
**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 June 30, 2009

or

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

For the transition period from to

Commission File Number: 000-26534

VION PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

13-3671221

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

**4 Science Park
New Haven, CT**

(Address of principal executive offices)

06511

(Zip Code)

(203) 498-4210

(Registrant's telephone number, including area code)

NOT APPLICABLE

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

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

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

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

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

The number of shares outstanding of the registrant's common stock as of August 7, 2009 was 8,052,445.

VION PHARMACEUTICALS, INC.

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In this report, unless the context otherwise requires, the terms “Vion,” “the Company,” “we,” “us,” and “our” refer to Vion Pharmaceuticals, Inc.

We own or have rights to various copyrights, trademarks and trade names used in our business including the following: Onrigin™, Cloretazine®, Triapine®, MELASYN® and TAPET®. This report also includes other trademarks, service marks and trade names of other companies.

PART I
FINANCIAL INFORMATION

ITEM 1. Financial Statements

Vion Pharmaceuticals, Inc.
(A Development Stage Company)
Condensed Consolidated Balance Sheets
(Unaudited)

<i>(In thousands, except share and per share data)</i>	June 30, 2009	December 31, 2008
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 26,146	\$ 37,990
Available-for-sale securities	10	4
Accounts receivable	2	12
Prepaid expenses	111	242
Deferred issuance costs	<u>250</u>	<u>250</u>
Total current assets	26,519	38,498
Deferred issuance costs, net of current portion	406	531
Property and equipment, net	272	420
Security deposits	<u>25</u>	<u>25</u>
Total assets	<u>\$ 27,222</u>	<u>\$ 39,474</u>
LIABILITIES AND SHAREHOLDERS' DEFICIT		
Current Liabilities:		
Accrued expenses	\$ 3,932	\$ 3,306
Accounts payable	405	945
Accrued payroll and payroll-related expenses	647	1,114
Interest payable	1,745	1,744
Deferred revenue	<u>18</u>	<u>18</u>
Total current liabilities	6,747	7,127
Deferred revenue, net of current portion	279	288
Convertible senior notes	<u>54,590</u>	<u>55,443</u>
Total liabilities	<u>61,616</u>	<u>62,858</u>
Shareholders' Deficit:		
Preferred stock, \$0.01 par value, authorized: 5,000,000 shares; issued and outstanding: none	—	—
Common stock, \$0.01 par value, authorized: 30,000,000 shares; issued and outstanding: 8,038,427 and 8,036,227 at June 30, 2009 and December 31, 2008, respectively	80	80
Additional paid-in capital	215,421	215,526
Accumulated other comprehensive income	10	4
Deficit accumulated during the development stage	<u>(249,905)</u>	<u>(238,994)</u>
Total shareholders' deficit	<u>(34,394)</u>	<u>(23,384)</u>
Total liabilities and shareholders' deficit	<u>\$ 27,222</u>	<u>\$ 39,474</u>

The accompanying notes are an integral part of these consolidated financial statements.

Vion Pharmaceuticals, Inc.
(A Development Stage Company)
Condensed Consolidated Statements of Operations
(Unaudited)

<i>(In thousands, except per share data)</i>	For the Three Months Ended June 30,		For the Six Months Ended June 30,		For the Period from May 1, 1994 (Inception) through June 30, 2009
	2009	2008	2009	2008	2009
Revenues:					
Technology license fees	\$ 5	\$ 13	\$ 10	\$ 27	\$ 4,650
Research and laboratory support fees	—	—	—	—	5,932
Contract research grants	—	—	—	—	2,501
Total revenues	<u>5</u>	<u>13</u>	<u>10</u>	<u>27</u>	<u>13,083</u>
Operating expenses:					
Clinical trials	1,590	2,953	2,611	5,807	85,368
Other research and development	1,536	2,013	3,516	4,272	104,111
Total research and development	3,126	4,966	6,127	10,079	189,479
Marketing, general and administrative	1,828	1,696	3,444	3,783	56,197
Total operating expenses	<u>4,954</u>	<u>6,662</u>	<u>9,571</u>	<u>13,862</u>	<u>245,676</u>
Loss from operations	(4,949)	(6,649)	(9,561)	(13,835)	(232,593)
Interest expense	(1,660)	(1,513)	(4,004)	(3,018)	(15,420)
Interest income	3	265	10	767	13,704
Other income (expense), net	(8)	(6)	2,644	(12)	2,434
Loss before income taxes	(6,614)	(7,903)	(10,911)	(16,098)	(231,875)
Income tax benefit	—	—	—	—	(714)
Net loss	(6,614)	(7,903)	(10,911)	(16,098)	(231,161)
Preferred stock dividends and accretion	—	—	—	—	(18,489)
Loss applicable to common shareholders	<u>\$ (6,614)</u>	<u>\$ (7,903)</u>	<u>\$ (10,911)</u>	<u>\$ (16,098)</u>	<u>\$ (249,650)</u>
Basic and diluted loss applicable to common shareholders per share	<u>\$ (0.83)</u>	<u>\$ (1.06)</u>	<u>\$ (1.37)</u>	<u>\$ (2.20)</u>	
Basic and diluted weighted-average number of shares of common stock outstanding	<u>7,974</u>	<u>7,440</u>	<u>7,959</u>	<u>7,307</u>	

The accompanying notes are an integral part of these consolidated financial statements.

Vion Pharmaceuticals, Inc.
(A Development Stage Company)

Condensed Consolidated Statement of Changes in Shareholders' Deficit
(Unaudited)

<i>(In thousands, except share data)</i>	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Shareholders' Deficit
	Shares	Amount				
Balance at December 31, 2008	8,036,227	\$ 80	\$215,526	\$ 4	\$ (238,994)	\$ (23,384)
Adjustment to warrants issued February 2007 (see Note 5)			(216)			(216)
Stock-based compensation expense			110			110
Issuances of stock under employee benefit plans	2,200	—	1			1
Change in net unrealized gains and losses				6		6
Net loss					(10,911)	(10,911)
Comprehensive loss						(10,905)
Balance at June 30, 2009	<u>8,038,427</u>	<u>\$ 80</u>	<u>\$215,421</u>	<u>\$ 10</u>	<u>\$ (249,905)</u>	<u>\$ (34,394)</u>

The accompanying notes are an integral part of these consolidated financial statements.

Vion Pharmaceuticals, Inc.
(A Development Stage Company)
Condensed Consolidated Statements of Cash Flows
(Unaudited)

<i>(In thousands)</i>	For the Six Months Ended June 30,		For The Period From May 1, 1994 (Inception) through June 30, 2009
	2009	2008	
Cash flows from operating activities:			
Net loss	\$(10,911)	\$(16,098)	\$ (231,161)
Adjustments to reconcile net loss to net cash used in operating activities –			
Stock-based compensation	110	1,693	10,604
Stock issued in payment of interest	—	2,324	4,584
Change in fair market value of derivative	(2,610)	—	(2,610)
Amortization of convertible senior notes issuance costs, original issue discount, and assigned warrant value	1,678	693	4,225
Depreciation and amortization	153	169	4,050
Loss on equipment disposals	—	—	18
Purchased research and development	—	—	4,481
Stock issued for services	—	—	600
Amortization of financing costs	—	—	346
Extension/reissuance of placement agent warrants	—	—	168
Changes in operating assets and liabilities –			
Receivables and prepaid expenses	141	102	(112)
Other assets	—	—	(22)
Current liabilities	(392)	(42)	6,682
Deferred revenue	(9)	(8)	297
Net cash used in operating activities	<u>(11,840)</u>	<u>(11,167)</u>	<u>(197,850)</u>
Cash flows from investing activities:			
Acquisition of equipment	(5)	(26)	(3,396)
Purchases of marketable securities	—	—	(321,052)
Maturities of marketable securities	—	—	321,052
Net cash used in investing activities	<u>(5)</u>	<u>(26)</u>	<u>(3,396)</u>
Cash flows from financing activities:			
Net proceeds from placement of notes and warrants	—	—	55,151
Net proceeds from initial public offering	—	—	9,696
Net proceeds from issuance of common stock	1	3	112,373
Net proceeds from issuance of preferred stock	—	—	20,716
Net proceeds from exercise of warrants	—	—	30,669
Repayment of equipment capital leases	—	—	(927)
Other financing activities, net	—	—	(286)
Net cash provided by financing activities	<u>1</u>	<u>3</u>	<u>227,392</u>
Change in cash and cash equivalents	(11,844)	(11,190)	26,146
Cash and cash equivalents, beginning of period	37,990	61,067	—
Cash and cash equivalents, end of period	<u>\$ 26,146</u>	<u>\$ 49,877</u>	<u>\$ 26,146</u>

The accompanying notes are an integral part of these consolidated financial statements.

Vion Pharmaceuticals, Inc.
(A Development Stage Company)

Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. The Company

Vion Pharmaceuticals, Inc. (the Company) is a development-stage company that develops therapeutics for the treatment of cancer. The Company, formerly OncoRx, Inc., was incorporated in March 1992 as a Delaware corporation and began operations on May 1, 1994. The Company has established wholly-owned subsidiaries in the United Kingdom and Australia to act as the Company's legal representative for clinical trials sponsored by the Company in the European Union and Australia, respectively.

In February 2009, the Company filed a New Drug Application (NDA) for Onrigin™ with the U.S. Food and Drug Administration (FDA) as a single agent in elderly patients with *de novo* poor-risk acute myeloid leukemia (AML). In April 2009, the Company announced that the NDA for Onrigin™ had been accepted for standard review by the FDA with a user fee goal date of December 12, 2009 for a decision on approval. The Company will make a presentation to the Oncologic Drugs Advisory Committee (ODAC) of the FDA on September 1, 2009. The ODAC reviews and evaluates data concerning the safety and effectiveness of marketed and investigational human drug products for use in the treatment of cancer and makes appropriate recommendations to the FDA. There can be no assurance that the Company will receive a positive recommendation from ODAC regarding Onrigin™ or that the NDA will be approved by the FDA in 2009 or at all.

