, 2009.*

**Overview**

We are a development-stage specialty pharmaceutical company focused on in-licensing, developing and commercializing proprietary product candidates for the treatment of cancer. We seek to improve the performance of existing drugs by addressing limitations associated principally with their safety and use. 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.

We have incurred annual net losses since inception, and, as of March 31, 2010, our accumulated net losses amounted to $152.3 million. We had cash of approximately $19.8 million and working capital of $18.8 million at March 31, 2010.

Currently, we are focused on developing and seeking regulatory approval for ANX-530 (vinorelbine injectable emulsion), or Exelbine™, and ANX-514 (docetaxel lyophilized emulsion for injection), novel emulsion formulations of currently marketed chemotherapy drugs, and identifying and evaluating opportunities to expand our product pipeline. In December 2009, we submitted a new drug application, or NDA, for Exelbine to the U.S. Food and Drug Administration, or FDA. In March 2010, we announced that we had received a refusal-to-file letter from the FDA regarding our Exelbine NDA submission. In the letter, the FDA indicated that the data included in our December 2009 Exelbine NDA submission from the intended commercial manufacturing site was insufficient to support a commercially-viable expiration dating period. The FDA identified only this one chemistry, manufacturing and controls, or CMC, reason for the refusal to file. In April 2010, based on input from the FDA, we announced that we intend to resubmit the Exelbine NDA in the fourth quarter of 2010. In addition, we expect to meet with the FDA later this year to discuss the results of our bioequivalence study of ANX-514, following which we will provide an update on planned activities with respect to, or a potential NDA submission timeline for, ANX-514.

In January 2010, we completed a registered direct equity financing raising gross proceeds of $19.0 million involving the issuance of 19,000 shares of our 3.73344597664961% Series E Convertible Preferred Stock with a stated value of $1,000 per share, or our 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 an escrow account to pay the aggregate dividend payment in respect of our Series E Stock, the 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. These 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. In connection with the January 2010 financing, 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 financing as additional consideration for its services. The placement agent's warrants are exercisable at any time on or after July 7, 2010 and on or before June 3, 2014.

In January 2010, we also received an aggregate of $0.3 million of net proceeds and issued an aggregate of 84,651 shares of our common stock in connection with the exercise of warrants issued in our June 2009 registered direct equity financing.

We anticipate that our cash as of March 31, 2010 will be sufficient to fund our currently planned level of operations for at least the next 12 months. However, we may seek to raise additional capital to invest in or acquire new technologies and/or product candidates and support their development. In addition, we may pursue development activities for Exelbine and ANX-514 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 need to raise substantial additional capital to support activities that we believe will enhance the value of our current product development programs and increase stockholder value. There can be no assurances that we will be able to obtain additional financing on a timely basis, or at all.

In March 2010, we announced that 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.

**Reverse Stock Split**

On April 23, 2010 at 4:01 p.m. Eastern time, 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. The par value per share and the number of authorized shares of our common stock were not affected by the reverse stock split. All share and per-share information for our common stock included in this report, other than par value and number of authorized shares, have been restated to reflect retrospective application of 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.

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.

***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-materials 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.

***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 represent 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 determine 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***. Effective January 1, 2006, 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 were 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 as of 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, based on available evidence, it has less than a 50% likelihood of being sustained.

***Costs Associated with Exit or Disposal Activities***. As part of our efforts to reduce operating costs, we completed the following three work force reductions since the end of the third quarter of 2008, each of which was accounted for in accordance with ASC 420, "Exit or Disposal Cost Obligations:"

- In October 2008, we completed a work force reduction of nine employees. As a result, we recorded severance-related charges including salary, payroll taxes and health benefits of $403,000, of which approximately $384,000 was recorded in R&D and the remainder in selling, general and administrative, or SG&A. In connection with the October 2008 reduction in workforce, severance-related charges of $244,000 were recorded in the fourth quarter of 2008, $120,000 were recorded in the first quarter of 2009, and the remainder were recorded in the second quarter of 2009.

- In January 2009, we completed a work force reduction of six employees. As a result, we recorded severance related charges including salary, payroll taxes and health benefits of $193,000, of which $96,000 was recorded in R&D and the remainder in SG&A. In connection with the January 2009 reduction in workforce, severance-related charges of $144,000 were recorded in the first quarter of 2009 and the remainder were recorded in the second quarter of 2009.