2. Liquidity

Based on the Company's current operating plan, management estimates that its existing cash and cash equivalents totaling \$26.1 million at June 30, 2009 will be sufficient to fund operations through the second quarter of 2010. The Company's current operating plan, which assumes it will receive regulatory approval to commercialize Onrigin™ from the FDA in the fourth quarter of 2009, includes only limited expenses for the infrastructure and personnel necessary to commercialize Onrigin™ as a product for the treatment of elderly patients with *de novo* poor-risk AML in the United States. Unless the Company has a sales and marketing partner for Onrigin™ or is able to generate cash from other sources, the Company will need to raise substantial capital to commercialize Onrigin™, to continue its product development and clinical trials, and to fund its operations beyond the second quarter of 2010. If the Company cannot raise adequate funds to satisfy its capital requirements, or in the event the Company does not receive regulatory approval for Onrigin™ in the fourth quarter of 2009, the Company may have to delay, scale-back or eliminate the commercialization of Onrigin™, discontinue its product development and clinical trials or curtail or cease operations.

There can be no assurance that the Company will be able to raise additional capital if and when needed, nor as to what the terms of any financing might be. The current global economy and capital markets have been challenging for any issuer to raise capital through public offerings or private placements of securities, and especially so with respect to the small capitalization pharmaceutical development sector in which the Company operates. The Company's common stock is not listed on a national securities exchange. As such, the Company is ineligible to use Form S-3 to register the sale of shares of its common stock or to register the resale of its securities held by certain of its security holders with the SEC, thereby making it more difficult and expensive for the Company to register its common stock or other securities and raise additional capital, as well as maintain the effectiveness of any registration statements, including its existing registration statement relating to the resale of shares of common stock issuable upon the exercise of outstanding warrants and upon conversion of its outstanding notes by holders of such warrants and notes (the Registrable Securities). The Company will need to file and make effective amendments and supplements to such registration statement for the Registrable Securities from time to time in the future.

3. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q. They do not include all of the information and footnotes required by U.S. generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. All adjustments recorded for the three and six months ended June 30, 2009 were normal and recurring adjustments, except for the adjustments recorded in the first quarter of 2009 related to the Company's convertible senior notes and warrants described in Note 5. Operating results for interim periods are not necessarily indicative of the results that may be expected for the full year. For further information, refer to the consolidated financial statements and footnotes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2008 (File No. 000-26534).

Fair Value of Financial Instruments

The estimated fair value of amounts reported in the consolidated financial statements has been determined by using available market information and appropriate valuation methodologies. Carrying values for all financial instruments included in current assets and current liabilities, including cash equivalents and available-for-sale securities, approximate fair value, because of their short-term nature. The estimated fair values of cash equivalents and available-for-sale securities reported in the consolidated financial statements have been determined using Level 1 as defined by Statement of Accounting Standards No. 157, "*Fair Value Measurements*," (SFAS 157) which represents quoted prices in active markets for identical assets.

Investments

Available-for-sale securities consist of equity securities and are carried at fair value. Unrealized holding gains and losses, net of the related income taxes, are reported as a separate component of shareholders' equity until realized. As of June 30, 2009 and December 31, 2008, the Company's available-for-sale securities had a cost of \$0 and gross unrealized holding gains of approximately \$10,000 for the period from inception (May 1, 1994) to June 30, 2009, respectively. There have been no realized investment gains or losses incurred through June 30, 2009.

4. Per Share Data – Anti-dilution

As of June 30, 2009, the Company had outstanding warrants to purchase 780,000 shares of its common stock at an exercise price of \$20.00 per share, outstanding stock options to purchase 280,977 shares of its common stock at exercise prices between \$3.59 and \$178.75 per share and 55,937 restricted shares of common stock not yet vested. As the Company has not generated net income in the periods presented, there is no dilutive per share calculation and therefore, these options, warrants and restricted shares have not been considered in the per share calculations presented.

5. Convertible Senior Notes and Warrants

In February 2007, the Company completed a private placement of \$60 million aggregate principal amount of 7.75% convertible senior notes due February 15, 2012 (the Notes) and warrants to purchase up to an additional 780,000 shares of its common stock (the "Warrants"). The Company received net proceeds after debt discount and issuance costs of approximately \$55.2 million from the sale of the Notes and Warrants.

The Company is required to pay interest on the Notes semi-annually on February 15 and August 15. For the three months ended June 30, 2009 and 2008, the Company incurred interest expense of \$1.7 million and \$1.5 million, respectively, which included amortization expense of \$496,000 and \$350,000, respectively. For the six months ended June 30, 2009 and 2008, the Company incurred interest expense of \$4.0 million and \$3.0 million, respectively, which included amortization expense of \$1.7 million and \$693,000, respectively. From inception (May 1, 1994) to June 30, 2009, the Company incurred interest expense on the

Notes of \$15.2 million, which included amortization expense of \$4.2 million. The Company may pay interest at its option in cash or registered shares of its common stock, subject to certain limitations. The Company issued 538,122 shares of its common stock in payment of interest on February 15, 2008. The interest payment of \$2.3 million due February 15, 2009 was made in cash.

In connection with the placement of the Notes and Warrants, the Company entered into a registration rights agreement with the initial purchaser which requires the Company to use its best efforts to maintain the effectiveness of its registration statement relating to the resale of its Notes, shares of common stock issuable upon the exercise of outstanding Warrants, which have an exercise price of \$20.00 per share, and upon conversion of its outstanding Notes by holders of such Warrants and Notes (the Registrable Securities). The Company may be required to file and make effective amendments and supplements to such registration statement from time to time in the future. The Company believes it is currently in compliance with its registration obligation. However, if the Company fails to maintain an effective registration statement through February 15, 2010, the expiration date of the Warrants, it could become subject to certain liquidated damages, which the Company does not believe would be material to its financial statements. Such damages would be paid as additional interest on the principal amount of the Notes outstanding, subject to a maximum rate of 8.25% per annum for the duration of such failure until the event giving rise to the additional interest has been cured or February 15, 2010, whichever occurred first. Once the Company regained compliance with its registration obligation with respect to all of the Registrable Securities, the interest payable on the Notes would return to the initial interest rate of 7.75%.

During the first quarter of 2009, the Company determined FSP 14-1, *Accounting for Convertible Debt Instruments That May be Settled in Cash Upon Conversion (Including Partial Cash Settlement)*, and EITF 07-5, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock*, were not applicable to its Notes. In connection with its review of these accounting pronouncements and its Notes, the Company determined it should have bifurcated and assigned a value of \$2.6 million to an embedded derivative related to the Note's make-whole payment due upon automatic conversion in the original accounting for the Notes in February 2007. The Company determined that the effect on prior periods was not material. The Company recorded the derivative at its fair value of \$3,000 as of March 31, 2009, which was reflected as a reduction of the carrying value of the Notes. For the three months ended March 31, 2009, the Company recorded interest expense of \$878,000 to reflect the cumulative amortization of the initial derivative value and other income of \$2.6 million to reflect the change in the fair value of the derivative between February 20, 2007 and March 31, 2009. As a result of its review, the Company also revised the allocation of the February 2007 Note proceeds between the Notes and Warrants which was recorded as of March 31, 2009 as a reduction in additional paid-in capital and an increase in the carrying value of the Notes of \$216,000. The revised allocation reduced interest expense for the three months ended March 31, 2009 by \$71,000 to reflect the cumulative amortization of the adjustment to the Warrant value from February 20, 2007 to March 31, 2009.

The embedded derivative is recorded at June 30, 2009 at its fair value of \$11,000. For the three months ended June 30, 2009, the Company recorded other expense of \$8,000 to reflect the change in the fair value of the derivative between March 31, 2009 and June 30, 2009.

6. Stock-Based Compensation

Since January 1, 2006, the Company has recognized stock-based compensation expense in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004), "*Share-Based Payment*," (SFAS 123R) using the straight-line attribution method for awards of restricted stock, purchases under its employee stock purchase plan and unvested stock options based on the grant-date fair value of the portion of the stock-based payment award that is ultimately expected to vest. For the three months ended June 30, 2009 and 2008, the Company recognized net stock-based compensation expense of \$29,000 and \$530,000, respectively. For the six months ended June 30, 2009 and 2008, the Company recognized net stock-based compensation expense of \$110,000 and \$1.7 million, respectively. From inception (May 1, 1994) through June 30, 2009, the Company recognized net stock-based compensation expense of \$10.6 million.

The consolidated financial statements for periods prior to January 1, 2006 have not been restated to reflect, and do not include, the impact of SFAS 123R. The following table shows the pro forma net loss as if the Company had accounted for stock-based compensation expense under the fair value method prescribed by SFAS 123 for the period from inception through December 31, 2005 (in thousands):

	From Inception (May 1, 1994) to December 31, 2005
Reported net loss	\$ (131,062)
Add: Stock-based compensation expense included in reported net loss	795
Deduct: Stock-based compensation expense determined under the fair value based method for all awards	<u>(22,707)</u>
Pro forma net loss	(152,974)
Actual preferred stock dividend and accretion	<u>(18,489)</u>
Pro forma loss applicable to common shareholders	<u>\$ (171,463)</u>

7. Income Taxes

For the three and six months ended June 30, 2009 and 2008, the Company did not record provisions for minimum state capital taxes due to its shareholders' deficit.

Except for the provisions recorded for minimum state capital taxes and the benefits recorded for the sale of certain research and development tax credits to the State of Connecticut, the Company has not recorded a provision or benefit for income taxes in its consolidated financial statements due to recurring historical losses. The Company has provided a full valuation allowance for its deferred tax assets as of June 30, 2009.

8. Commitments and Contingencies

In April 2009, the Company adopted a new non-equity incentive compensation plan (the Plan) covering all its employees, including its executive officers. Under the Plan, each employee is entitled to non-equity incentive compensation for the year ending December 31, 2009, payable in installments as follows: (i) 20% on April 30, 2009; (ii) 20% upon the first to occur of (x) the completion of the FDA's Oncologic Drugs Advisory Committee (ODAC) meeting regarding the Company's lead anti-cancer product Onorigin™ or (y) September 30, 2009; (iii) 30% upon approval by the FDA of the Company's NDA for Onorigin™; and (iv) 30% upon the Company's first commercial shipment of Onorigin™. Estimated future incentive payments under this Plan are being expensed ratably throughout 2009 and an accrual of \$318,000 for such payments is included in the accompanying unaudited condensed consolidated balance sheet as of June 30, 2009.

In June 2009, the Company amended the employment agreement with the Company's Chief Executive Officer to extend the term of the agreement to December 31, 2011.

During the first six months of 2009, except for the payment of interest on the Company's Notes in February 2009, the adoption of and payment under the Plan, and the amendment to the CEO's employment agreement, there were no significant changes in the Company's (i) reported commitments, (ii) reported payments under contractual obligations, (iii) disclosed contingent contractual obligations related to potential milestone payments under its license agreements, and (iv) potential cancellation fees under various agreements at December 31, 2008.

9. Regulatory Matters

The Company is aware that Ben Venue Laboratories, Inc. (Ben Venue), its manufacturer of Onorigin™ finished product, received a Warning Letter from the FDA in November 2007 and that subsequent to that date the FDA had completed an on-site inspection of their facility that concluded with the issuance of an FDA Form 483 (483). In June 2008, the Company was notified by Ben Venue that it had received a letter from the European Medicines Agency (EMA) with observations from a recent audit of its facilities, and that it had responded to this letter with a plan to address the issues raised. The Company has received

subsequent updates from Ben Venue regarding the FDA and EMEA matters. If Ben Venue is not successful in completing the corrections of the observations that resulted in the issuance of the 483 or the audit letter from the EMEA or from subsequent interactions with the FDA or EMEA on a timely basis, the Company's ability to obtain FDA approval to manufacture Onrigin™ for commercial purposes could be delayed. The Company believes that it has sufficient inventory of Onrigin™ to conduct its current and planned clinical trials through July 2010 in Europe and beyond in the U.S. However, if Ben Venue is not able to manufacture additional supplies of Onrigin™ in the future, the Company will have to establish a new source for finished product manufacturing, and its operations could be materially adversely affected.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our consolidated financial statements and the related notes. All statements other than statements of historical fact included in this Quarterly Report on Form 10-Q, including without limitation statements in the following Management's Discussion and Analysis of Financial Condition and Results of Operations, regarding our financial position, business strategy, and plans and objectives of our management for future operations, are forward-looking statements. When used in this Quarterly Report on Form 10-Q, words such as "may," "will," "should," "could," "potential," "seek," "project," "predict," "anticipate," "believe," "estimate," "expect," "intend" and similar expressions, as they relate to us or our management, identify forward-looking statements. Forward-looking statements are based on the beliefs of our management as well as assumptions made by and information currently available to our management. Forward-looking statements involve risks and uncertainties. Our actual results could differ materially. Factors that could cause or contribute to such differences include, but are not limited to, those discussed under "Part II. Item 1A. Risk Factors," as well as those discussed elsewhere in this Quarterly Report on Form 10-Q. The risks that we have highlighted here are not the only ones that we face. For example, additional risks presently unknown to us or that we currently consider immaterial or unlikely to occur could also impair our operations. If any of the risks or uncertainties described in this Quarterly Report on Form 10-Q or any of those additional risks or uncertainties actually occur, our business, financial conditions or results of operations could be negatively affected. The information contained in this Quarterly Report on Form 10-Q is believed to be current as of the date of filing with the Securities and Exchange Commission (SEC). We do not intend to update any of the forward-looking statements after the date of this filing to conform these statements to actual results or to changes in our expectations, except as required by law.

Overview

We are a development-stage pharmaceutical company that develops therapeutics for the treatment of cancer. Our research and product development activities to date have consisted primarily of conducting preclinical trials of product candidates, obtaining regulatory approval for clinical trials, conducting clinical trials, filing for regulatory approval of our lead product candidate Onrigin™, conducting pre-commercialization activities, negotiating and obtaining collaborative agreements, and obtaining financing in support of these activities. Since inception, we have generated minimal revenues and have incurred substantial operating losses from our activities. We currently have no material source of revenue and we expect to incur substantial operating losses for the next several years due to expenses associated with our activities. We will have to raise additional capital to operate the Company beyond the second quarter of 2010.

We have two small molecule anticancer agents in clinical development, Onrigin™ and Triapine™. Most of our resources are focused on the development of Onrigin™ for the treatment of acute myeloid leukemia (AML). In February 2009, we filed a New Drug Application (NDA) for Onrigin™ with the U.S. Food and Drug Administration (FDA) based on our pivotal Phase II trial of the drug as a single agent in elderly patients with *de novo* poor-risk AML, supplemented by data from a previous Phase II trial of Onrigin™ in elderly patients with AML. In April 2009, we announced that the NDA for Onrigin™ had been accepted for standard review by the FDA with a user fee goal date of December 12, 2009 for a decision on approval. The Company will make a presentation to the Oncologic Drugs Advisory Committee (ODAC) of

the FDA on September 1, 2009. The ODAC reviews and evaluates data concerning the safety and effectiveness of marketed and investigational human drug products for use in the treatment of cancer and makes appropriate recommendations to the FDA. There can be no assurance that the Company will receive a positive recommendation from ODAC regarding Onrigin™ or that the NDA will be approved by the FDA in 2009 or at all.

In May 2007, our Phase III trial of Onrigin™ in combination with cytarabine in relapsed AML was put on clinical hold by the FDA after accrual of 268 patients. This decision was based on a planned interim analysis of clinical data by the trial's data safety monitoring board (DSMB) that resulted in a recommendation that enrollment and further treatment of patients on study be suspended. The DSMB's recommendation was based on their evaluation that any advantage in the primary endpoint, the overall response rate, was being compromised by the mortality observed on the study. In January 2008, we announced that the FDA had lifted the clinical hold on this trial, and that we had reached initial agreement with the FDA on modifications to the original Phase III study protocol resulting in the requirement to conduct a new Phase III trial in relapsed AML, if we pursue regulatory approval in this indication. The original Phase III trial is now closed. We do not intend to start a new Phase III trial in relapsed AML at this time and there can be no assurance we will do so at any time in the future.

We have limited resources to allocate to additional clinical trials of Onrigin™. Onrigin™ is being evaluated in four clinical trials at this time sponsored by clinical investigators.

We have limited resources to apply to our second product candidate, Triapine®. Triapine® is under evaluation in four clinical trials sponsored by the National Cancer Institute's (NCI) Cancer Therapy Evaluation Program. We provide Triapine® drug products to support these trials. We have two additional anticancer technologies that are in the preclinical development stage: (i) a small molecule that targets hypoxic or low-oxygen areas of tumors (VNP40541) and (ii) a drug delivery technology (TAPET®). We are not developing these technologies with our own resources at this time, and will need a development partner(s) for these product candidates.

Our plan of operations for the next twelve months currently includes the following elements:

- Pursue regulatory approval for Onrigin™ in the U.S.;
- Conduct limited pre-launch commercialization activities for Onrigin™;
- Conduct Vion-sponsored clinical trials and support investigator-sponsored trials of Onrigin™ as a single agent or in combination with chemotherapy or other anti-cancer treatments;
- Support clinical studies sponsored by the NCI of Triapine®; and
- Continue to seek additional financing or development partners, collaborative partnerships, joint ventures, co-promotional agreements or other arrangements with third parties for all of our product development programs.

Our plan of operations could be revised by us as a result of many factors, including, among other things, developments with respect to our NDA for Onrigin™ and our clinical trials, and the amount of cash and other resources available to us. We would need to reevaluate the development of Onrigin™ if (i) the Company does not receive a positive recommendation for Onrigin™ from ODAC at its meeting on September 1, 2009, (ii) the FDA requests more information or additional clinical trials of Onrigin™, or does not approve Onrigin™ in 2009, or (iii) data from any of our clinical trials raises issues relative to Onrigin™'s safety and efficacy. In such events, we may have to alter the drug or dose as used in the trial, modify the clinical trial protocol, commence additional trials, or abandon the drug development project. At the present time, we would not have sufficient funding to engage in additional clinical trials. If we cannot raise adequate funds to satisfy our capital requirements, we may have to delay, scale-back or eliminate the commercialization of Onrigin™, discontinue its product development and clinical trials or curtail or cease operations. In any such event, our business, operations and prospects would be materially adversely affected.

Completion of clinical trials may take several years or more and the length of time can vary substantially according to the type, complexity, novelty and intended use of a product candidate. Factors that can cause delay or termination of our clinical trials include:

- slow patient enrollment;
- long period of time required to track safety and effectiveness;
- lack of sufficient supplies of the product candidate;
- adverse medical events or side effects in treated patients;
- lack of effectiveness of the product candidate being tested;
- negative or equivocal findings of the data safety monitoring board, or DSMB, for a trial; and
- lack of sufficient funds.

We budget and monitor our research and development costs by category, as opposed to by product or study. Significant categories of costs include personnel, clinical, third party research and development services, and laboratory supplies. The cost to take a product candidate through clinical trials is dependent upon, among other things, the targeted disease indications, the timing, size and dosing schedule of the clinical trials for such product candidate, the number of patients enrolled in each trial and the speed at which patients are enrolled and treated. We could incur increased product development costs if we experience delays in trial enrollment, as a result of our evaluation of clinical trial results, or in applying for or obtaining regulatory approvals for any reason including the possible reasons for delay described above. These uncertainties and variability make it difficult to accurately predict the future cost of or timing to complete our product development projects.