- In April 2009, we completed a work force reduction of nine employees. As a result, we recorded severance-related charges including salary, payroll taxes and health benefits of $190,000, of which $128,000 was recorded in R&D and the remainder in SG&A. In connection with the April 2009 reduction in workforce, severance-related charges of $114,000 were recorded in the first quarter of 2009 and the remainder were recorded in the second quarter of 2009.

***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 as determined by 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 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. The convertible preferred stock we issued in these financings subsequently was 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.

Future expenditures on R&D programs are subject to many uncertainties, including whether we seek approval of product candidates under Section 505(b)(2) of the FDCA or seek approval of product candidates with active ingredients not previously approved by the FDA, and 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 bioequivalence or clinical trials and research-related manufacturing, can vary significantly among programs as a result of a variety of factors, including:

- 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 availability and cost of reference product in the jurisdiction of each site;
- the time and cost of process development activities related to our product candidates;
- the costs of manufacturing our product candidates;
- 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 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 products.

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 both Exelbine and ANX-514 is located outside the U.S. and generally we pay for its services, including technology transfer and process development and validation activities related to ANX-514, in Euros. As a result, our exposure to currency risk likely will increase as we move our products towards commercialization and increase the services we request from our current contract 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 in-licensing, developing and commercializing proprietary product candidates for the treatment of cancer.

**Comparison of Three Months Ended March 31, 2010 and 2009**

***Revenue***. We recognized no revenue for the three months ended March 31, 2010. We recognized revenue of $0.3 million for the three months ended March 31, 2009, which represents a nonrefundable license fee under our March 2009 license agreement with respect to ANX-514 with Shin Poong Pharmaceutical Co., Ltd.

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 that we have obtained approval from a regulatory agency to sell one or more of our product candidates, which we cannot predict will occur.

***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 out-source 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 through March 31, |
|---|---|---|---|
| | 2010 | 2009 | 2010 |
| External bioequivalence and clinical trial fees and expenses | $ 27,773 | $ 578,992 | $ 23,830,349 |
| External nonclinical study fees and expenses (1) | 1,182,085 | 470,248 | 25,211,033 |
| Personnel costs | 32,518 | 623,436 | 10,323,216 |
| Stock-based compensation expense | (3,047) | (25,376) | 2,922,683 |
| Total | $ 1,239,329 | $ 1,647,300 | $ 62,287,281 |

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

R&D expenses decreased by $0.4 million, or approximately 25%, to $1.2 million for the three months ended March 31, 2010, compared to $1.6 million for the same period in 2009. Included in R&D expenses for the three months ended March 31, 2009 was $0.3 million of severance costs. The decrease in R&D expenses for the three months ended March 31, 2010 compared to the same period in 2009 was primarily due to a $0.6 million decrease in personnel costs attributable to lower headcount in 2010 and the completion of severance payments associated with our 2009 and 2008 workforce reductions by June 30, 2009, a $0.5 million decrease in external bioequivalence trial expenses associated with the completion of patient enrollment in the ANX-514 bioequivalence study in the first quarter of 2009 and a $0.1 million decrease in external clinical trial expenses related to the completion of ANX-510 studies in the first quarter of 2009, offset by a $0.4 million increase in research-related manufacturing for ANX-514 and a $0.3 million increase in costs attributable to consulting services related to Exelbine and ANX-514. We expect R&D expenses to increase relative to 2009 if and to the extent we in-license or acquire and pursue development of new technologies or product candidates in 2010.

***Selling, General and Administrative Expenses***. Selling, general and administrative, or SG&A, expenses, decreased by $0.6 million, or approximately 34%, to $1.2 million for the three months ended March 31, 2010, compared to $1.8 million for the same period in 2009. The decrease was primarily due to a $0.7 million decrease in personnel costs attributable to lower headcount in 2010 and the completion of severance payments associated with our 2009 and 2008 workforce reductions by June 30, 2009 and a $0.1 million decrease in legal and professional services, offset by a $0.1 million increase in consulting services for marketing and investor relations and a $0.1 million increase for costs related to business insurance, director compensation and stock compensation expense. We expect that, if we maintain our current small number of employees, we will continue to realize SG&A cost savings relative to prior years. However, we expect the amount of such cost-savings to be offset to the extent we rebuild our workforce. We expect SG&A expenses to increase relative to 2009 if and to the extent we in-license or acquire and pursue development of new technologies or product candidates in 2010.