We cannot be certain that any of our products will prove to be safe or effective, will achieve the safety and efficacy needed in clinical trials necessary for product registration, will receive regulatory approvals, or will be successfully commercialized. Our clinical trials might prove that our product candidates may not be effective in treating disease or may have undesirable or unintended side effects, toxicities or other characteristics that require us to cease further development of the product.

Given the uncertainties related to pharmaceutical product development, we are currently unable to reliably estimate when, if ever, our product candidates will generate revenue and cash flows. We do not expect to receive net cash inflows from any of our major research and development projects until and unless a product candidate becomes a profitable commercial product.

Critical Accounting Policies and Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements and the related disclosures, which have been prepared in accordance with U.S. generally accepted accounting principles for interim financial statements. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. These estimates form the basis for making judgments about the carrying values of assets and liabilities. We base our estimates and judgments on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates.

We believe the following policies to be the most critical to an understanding of our financial condition and results of operations because they require us to make estimates, assumptions and judgments about matters that are inherently uncertain.

Revenue Recognition

Technology License Fees. We record revenue under technology license agreements in accordance with the following:

- Nonrefundable upfront license fees for which no further performance obligations exist are recognized as revenue on the earlier of when payments are received or collection is assured;
- Nonrefundable upfront license fees including guaranteed, time-based payments that require continuing involvement in the form of development or other efforts by us are recognized as revenue ratably over the performance period;
- Milestone payments are recognized as revenue when milestones, as defined in the applicable agreement, are achieved; and
- Royalty revenues based on licensees' sales of our products or technologies are recognized as earned in accordance with the contract terms when royalties from licensees can be reliably measured and collectibility is reasonably assured. Royalty estimates are made in advance of amounts collected based on historical and forecasted trends.

Actual license fees received may vary from recorded estimated revenues. The effect of any change in revenues from technology license agreements would be reflected in revenues in the period such determination was made. Historically, such adjustments have been insignificant.

Research and Laboratory Support Fees. We recognize revenue from research and laboratory support as the services are performed. Since 2005, we have not received any research and laboratory support fees.

Contract Research Grants. We recognize revenue from grants received for research projects as earned in accordance with the grant terms. Since 2004, we have not received any contract research grants.

Research and Development Expenses

We record research and development expenses as incurred. We disclose clinical trials expenses and other research and development expenses as separate components of research and development expense in our consolidated statements of operations to provide more meaningful information to our investors. These expenses are based, in part, on estimates of certain costs when incurred. The effect of any change in the clinical trials expenses and other research and development expenses would be reflected in the period such determination was made.

Stock-Based Compensation

Since January 1, 2006, we have recognized stock-based compensation expense in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004), *Share-Based Payment* (SFAS 123R). Under SFAS 123R, the fair value of stock-based compensation is estimated at the date of grant and is recognized ratably over the requisite service period in our consolidated financial statements. Prior to January 1, 2006, we accounted for stock-based compensation arrangements in accordance with the intrinsic value method provided by the Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB 25) and, as such, generally recognized no stock-based compensation expense in our consolidated financial statements.

Our consolidated financial statements for periods prior to January 1, 2006 have not been restated to reflect, and do not include, the impact of SFAS 123R. We have provided pro forma disclosure in the notes to our consolidated financial statements of share-based payments for the period presented prior to January 1, 2006 in accordance with Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation* (SFAS 123), as amended by Statement of Financial Accounting Standards No. 148, *Accounting for Stock-Based Compensation — Transition and Disclosure* (SFAS 148).

Our last award of stock options was made in November 2005. Compensation expense for all stock options was fully recognized as of June 2009. Compensation expense recorded for stock options is based on the fair value of the awards at the date of grant determined using the Black-Scholes option valuation model using assumptions based, in part, on historical experience of expected stock price volatility, expected term until exercise, expected forfeiture rate and risk-free interest rate. Once stock option fair values are

determined, they may not be changed. SFAS 123R requires forfeitures estimated at the time of grant to be revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

For additional disclosures regarding stock-based compensation, see Note 6 to the accompanying unaudited condensed consolidated financial statements.

Income Taxes

Deferred income taxes are provided for the future tax consequences of temporary differences between the income tax and financial reporting bases of assets and liabilities, and on operating loss and tax credit carryforwards. Except for the tax provisions recorded for state capital taxes and the tax benefits recorded for the sale of certain research and development tax credits to the State of Connecticut, we have not recorded a provision or benefit for income taxes in our consolidated financial statements due to recurring historical losses. Accordingly, we have provided a full valuation allowance for our deferred tax assets as of June 30, 2009. In the event we determined that we would be able to realize deferred tax assets in the future, an adjustment would be made to reduce the valuation allowance in the period of determination.

Recently Issued Accounting Standards

Pronouncements issued by the FASB or other authoritative accounting standards groups with future effective dates are either not applicable or not significant to our consolidated financial statements.

Results of Operations

Comparison of the Three-Month Periods Ended June 30, 2009 and 2008

Revenues. Revenues from technology license fees for the three months ended June 30, 2009 were \$5,000 as compared to \$13,000 for the comparable 2008 period. We have no material source of revenues.

Research and Development Expenses. Total research and development (R&D) expenses were \$3.1 million for the three months ended June 30, 2009 compared to \$5.0 million for the same 2008 period as a result of a decrease in clinical trials expenses of \$1.4 million and a decrease in other R&D expenses of \$477,000. The decrease in clinical trials expenses was primarily due to lower costs associated with our Phase III trial of Onrigin™ which was closed to patient accrual in May 2007 and our pivotal Phase II trial of Onrigin™ which was closed to patient accrual in May 2009, partially offset by higher costs associated with an investigator-sponsored Phase III clinical trial of Onrigin™ in combination with standard reduction-induction chemotherapy in AML and myelodysplasia (MDS), and lower-stock based compensation in 2009. Other R&D expenses decreased primarily due to lower stock-based compensation expense in 2009.

Marketing, General and Administrative Expenses. Marketing, general and administrative expenses were \$1.8 million for the three months ended June 30, 2009 compared to \$1.7 million for the comparable 2008 period. The increase was primarily due to higher professional fees associated with Onrigin™ launch activities.

Interest Expense. Interest expense, which included non-cash amortization of deferred issuance costs, original issue discount and assigned warrant value, was \$1.7 million for the three months ended June 30, 2009 compared to \$1.5 million for the three months ended June 30, 2008 related to our Notes and Warrants.

Interest Income. Interest income was \$3,000 for the three months ended June 30, 2009 compared to \$265,000 for the comparable 2008 period. The decrease was primarily due to lower interest rates in 2009.

Other Income (Expense), Net. For the three months ended June 30, 2009, other expense was \$8,000, which reflected other non-cash expense related to the change in the fair value of a derivative as described in Note 5 to the accompanying unaudited condensed consolidated financial statements. For the three months ended June 30, 2008, other expense was \$6,000, which reflected foreign currency transaction losses related to contracts with vendors outside the U.S. denominated in foreign currencies.

Income Taxes. For the three months ended June 30, 2009 and 2008, the Company did not record provisions for minimum state capital taxes due to its shareholders' deficit.

Net Loss. As a result of the foregoing, the net loss was \$6.6 million, or \$0.83 per share based on weighted-average shares outstanding of 8.0 million, for the three months ended June 30, 2009 compared to \$7.9 million, or \$1.06 per share based on weighted-average shares outstanding of 7.4 million, for the same 2008 period.

Comparison of the Six-Month Periods Ended June 30, 2009 and 2008

Revenues. Revenues from technology license fees for the six months ended June 30, 2009 were \$10,000 as compared to \$27,000 for the comparable 2008 period. We have no material source of revenues.

Research and Development Expenses. Total research and development (R&D) expenses were \$6.1 million for the six months ended June 30, 2009 compared to \$10.1 million for the same 2008 period as a result of a decrease in clinical trials expenses of \$3.2 million and a decrease in other R&D expenses of \$756,000. The decrease in clinical trials expenses was primarily due to lower costs associated with our Phase III trial of Onrigin™ which was closed to patient accrual in May 2007 and our pivotal Phase II trial of Onrigin™ which was closed to patient accrual in May 2009, partially offset by higher costs associated with an investigator-sponsored Phase III clinical study of Onrigin™ in combination with standard reduction-induction chemotherapy in AML and MDS, and lower-stock based compensation in 2009. Other R&D expenses decreased primarily due to lower stock-based compensation expense in 2009.

Marketing, General and Administrative Expenses. Marketing, general and administrative expenses were \$3.4 million for the six months ended June 30, 2009 compared to \$3.8 million for the comparable 2008 period. The decrease was primarily due to lower stock-based compensation expense in 2009.

Interest Expense. Interest expense, which included non-cash amortization of deferred issuance costs, original issue discount and assigned warrant value, was \$4.0 million for the six months ended June 30, 2009 compared to \$3.0 million for the six months ended June 30, 2008 related to our Notes and Warrants. Interest expense included \$807,000 of additional non-cash amortization expense recorded in the first quarter of 2009 as described in Note 5 to the accompanying unaudited condensed consolidated financial statements.

Interest Income. Interest income was \$10,000 for the six months ended June 30, 2009 compared to \$767,000 for the comparable 2008 period. The decrease was primarily due to lower interest rates in 2009.

Other Income (Expense), Net. For the six months ended June 30, 2009, other income was \$2.6 million, which reflected foreign currency transaction gains of \$33,000 and other non-cash income of \$2.6 million related to the change in the fair value of a derivative as described in Note 5 to the accompanying unaudited condensed consolidated financial statements. For the six months ended June 30, 2008, other expense was \$12,000, which reflected foreign currency transaction losses related to contracts with vendors outside the U.S. denominated in foreign currencies.

Income Taxes. For the six months ended June 30, 2009 and 2008, the Company did not record provisions for minimum state capital taxes due to its shareholders' deficit.

Net Loss. As a result of the foregoing, the net loss was \$10.9 million, or \$1.37 per share based on weighted-average shares outstanding of 8.0 million, for the six months ended June 30, 2009 compared to \$16.1 million, or \$2.20 per share based on weighted-average shares outstanding of 7.3 million, for the same 2008 period.

Liquidity and Capital Resources

Since our inception in 1994, our primary source of cash has been through public and private offerings of debt and equity. Other sources have included research and laboratory support fees, technology license fees and grants. Our primary use of cash has been for our product development activities.

As of June 30, 2009, we had cash and cash equivalents of \$26.1 million, compared to \$38.0 million at December 31, 2008. The decrease in 2009 was the result of cash used to fund operating activities of \$11.8 million and acquisitions of capital equipment of \$5,000. Cash used in operations was primarily to

fund product development activities as well as for working capital, payment of interest and general corporate purposes.

Cash Used in Operating Activities

Cash used in operating activities is primarily a result of our net loss. However, operating cash flows differ from net loss as a result of non-cash charges, differences in the timing of cash flows and earnings/expense recognition, and changes in operating assets and liabilities. Significant changes in operating assets and liabilities were as follows:

Receivables and prepaid expenses decreased \$141,000 and \$102,000 during the six months ended June 30, 2009 and 2008, respectively. The decreases in 2009 and 2008 were primarily due to lower prepaid insurance expense partially offset by higher other prepaid expenses as the timing of payments differed from the recognition of expense.

Current liabilities decreased \$392,000 during the six months ended June 30, 2009 primarily due to a reduction in accrued payroll-related expenses due to the payment in 2009 of amounts accrued as of December 31, 2008. Current liabilities decreased \$42,000 during the six months ended June 30, 2008 primarily due to a lower accrual for clinical costs as the timing of clinical trials payments differed from the recognition of clinical trial expenses, partially offset by higher payroll-related accruals due to a 2008 bonus and retention plan.

Cash Used in Investing Activities

Cash used in investing activities relates to the acquisition of capital equipment. Capital expenditures of \$5,000 and \$26,000 for the six months ended June 30, 2009 and 2008, respectively, were primarily for computer hardware and software. Capital expenditures for fiscal 2009 are not expected to exceed \$100,000.

Cash Provided by Financing Activities

Cash provided by financing activities is primarily related to capital raised and proceeds from common stock issuances under our employee stock plans. For the six months ended June 30, 2009 and 2008, we received net proceeds of \$1,000 and \$3,000, respectively, from common stock issuances under employee stock plans. All proceeds from financing activities are being and will be used to fund product development activities as well as for working capital and general corporate purposes.

In February 20, 2007, we completed a private placement of \$60 million aggregate principal amount of 7.75% convertible senior notes due February 15, 2012 and warrants to purchase up to an additional 780,000 shares of our common stock. We are obligated to pay the principal amount of the Notes in cash on the maturity date, February 15, 2012. On or after, but not prior to, February 15, 2010, we have the right to redeem some or all of the Notes for cash at any time, at a redemption price equal to 100% of the principal amount plus accrued and unpaid interest to, but not including, the redemption date. Upon certain fundamental changes (as described below), holders of Notes will have the right, subject to various conditions and restrictions, to require us to repurchase their Notes, in whole or in part, at 100% of the principal amount plus accrued and unpaid interest up to, but not including, the repurchase date.

The Notes bear interest at a rate of 7.75% per year, payable on February 15 and August 15 of each year. Interest may be paid at our option in cash or registered shares of our common stock or some combination of cash and registered shares of our common stock having a fair market value equal to the interest payment due, in each case at our option, from the date of issuance until repayment in full or until an earlier conversion, redemption or repurchase.

The Notes shall become automatically convertible at any time prior to maturity if the closing price per share of our common stock has exceeded 150% of the conversion price then in effect for at least 20 trading days within any 30-consecutive trading day period, provided that only those Notes as to which we are then able to make the make-whole payment (defined below) under Nasdaq shareholder approval rules shall be automatically converted; and further provided that only those Notes (i) for which a shelf registration statement was in effect with respect to the resale of the shares of common stock issuable upon automatic

conversion for each day during such 30-consecutive trading day period or (ii) for which the shares issuable upon automatic conversion may be freely transferred pursuant to Rule 144(k) under the Act, shall be automatically converted. Upon any automatic conversion of the Notes, we shall pay to holders an amount equal to \$232.50 per \$1,000 principal amount of Notes so converted, less the amount of any interest paid on such notes prior to the conversion date. This payment may be made at the Company's option in cash, registered shares of common stock or some combination of cash and registered shares of common stock having a fair market value equal to the make-whole payment due.

Upon certain fundamental changes, holders of Notes will have the right, subject to various conditions and restrictions, to require us to repurchase the Notes, in whole or in part, at 100% of the principal amount plus accrued and unpaid interest up to, but not including, the repurchase date. If a fundamental change occurs prior to February 15, 2010, we may be required to pay a make-whole premium on the notes converted and not repurchased in connection with the fundamental change by issuing additional shares of common stock upon conversion of such Notes.

The Notes and the Indenture under which they were issued limit our ability to incur indebtedness or other obligations, including certain senior secured indebtedness or other secured obligations, in the future. If there is an event of default on the Notes, the principal amount of the Notes, plus accrued and unpaid interest may be declared immediately due and payable, subject to certain conditions set forth in the Indenture.

In connection with the placement of the Notes and Warrants, we entered into a registration rights agreement which requires us to use our best efforts to maintain the effectiveness of our registration statement relating to the resale of our convertible senior Notes, shares of common stock issuable upon the exercise of outstanding Warrants and upon conversion of our outstanding notes by holders of such Warrants and Notes. We may be required to file and make effective amendments and supplements to such registration statement from time to time in the future. We believe we are currently in compliance with our registration obligation. However, if we fail to maintain an effective registration statement through February 15, 2010, the expiration date of the Warrants, we could become subject to certain liquidated damages in the form of additional interest on the principal amount of the notes outstanding, subject to a maximum rate of 8.25% per annum for the duration of such failure until the event giving rise to the additional interest has been cured or February 15, 2010, whichever occurred first. We do not believe such potential liquidated damages would be material to our financial results. In the event of a failure, once we regained compliance with our registration obligation with respect to all of the registrable securities, the interest payable on the notes would return to the initial interest rate of 7.75%.

The Warrants are exercisable into shares of our common stock at the option of the holder of Warrants prior to the close of business on February 15, 2010, or earlier upon redemption, at a current exercise price of \$20.00 per share. The exercise price is subject to adjustment in accordance with the terms of the Warrant. The Company may redeem the outstanding Warrants in whole or in part for \$0.01 per Warrant at any time after the Warrants become exercisable if, and only if, the last sales price of our common stock equals or exceeds 150% of the exercise price per share of the Warrants then in effect for any 20 trading days within a 30-consecutive trading day period and at all times during such period there is an effective registration statement relating to the resale of all the shares of common stock issuable upon exercise of the Warrants.

Future Cash Requirements

Based on our current operating plan, we estimate that our existing cash and cash equivalents totaling \$26.1 million at June 30, 2009 will be sufficient to fund our operations through the second quarter of 2010. Our current operating plan, which assumes we will receive regulatory approval to commercialize Onrigin™ from the FDA in the fourth quarter of 2009, includes only limited expenses for the infrastructure and personnel necessary for us to commercialize Onrigin™ as a product for the treatment of elderly patients with *de novo* poor-risk AML in the United States.

Our current plan of operations and cash requirements may vary materially from planned estimates due to results of the regulatory approval process for Onrigin™, clinical trials, product testing, relationships with strategic partners, changes in focus and direction of our clinical development program, competitive and

technological advances, our commercialization strategy and other factors. Based on these and other factors, we may change our plan of operations and re-allocate our resources to or from certain drug development programs, or terminate or delay drug development programs.

Unless we have a sales and marketing partner or we are able to generate cash from other sources, we will need to raise substantial capital to commercialize Onorigin™, to continue our product development and clinical trials, and to fund our operations beyond the second quarter of 2010. We cannot assure you that we will be able to raise additional capital, nor can we predict what the terms of any financing might be. If the Company cannot raise adequate funds to satisfy its capital requirements or in the event the Company does not receive regulatory approval for Onorigin™ in the fourth quarter of 2009, the Company may have to delay, scale-back or eliminate the commercialization of Onorigin™, discontinue its product development and clinical trials or curtail or cease operations.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements that have a material current effect or are reasonably likely to have a material future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

During the first six months of 2009, except for the interest paid on February 15, 2009 related to our senior convertible notes, and the adoption of and a payment under a non-equity incentive compensation plan, there were no significant changes in our reported payments due under contractual obligations and disclosed contingent contractual obligations related to potential milestone payments under our license agreements and potential cancellation fees under various agreements included in Part II, "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

Available Information

The following information can be found on our website at <http://www.vionpharm.com> or may be obtained free of charge by contacting our Investor Relations Department at (203) 498-4210 or by sending an e-mail message to info@vionpharm.com:

- our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission;
- our policies related to corporate governance, including the charter for the Nominating and Governance Committee of our Board of Directors, our code of ethics and business conduct applying to our directors, officers and employees, and our code of ethics applying to our chief executive officer, chief financial officer and senior financial officials; and
- the charters of the Audit Committee and the Compensation Committee of our Board of Directors; and
- other important information and recent developments concerning the Company.