***Interest and Other Income***. Interest income amounted to $18,440 for the three months ended March 31, 2010, compared to $0 for the same period in 2009. The increase in interest income for the first quarter of 2010 was primarily attributable to overall larger invested balances in 2010 as compared to 2009. Even though we raised a substantial amount of additional capital through our registered direct equity financings in 2009 and in January 2010, we expect that interest income will continue to be low due to negligible interest rates.

***Net Loss***. Net loss applicable to common stock was $4.9 million, or $0.48 per share, for the three months ended March 31, 2010, compared to a net loss applicable to common stock of $3.2 million, or $0.87 per share, for the same period in 2009. Included in the net loss applicable to common stock for 2010 was a non-cash deemed dividend expense of approximately $2.5 million related to our January 2010 registered direct equity financing. Included in both net loss and net loss applicable to common stock for 2009 were charges associated with our workforce reductions in October 2008 and in January and March 2009.

**Liquidity and Capital Resources**

We have a history of recurring losses from operations and we have funded our operations primarily through sales of our equity securities. We had a net loss of $2.4 million for the three months ended March 31, 2010 and cash of approximately $19.8 million and working capital of $18.8 million as of March 31, 2010.

In January 2010, we completed a registered direct equity financing involving the issuance of shares of our Series E Stock. This financing resulted in an aggregate of $19.0 million in gross proceeds and an aggregate of $14.0 million in adjusted net proceeds after deducting the fees and expenses of our placement agent in the Series E Stock offering, our offering expenses and our dividend and related payment obligations.

In addition, in January 2010, we received an aggregate of $0.3 million of net proceeds and issued an aggregate of 84,651 shares of our common stock in connection with the exercise of warrants issued in our June 2009 registered direct equity financing.

We may receive up to $4.4 million of additional net proceeds from the exercise of warrants issued in the registered direct equity financing we completed in January 2010 and up to $0.8 million of additional proceeds from the exercise of the remaining warrants issued in the registered direct equity financing we completed in October 2009; however, the exercise of these warrants is subject to certain beneficial ownership limitations. In addition, we may receive up to $2.3 million of additional net proceeds from the exercise of warrants issued to our placement agent as additional consideration for its services in connection with our June, July, August and October 2009 and January 2010 registered direct equity financings.

See Note 10, “Equity Transactions,” in the Notes to Condensed Consolidated Financial Statements (Unaudited) in this report, for a more detailed discussion regarding these financings.

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

***Operating activities***. Net cash used in operating activities was $3.2 million for the three months ended March 31, 2010 compared to $4.5 million for the same period in 2009. The decrease in cash used in operating activities was due primarily to the restructuring and cost-cutting initiatives we implemented beginning in October 2008 through April 2009, specifically our workforce reductions and our discontinuation of active work on all development programs, other than Exelbine and ANX-514, to which we have or had rights during that period.

***Investing activities***. Net cash used in investing activities was $6,780 for the three months ended March 31, 2010 compared to $0 for the same period in 2009 due to the purchase of property and equipment in the first quarter of 2010.

***Financing activities***. Net cash provided by financing activities was $14.3 million for the three months ended March 31, 2010 compared to $0 for the same period in 2009. The cash provided by financing activities in 2010 primarily consisted of proceeds from the issuance of our equity securities in the January 2010 registered direct equity financing and the exercise of the remaining investor warrants issued in our June 2009 registered direct equity financing.

**Management Outlook**

We anticipate that our cash as of March 31, 2010 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 invest in or 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; the extent to which we partner or collaborate with third parties to develop, seek regulatory approval of and commercialize our product candidates, or sell or license our product candidates or proprietary technologies to others; the costs and timing of acquiring or developing sales, marketing and distribution capabilities and the associated regulatory compliance and administrative capabilities to commercialize Exelbine in the U.S., if we resumbit an Exelbine NDA that is accepted and ultimately approved by the FDA; the costs and timing of acquiring or developing similar commercialization capabilities for other of our product candidates, including ANX-514; 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 three 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.