Copies of our filings with the Securities and Exchange Commission ("SEC") can be obtained from the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Information can be obtained about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>.

ITEM 3. *Quantitative and Qualitative Disclosures About Market Risk*

During the first six months of 2009, there were no significant changes in our disclosures about market risk included in Part II, "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

The weighted-average interest rate on cash equivalents held at June 30, 2009 was approximately 0.02%.

ITEM 4T. *Controls and Procedures*

(a) Disclosure controls and procedures – Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2009. Based on that evaluation, our chief executive officer and chief financial officer have concluded that 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) were effective to ensure that the information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission rules and forms.

(b) Changes in internal control over financial reporting – There has been no change in our internal control over financial reporting during the period covered by this quarterly report or in other factors that has materially affected or is reasonably likely to materially affect our internal control over financial reporting.

PART II OTHER INFORMATION

ITEM 1A. *Risk Factors*

There are many risks and uncertainties that can affect our future business, financial performance or share price. In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I, “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2008. Below are new or updated risk factors from those appearing in our Annual Report on Form 10-K. In addition to the other information set forth in this report, you should carefully consider the following factors, which could materially affect our business, financial condition or future results. The risks described below are not the only risks facing our Company. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results.

We have incurred substantial losses since our inception, we expect to continue to incur operating losses, we may never be profitable, and we may be unable to continue our operations.

We have incurred losses since inception. As of June 30, 2009, we had an accumulated deficit of approximately \$249.9 million. If we continue to incur operating losses and fail to become a profitable company, we may be unable to continue our operations. Since we began our business, we have focused on research, development, preclinical and clinical trials, and most recently, regulatory approval for Onrigin™ in the U.S. We expect to continue to incur losses for at least the next several years as we pursue regulatory approval of Onrigin™, continue to conduct clinical trials, continue our other research and development efforts, and develop manufacturing, sales, marketing and distribution capabilities. Our future profitability depends on our receiving regulatory approval of our product candidates, most recently Onrigin™, and our ability to successfully manufacture and market approved drugs. The extent of our future losses and the timing of our profitability are highly uncertain.

We do not have any products approved for sale. If the FDA delays approval or does not approve the NDA for Onrigin™ at all, we will not be able to sell Onrigin™, the value of our company and our financial results will be materially adversely affected, and we may need to curtail or cease operations.

We cannot sell or market our drugs without regulatory approval. If we cannot obtain regulatory approval for our products, the value of our company and our financial results will be materially adversely affected. In the United States, we must obtain approval from the FDA for each drug that we intend to sell.

Accordingly, if and when we complete the several required phases of clinical testing for any drug candidate, we will submit our test results to the FDA. FDA review may generally take up to two years and approval is not assured. Foreign governments also regulate drugs distributed outside the United States. A

delay in obtaining regulatory approvals for any of our drug candidates will also have a material adverse effect on our business.

In particular, we filed an NDA in February 2009 based upon our pivotal Phase II trial of Onrigin™ in previously untreated elderly patients with *de novo* poor-risk AML, supplemented by data from a previous Phase II trial of Onrigin™ in elderly patients with AML. In April 2009, we announced that the NDA for Onrigin™ had been accepted for standard review by the FDA with a user fee goal date of December 12, 2009 for a decision on approval. The Company will make a presentation to the Oncologic Drugs Advisory Committee (ODAC) of the FDA on September 1, 2009. The ODAC reviews and evaluates data concerning the safety and effectiveness of marketed and investigational human drug products for use in the treatment of cancer and makes appropriate recommendations to the FDA. There can be no assurance that the Company will receive a positive recommendation for Onrigin™ from ODAC or that the NDA will be approved in 2009 by the FDA, if at all. If ODAC does make a positive recommendation regarding Onrigin™, its recommendation is not binding on the FDA, and the FDA may still decide not to approve the NDA for Onrigin™. If the FDA delays approval to a time when we would no longer be in a cash position to commercialize the drug or does not approve the NDA filed by us, our business will be materially adversely affected and we may need to curtail or cease operations.

Our Phase III trial of Onrigin™ in combination with cytarabine in relapsed AML was put on clinical hold by the FDA in May 2007. Although in January 2008 the FDA lifted the clinical hold on the trial, we currently have no plans to start a new Phase III trial in relapsed AML at any time in the future and there can be no assurance that any new trial would not in the future be put on regulatory hold or that the new trial will result in regulatory approval of Onrigin™ in combination with cytarabine in relapsed AML, or what the timing of that approval might be.

We are heavily dependent on the success of our lead product candidate Onrigin™ which is still under development. If we do not obtain FDA approval of Onrigin™, or if the FDA delays approval or narrows the indications for which we may market Onrigin™, or if Onrigin™ is not successful in clinical trials, our business will be materially adversely affected.

We anticipate that our ability to generate revenues in the foreseeable future will depend on FDA approval and successful commercialization of Onrigin™. In particular and in the nearer term, we are dependent on FDA approval of Onrigin™ for the treatment of previously untreated elderly patients with *de novo* poor-risk AML in order to generate revenues from the sale of Onrigin™ in the U.S. We have focused substantially all of our resources on the development of Onrigin™ for the treatment of AML. The commercial success of Onrigin™ will depend on several factors, including receipt of approvals from the FDA and in the future similar foreign regulatory authorities; establishing commercial manufacturing capabilities through third party manufacturers; successfully launching commercial sales and distribution of Onrigin™, either ourselves or through third parties; and acceptance of Onrigin™ in the medical community and by third party payors, none of which can be assured. If the FDA and similar foreign regulatory authorities do grant approval for Onrigin™, they may narrow the indications for which we are permitted to market it, may impose other restrictions on the use or marketing of the product, or may require us to conduct additional post-marketing trials. A narrowed indication or other restrictions may limit the market potential for Onrigin™ and any obligation to conduct additional clinical trials would result in increased expenditures and lower revenues. If we are not successful in commercializing our lead product candidate Onrigin™, or are significantly delayed or limited in doing so, our business will be materially adversely affected and we may need to curtail or cease operations.

We filed an NDA based on our pivotal Phase II clinical trial in February 2009, supplemented by data from a previous Phase II trial of Onrigin™ in elderly AML. In April 2009, we announced that the NDA for Onrigin™ had been accepted for standard review by the FDA with a user fee goal date of December 12, 2009 for a decision on approval. The Company will make a presentation to the Oncologic Drugs Advisory Committee (ODAC) of the FDA on September 1, 2009. The ODAC reviews and evaluates data concerning the safety and effectiveness of marketed and investigational human drug products for use in the treatment of cancer and makes appropriate recommendations to the FDA. There can be no assurance that ODAC will

recommend to approve Onrigin™ or that the NDA will be approved by the FDA in 2009 or at all. If ODAC does make a positive recommendation regarding Onrigin™, its recommendation is not binding on the FDA, and the FDA may still decide not to approve the NDA for Onrigin™. If ODAC does not make a positive recommendation regarding Onrigin™ or if the FDA delays approval or does not approve the NDA filed by us, our business will be materially adversely affected and we may have to consider curtailing or ceasing operations. In addition, as a result, we may have to conduct additional clinical trials of or provide additional information for Onrigin™ before regulatory approval may be obtained. These additional trials or compilation of requested information may take substantial time, if not years, to complete and require substantial additional financing. There can be no assurance that we will be able to start or complete additional clinical trials or that additional financing can be raised to conduct them.

In May 2007, we announced that we would suspend enrollment and patient treatment of our Phase III trial of Onrigin™ in combination with cytarabine in relapsed AML pending a detailed review of all of the data from the trial. This decision was based on a planned interim analysis of clinical data by the trial's DSMB that resulted in a recommendation that enrollment and further treatment of patients on study be suspended. The DSMB's recommendation was based on their evaluation that any advantage in the primary end point, the response rate, was being compromised by the mortality observed on the study. In May 2007, the FDA placed the trial on clinical hold. We subsequently performed a comprehensive safety and efficacy analysis with our personnel and external and independent medical consultants. In November 2007, we announced that discussions with the DSMB for the trial regarding the findings of the medical and safety review had been completed and the next step of the process was to present the findings and recommendations to the regulatory authorities. In January 2008, we announced that the FDA had lifted the clinical hold on the trial and that we had reached initial agreement with the FDA on modifications to the original Phase III study protocol resulting in the requirement to conduct a new Phase III trial in relapsed AML, if we pursue regulatory approval in this indication. The original Phase III trial is now closed. We have no plans to start a new Phase III trial in relapsed AML and there can be no assurance that we will do so at any time in the future.

We would need to reevaluate the development of Onrigin™ if (i) ODAC did not make a positive recommendation regarding Onrigin™ on September 1, 2009, (ii) the FDA asked us for more information or additional clinical trials of Onrigin™, or does not approve Onrigin™ in 2009, or (iii) data from any clinical trials of Onrigin™ raised issues relative to its safety and efficacy. In such event, we would alter the drug or dose as used in the trial, modify the clinical trial protocol, commence additional trials, or abandon clinical development of Onrigin™. In any such events, our business, operations and prospects would be materially adversely affected, our ability to obtain regulatory approval might be delayed, or we might not be able to obtain regulatory approval at all and we may need to curtail or cease operations..

If we fail to obtain the capital necessary to fund our operations, we will be unable to continue or complete our product development, regulatory approval or commercialization efforts and we may need to curtail or cease operations.

We will need to raise substantial additional capital to fund operations, complete our product development, and fund commercialization efforts if we do not find a commercialization partner. As of June 30, 2009, we had \$26.1 million in cash and cash equivalents to fund our operations and continue our product development. We have determined to focus substantially all of our resources on the development and commercialization of Onrigin™. However, we will not have an approved and marketable product unless and until we receive regulatory approval from the FDA or similar foreign regulatory authorities. There can be no assurance that we will be approved by the FDA or similar foreign regulatory authorities. Under our second quarter operating plan, we will need to raise substantial additional capital to fund our operations after the second quarter of 2010. In the event the FDA does not approve the Company's NDA in 2009, our ability to raise additional capital may be materially adversely affected.

The current global economy and capital markets have been challenging for any issuer to raise capital through public offerings or private placements of securities, and especially so with respect to the small cap biotech sector that we operate in. This situation makes the timing and potential for future equity or debt

financings uncertain. We may not get funding when we need it or on terms that are agreeable to us, if at all. We believe that our stock price and the number of shares we have authorized and available to satisfy any equity portion of such financing will have a significant impact on our ability to obtain such financing. In addition, the existence of our convertible senior Notes may impact our ability to seek equity financing or the terms of such financing. If we cannot raise adequate funds to satisfy our capital requirements, we may have to delay, scale-back or eliminate our research and development activities, clinical studies or future operations. It may also make it more difficult for us to raise additional capital as we are not listed on a national stock market exchange.

We might have to license our technology to others. This could result in sharing revenues which we might otherwise retain for ourselves. Any of these actions may harm our business, financial condition and results of operations.

The amount of capital we may need depends on many factors, including:

- the progress, timing and scope of our product development programs;
- the progress, timing and scope of our clinical trials;
- the time and cost necessary to obtain regulatory approvals;
- the time and cost necessary to further develop manufacturing processes, arrange for contract manufacturing facilities and obtain the necessary regulatory approvals for those facilities;
- the time and cost necessary to develop sales, marketing and distribution capabilities;
- our ability to enter into and maintain collaborative, licensing and other commercial relationships; and
- our partners' commitment of time and resource to the development of our products.

If we fail to recruit and retain key personnel, our research and development programs may be delayed.

We are highly dependent upon the efforts of our senior management and scientific personnel, particularly, Alan Kessman, our chief executive officer and director; Howard B. Johnson, our president and chief financial officer; Ann Lee Cahill, our vice president, clinical development; William F. Hahne, M.D., our vice president, medical; Ivan King, Ph.D., our vice president, research and development; Tanya Lewis, our vice president of regulatory affairs and quality assurance, and James Tanguay, Ph.D., our vice president, chemistry, manufacturing & controls. There is intense competition in the drug development industry for qualified scientific and technical personnel. Since our business is very technical and specialized, we need to continue to attract and retain such people. We may not be able to continue to attract and retain the qualified personnel necessary for developing our business, particularly in light of our need to raise additional financing in order to continue our operations after the second quarter of 2010. We have no key man insurance policies on any of the officers listed above and we only have an employment agreement with Mr. Kessman for which the term was recently extended through 2011. There can be no assurance that any of our senior management or scientific personnel will remain with the company. If we lose the services of our management and scientific personnel or fail to recruit other sales, marketing, scientific and technical personnel, our research and product development programs and our commercialization of Onrigin™ will be significantly and detrimentally affected. For example, the elements of our intended plan of operations for the next twelve months, which include, among other elements, pursuing regulatory approval for Onrigin™ in the U.S., could be delayed in the event of management departures.

We face intense competition in the market for anticancer products, and if we are unable to compete successfully, our business will suffer.

We face competition from pharmaceutical companies and biotechnology companies. Numerous pharmaceutical and biotechnology companies have publicly announced their intention to develop drugs for the treatment of cancer including, in some instances, the development of agents which treat AML and/or are

alkylating agents similar to our compound Onrigin™ and agents which target ribonucleotide reductase similar to our compound Triapine®. These companies include, but are not limited to, Amgen Inc., AstraZeneca PLC, Bristol-Myers Squibb Company, Celgene Corporation, Chiron Corporation, Cyclacel Pharmaceuticals, Inc., Eli Lilly and Co. and its subsidiary ImClone Systems Inc., Eisai, Inc., Genentech Inc., Genzyme Corporation, Johnson & Johnson, Lorus Therapeutics Inc., OSI Pharmaceuticals, Inc., Pfizer Inc., Schering-Plough Corporation, Wyeth, and Xanthus Pharmaceuticals, Inc. We are aware that one of these companies has filed a supplemental NDA with the FDA for a pharmaceutical product to treat elderly patients with AML. Large pharmaceutical companies have substantially greater financial and other resources and development capabilities than we do and have substantially greater experience in undertaking preclinical and clinical testing of products, obtaining regulatory approvals, and manufacturing and marketing pharmaceutical products. In addition, our competitors may succeed in obtaining approval for products more rapidly than us and in developing and commercializing products that are safer and more effective than those that we propose to develop. The existence of these products, other products or treatments of which we are not aware or products or treatments that may be developed in the future may adversely affect the marketability of our products by rendering them less competitive or obsolete. In addition to competing with universities and other research institutions in the development of products, technologies and processes, we may compete with other companies in acquiring rights to products or technologies from universities.

If Yale does not conduct research relating to products we would like to pursue, we may never realize any benefits from our funding provided to Yale.

We have paid approximately \$10.8 million to fund research at Yale (including research activities of one of our directors, an affiliate of Yale) through June 30, 2009. We do not currently have any research funding commitments to Yale, although we may continue in the future to support certain research projects at Yale. We generally do not have the right to control the research that Yale conducts with our funding, and our funds may not be used to conduct research relating to products that we would like to pursue. Additionally, if the research conducted by Yale results in technologies that Yale has not already licensed or agreed to license to us, we may need to negotiate additional license agreements or we may be unable to utilize those technologies.

Assuming we receive regulatory approval of Onrigin™, if we are unable to establish sales, marketing and distribution capabilities, or to enter into agreements with third parties to do so, we will be unable to successfully market and sell Onrigin™ or any future drug products.

We have no experience with marketing, sales and distribution of drug products and have only recently established pre-commercial capability in those areas. If we are unable to establish capabilities to sell, market and distribute Onrigin™, either by developing our own capabilities or entering into agreements with others, we will not be able to successfully sell Onrigin™ or any future drug products. In that event, we will not be able to generate significant revenues. We cannot guarantee that we will be able to hire the qualified sales and marketing personnel we need. We may not be able to enter into any marketing or distribution agreements with third-party providers on acceptable terms, if at all.

We rely on third-party manufacturers to manufacture our product candidates. If these third-party manufacturers fail to manufacture product candidates of satisfactory quality, in a timely manner, in sufficient quantities or at acceptable costs, development and commercialization of our products could be delayed.

We have no manufacturing facilities, and we have no experience in the commercial manufacturing of drugs or in validating drug manufacturing processes. We have contracted with two third-party manufacturers, Sigma Aldrich Fine Chemicals, Inc. (SAFC), a Sigma-Aldrich Corporation business, and Ben Venue Laboratories, Inc. (Ben Venue), to produce our product candidates for regulatory approvals and clinical trials. We have limited supplies of our product candidates for clinical trials. If our supplies are damaged or destroyed, either during storage or shipping or otherwise, our clinical trials may be delayed, which could have a material adverse effect on our business. We further intend to rely on third-party contract

manufacturers to manufacture, supply, store and distribute commercial quantities of our product candidates. We will also rely on our third-party manufacturing partners to work with us to complete the Chemistry, Manufacturing and Control, or CMC, section of any marketing approval application we may file.

Contract manufacturers are obliged to operate in accordance with government mandated obligations, including FDA-mandated current good manufacturing practices (cGMPs). A failure of any of our contract manufacturers to establish and follow cGMPs or any other regulatory requirements, or to document their adherence to such practices, may lead to significant delays in the availability of material for clinical trials and may delay or prevent filing or approval of marketing applications for our products. In any such event, our business would be materially adversely affected.

Changing contract manufacturers may be difficult, and the number of potential manufacturers is limited. Changing manufacturers requires validation of the manufacturing processes and procedures in accordance with government mandated obligations, including FDA-mandated cGMPs. Such validation may be costly and time-consuming. It may be difficult or impossible for us to find replacement manufacturers on acceptable terms quickly, if at all. Either of these factors could delay or prevent the completion of our clinical trials, the approval of our product candidates by the FDA or other regulatory agencies, or the commercialization of our products, result in higher costs, or cause a decline in potential product revenues.

Drug manufacturers are subject to on-going, periodic unannounced inspections by the FDA and corresponding state and foreign agencies to ensure strict compliance with cGMPs, other government regulations and corresponding foreign standards. While we are obligated to audit the performance of third-party contractors, we do not have control over our third-party manufacturers' compliance with these regulations and standards. Failure by our third-party manufacturers or us to comply with applicable regulations could result in sanctions being imposed on us or them, including fines, injunctions, civil penalties, failure of the government to grant market approval of drugs, delays, suspension of clinical trials, withdrawal of approvals, seizures, detentions or recalls of product, operating restrictions and criminal prosecution.

We are aware that Ben Venue, our manufacturer of Onrigin™ finished drug product, received a Warning Letter from the FDA in November 2007 and that subsequent to that date the FDA had completed an on-site inspection of their facility that concluded with the issuance of an FDA Form 483 (483). Ben Venue informed us that it submitted a response to the FDA proposing a plan to address the issues identified in the 483 and that the FDA has now indicated that Ben Venue's compliance status has been changed in the FDA databases to "Approvable", allowing for the approval of NDAs, ANDAs (Abbreviated New Drug Application) and the issuance of CPPs (Certificates of Pharmaceutical Product) needed for export to many foreign countries for products manufactured by Ben Venue. In June 2008, we were notified by Ben Venue that it had received a letter from the European Medicines Agency (EMA) with observations from a recent audit of its facilities, and that it had responded to this letter with a plan to address the issues raised. The Company has received subsequent updates from Ben Venue regarding the FDA and EMA matters. If Ben Venue is not successful in completing the corrections of the observations that resulted in the issuance of the 483 or the audit letter from the EMA or from subsequent interactions with the FDA or EMA on a timely basis, our ability to obtain FDA approval to manufacture Onrigin™ for commercial purposes could be delayed. We believe that we have sufficient inventory of Onrigin™ to conduct our current and planned clinical trials through July 2010 in Europe and beyond in the U.S. However, if Ben Venue is not able to manufacture additional supplies of Onrigin™ in the future, we will have to establish a new source for finished product manufacturing, and our operations could be materially adversely affected.