Currently, we are focused primarily on activities related to resubmitting the Exelbine NDA, analyzing the results of our bioequivalence study of ANX-514, and identifying and evaluating opportunities to expand our product pipeline. We are also focused on raising additional capital to fund our future operations. In addition, we intend to continue to evaluate strategic and partnering options for Exelbine and ANX-514, including the sale or exclusive license of one or both of these product candidate programs.

**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 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 raising additional capital, opportunities to expand our product pipeline, activities related to developing and seeking regulatory approval for ANX-530, or Exelbine, and ANX-514, seeking to partner or collaborate with third parties with respect to the development and commercialization of Exelbine and ANX-514, the sale or exclusive license of one or both of these product candidate programs 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:

- our ability to obtain additional funding on a timely basis or on commercially reasonable terms, or at all;
- the extent to which we invest in or acquire new technologies, product candidates, products or businesses and our ability to integrate them successfully into our operations;
- our or a future partner's ability to obtain regulatory approval for our product candidates and, if approved, to successfully commercialize them in the U.S. and/or elsewhere;
- the potential to enter into one or more commercial partnerships or other strategic transactions relating to Exelbine and/or ANX-514, and the terms of any such transactions;
- 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 bioequivalence or clinical trials;
- our ability to develop sales, marketing and distribution capabilities, if we determine to commercialize any of our product candidates for which we obtain regulatory approval without a partner;
- 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, 2009.

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 4T. 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 (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, 2010.

***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 Rule 13a-15(d) and 15d-15(d) of 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

Information required by Item 701 of Regulation S-K as to equity securities we sold during the period covered by this report that were not registered under the Securities Act of 1933 has been previously reported (as such term is defined in Rule 12b-2 of the Securities Exchange Act of 1934).

### Item 3. Defaults Upon Senior Securities

None.

### Item 4. [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: April 30, 2010

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 and Accounting Officer)

Table of Contents

## EXHIBIT INDEX

| Exhibit | Description |
|---|---|
| 3.1(1) | Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the registrant, dated April 23, 2010 |
| 3.2(2) | Certificate of Designation of Preferences, Rights and Limitations of 3.73344597664961% Series E Convertible Preferred Stock |
| 10.1(2) | Engagement Letter Agreement, dated January 3, 2010, by and between the registrant and Rodman & Renshaw, LLC |
| 10.2(2) | Securities Purchase Agreement, dated as of January 4, 2010, governing the issuance and sale of the registrant's 3.73344597664961% Series E Convertible Preferred Stock |
| 10.3(2) | Form of Common Stock Purchase Warrant issued on January 7, 2010 by the registrant to the purchasers of the registrant's 3.73344597664961% Series E Convertible Preferred Stock and to Rodman & Renshaw, LLC |
| 10.4#(3) | Form of letter, dated January 20, 2010, modifying options granted to Brian M. Culley and Patrick L. Keran in July 2009 |
| 10.5#(3) | Form of Incentive Stock Option Grant Agreement under the 2008 Omnibus Incentive Plan (for grant to Brian M. Culley in January 2010) |
| 10.6#(3) | Form of Incentive Stock Option Grant Agreement under the 2008 Omnibus Incentive Plan (for grant to Patrick L. Keran in January 2010) |
| 10.7#(3) | 2010 Incentive Plan for Brian M. Culley and Patrick L. Keran |
| 10.8#(4) | Director Compensation Policy, adopted January 25, 2010 |
| 31.1 | Certification of principal executive officer pursuant to Rule 13a-14(a)/15d-14(a) |
| 31.2 | Certification of principal financial officer pursuant to Rule 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 |

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* 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.

\# Management contract or compensation plan or arrangement.

(1) Filed with the registrant's Current Report on Form 8-K on April 26, 2010 (SEC file number 001-32157-10769058)

(2) Filed with the registrant's Current Report on Form 8-K on January 4, 2010 (SEC file number 001-32157-10500379)

(3) Filed with the registrant's Current Report on Form 8-K on January 26, 2010 (SEC file number 001-32157-10547818)

(4) Filed with the registrant's Annual Report on Form 10-K on March 18, 2010 (SEC file number 001-32157-10692317)

**Exhibit 31.1**

**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.

April 30, 2010

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

**Exhibit 31.2**

**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.

April 30, 2010

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

**Exhibit 32.1**

**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, 2010, 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.

April 30, 2010

/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, 2010, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Patrick L. Keran, principal financial and accounting 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.

April 30, 2010

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