Our product candidates for preclinical and clinical trials are manufactured in small quantities by third-party manufacturers. We have not validated the manufacturing process for Onrigin™ to date. In order to obtain marketing approval for any of these product candidates, we will need to enter into and maintain long-term supply agreements with our existing or new third-party manufacturers, such as our agreements with SAFC or Ben Venue, and demonstrate that we can manufacture sufficient quantities under a validated manufacturing process for commercial sale. Our third-party manufacturers may terminate our agreements, may not be able to successfully increase their manufacturing capacity, validate our manufacturing process,

or apply at commercial scale the current manufacturing process for any of our product candidates in a timely or economic manner, or at all. If this occurs, we may be required to seek out additional manufacturing partners requiring additional validation studies, which the relevant government regulator must review and approve. If we are unable to successfully validate or increase the manufacturing capacity for a product candidate, the regulatory approval or commercial launch of that product candidate may be delayed or there may be a shortage in the supply of the product candidate. Our product candidates require precise, high-quality manufacturing. The failure of our third-party manufacturers to achieve and maintain these high manufacturing standards, including the incidence of manufacturing errors, could result in patient injury or death, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could seriously harm our business.

The conduct of our operations may subject us to liabilities under environmental laws, and we may face large capital expenditures in order to comply with such laws.

We cannot accurately predict the outcome or timing of future expenditures that we may be required to expend to comply with comprehensive federal, state and local environmental laws and regulations. We must comply with environmental laws that govern, among other things, all emissions, waste water discharge and solid and hazardous waste disposal, and the remediation of contamination associated with generation, handling and disposal activities. To date, we have not incurred significant costs and are not aware of any significant liabilities associated with our compliance with federal, state and local laws and regulations. However, by letter dated March 5, 2009, we have been informed by the Federal Aviation Administration (FAA) that we are under investigation for alleged violations of the Hazardous Materials Regulations, 49 CFR parts 171-180 relating to the shipment of hazardous materials that were not declared, packaged, marked, labeled or otherwise identified as containing hazardous materials. Under the provisions of Title 49, United States Code 5123 (a)(1), Vion could be subject to civil penalties, although we cannot predict with certainty the ultimate resolution of the investigation or the timing of such resolution.

Environmental laws have changed in recent years and we may become subject to stricter environmental standards in the future and may face large capital expenditures to comply with environmental laws. We have limited capital and are uncertain whether we will be able to pay for significantly large capital expenditures. Also, future developments, administrative actions or liabilities relating to environmental matters may have a material adverse effect on our financial condition or results of operations.

All of our operations are performed under strict environmental and health safety controls consistent with the Occupational Safety and Health Administration, the Environmental Protection Agency and the Nuclear Regulatory Commission regulations. We cannot be certain that we will be able to control all health and safety problems. If we cannot control those problems, we may be held liable and may be required to pay the costs of remediation. These liabilities and costs could be material.

Our common stock is not listed on a national securities exchange. Among other things, our common stock not being listed on a national securities exchange may make it more difficult for investors to trade in our securities and may make it more difficult for us to raise additional capital.

Our common stock has been quoted on the OTC Bulletin Board® under the symbol “VION” since August 16, 2008. As our common stock is not listed on a national securities exchange, an investor may find it more difficult to dispose of our common stock or obtain accurate quotations as to the market value of our common stock. In addition, we are subject to a rule promulgated by the SEC that, if we fail to meet criteria set forth in such rule, imposes various practice requirements on broker-dealers who sell securities governed by the rule to persons other than established customers and accredited investors. For these types of transactions, the broker-dealer must make a special suitability determination for the purchaser and have received the purchaser’s written consent to the transactions prior to the sale. Consequently, the rule may have a materially adverse effect on the ability of broker-dealers to sell our securities, which may materially affect the ability of stockholders to sell our securities in the secondary market. The fact of our common stock is being quoted on the OTC Bulletin Board® may make it more difficult for investors to trade in our securities, which could lead to further declines in our share price. Our shares being quoted on the OTC

Bulletin Board® also makes it more difficult for us to raise additional capital, as we may incur additional costs under state blue-sky laws if we were to sell additional securities.

As our common stock is not listed on a national securities exchange, we are ineligible to use Form S-3 to register the sale of shares of our common stock or to register the resale of our securities held by certain of our security holders with the SEC, thereby making it more difficult and expensive for us to register our common stock or other securities and raise additional capital. We are party to a registration rights agreement which requires us to use our best efforts to maintain the effectiveness of our registration statement relating to the resale of our convertible senior notes, shares of common stock issuable upon the exercise of outstanding warrants and upon conversion of our outstanding notes by holders of such warrants and notes through February 15, 2010. We may need to file and make effective amendments and supplements to such registration statement from time to time in the future. If we fail to maintain an effective registration statement, we could become subject to certain liquidated damages in the form of additional interest on the principal amount of the notes outstanding, subject to a maximum rate of 8.25% per annum for the duration of such failure until the event giving rise to the additional interest has been cured.

ITEM 6. *Exhibits*

- 10.1 Amendment No. 5 dated as of June 24, 2009, to Employment Agreement, dated as of November 3, 2003, by and between Vion Pharmaceuticals, Inc. and Alan Kessman.
- 31.1 Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 31.2 Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 32.1 Certification of the Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 32.2 Certification of the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

SIGNATURES

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

Date: August 13, 2009

VION PHARMACEUTICALS, INC.

By: /s/ Howard B. Johnson
Howard B. Johnson
President and Chief Financial Officer

Exhibit Index

- 10.1 Amendment No. 5 dated as of June 24, 2009, to Employment Agreement, dated as of November 3, 2003, by and between Vion Pharmaceuticals, Inc. and Alan Kessman.
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AMENDMENT NO. 5 DATED AS OF JUNE 24, 2009, TO EMPLOYMENT AGREEMENT, DATED AS OF NOVEMBER 3, 2003, BY AND BETWEEN VION PHARMACEUTICALS, INC. AND ALAN KESSMAN

AMENDMENT NO. 5, dated as of June 24, 2009, to Employment Agreement, dated as of November 3, 2003, by and between Vion Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Alan Kessman (the "Executive"), as amended by Amendment No. 1 thereto, dated September 13, 2005, Amendment No. 2 thereto, dated January 3, 2006, Amendment No. 3 thereto, dated February 13, 2008 and Amendment No. 4 thereto, dated June 23, 2008 (collectively, the "2003 Agreement").

WHEREAS, the Executive has been acting as the Chief Executive Officer of the Company pursuant to the 2003 Agreement; and

WHEREAS, the 2003 Agreement expires on December 31, 2009; and

WHEREAS, the Board of Directors of the Company (the "Board") recognizes that the Executive's continued long-term contribution to the growth and success of the Company is essential, and the Board desires to provide for the continued employment of the Executive on the terms set forth in the 2003 Agreement; and

WHEREAS, the Executive is willing to continue to serve the Company on the terms and conditions set forth in the 2003 Agreement.

NOW THEREFORE, in order to effectuate the foregoing, the Company and the Executive wish to amend the 2003 Agreement to extend the term thereof as set forth below. Accordingly, in consideration of the premises and the respective covenants and agreements of the parties herein contained, and intending to be legally bound hereby, the parties hereto agree as follows:

1. Section 2 of the 2003 Agreement is hereby amended and restated in its entirety to read as follows:

"2. Term. The term of the Executive's employment hereunder (the "term") will commence on January 1, 2004 (the "Effective Date") and, unless sooner terminated or extended in accordance with the terms hereof, will expire on December 31, 2011."

2. Except as specifically amended as set forth herein, the 2003 Agreement shall remain in full force and effect.

3. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, this Amendment No. 5 has been executed as of the date and year first above written.

VION PHARMACEUTICALS, INC.

By: /s/ William Miller
William Miller
Chairman of the Board

/s/ Alan Kessman
Alan Kessman

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Alan Kessman, Chief Executive Officer of Vion Pharmaceuticals, Inc., certify that:

1. I have reviewed this quarterly report on Form 10-Q (this “report”) of Vion Pharmaceuticals, Inc. (the “registrant”);
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 second fiscal quarter) 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.

Date: August 13, 2009

/s/ Alan Kessman
Alan Kessman
Chief Executive Officer (Principal Executive Officer)

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Howard B. Johnson, Chief Financial Officer of Vion Pharmaceuticals, Inc., certify that:

1. I have reviewed this quarterly report on Form 10-Q (this "report") of Vion Pharmaceuticals, Inc. (the "registrant");
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 second fiscal quarter) 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.

Date: August 13, 2009

/s/ Howard B. Johnson
Howard B. Johnson
Chief Financial Officer (Principal Financial Officer)

CERTIFICATION PURSUANT TO
18 U.S.C. § 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, I, the undersigned Chief Executive Officer of Vion Pharmaceuticals, Inc. (the "Company"), hereby certify that the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2009 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 13, 2009

/s/ Alan Kessman
Alan Kessman
Chief Executive Officer

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Vion Pharmaceuticals, Inc. and will be retained by Vion Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION PURSUANT TO
18 U.S.C. § 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, I, the undersigned Chief Financial Officer of Vion Pharmaceuticals, Inc. (the “Company”), hereby certify that the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2009 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 13, 2009

/s/ Howard B. Johnson

Howard B. Johnson

Chief Financial Officer

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Vion Pharmaceuticals, Inc. and will be retained by Vion Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.