COMPANY CONTACT: **Vion Pharmaceuticals, Inc.**
Alan Kessman, Chief Executive Officer
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VION REPORTS 2007 FIRST QUARTER RESULTS

NEW HAVEN, CT, May 8, 2007 – VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) today announced results for the three-month period ended March 31, 2007.

The Company reported a net loss of $8.0 million, or $0.12 per share, for the three-month period ended March 31, 2007, compared to a net loss of $6.0 million, or $0.09 per share, for the same period in 2006. Weighted-average common shares outstanding for the three months ended March 31, 2007 and 2006 were 66.4 million and 66.2 million, respectively.

Total operating expenses were $7.9 million and $6.5 million for the three months ended March 31, 2007 and 2006, respectively. The increase in operating expenses was primarily due to higher total research and development expenses resulting from (i) late-stage clinical development of Cloretazine® (VNP40101M), including higher spending for clinical trials and development costs in support of a potential registration filing; (ii) preclinical development costs related to the Company's anticancer agent, VNP40541; (iii) stock-based compensation expense; and (iv) a gift to support research projects at a Yale University research laboratory. In addition, sales, general and administrative expenses were higher than the previous period, primarily due to increased stock-based compensation expense and patent fees.

The Company reported $739,000 in interest expense in the quarter related to its private placement in February 2007 of convertible debt and warrants. There was no interest expense in 2006. Interest income increased from $532,000 in 2006 to $667,000 in 2007 based on higher invested balances and higher interest rates.

Alan Kessman, Chief Executive Officer, stated, "One of our main accomplishments this quarter was to raise $60 million in a financing of convertible debt and warrants. This financing provides us with significant operating leverage, as we now have sufficient cash based on our current plan to fund the company through mid-2009. Our objective remains to file a New Drug Application for Cloretazine® (VNP40101M) with the U.S Food and Drug Administration in 2008."

The Company reported ending the quarter with $79.6 million in cash and cash equivalents, which included net proceeds of approximately $55.3 million in connection with the private placement of convertible senior notes and warrants.

Vion Pharmaceuticals, Inc. is committed to extending the lives and improving the quality of life of cancer patients worldwide by developing and commercializing innovative cancer therapeutics.

Vion has two agents in clinical trials. Cloretazine® (VNP40101M), a unique alkylating agent, is being evaluated in: (i) a Phase III trial in combination with cytarabine in relapsed acute myelogenous leukemia and (ii) a Phase II pivotal trial as a single agent in elderly patients with previously untreated *de novo* poor-risk acute myelogenous leukemia. An additional trial of Cloretazine® (VNP40101M) as a single agent in small cell lung cancer is also underway. Triapine®, a potent inhibitor of a key step in DNA synthesis, is being evaluated in clinical trials sponsored by the National Cancer Institute. In preclinical studies, Vion is also evaluating VNP40541, a hypoxia-selective compound, and hydrazone compounds. The Company also is seeking development partners for TAPET®, its modified *Salmonella* vector used to deliver anticancer agents directly to tumors. For additional information on Vion and its product development programs, visit the Company's Internet web site at www.vionpharm.com.

This news release contains forward-looking statements. Such statements are subject to certain risk factors which may cause Vion's plans to differ or results to vary from those expected, including Vion's potential inability to obtain regulatory approval for its products, delayed or unfavorable results of drug trials, the possibility that favorable results of earlier preclinical studies or clinical trials are not predictive of safety and efficacy results in later clinical trials, the need for additional research and testing, the potential inability to secure external sources of funding to continue operations, the inability to access capital and funding on favorable terms, continued operating losses and the inability to continue operations as a result, and a variety of other risks set forth from time to time in Vion's filings with the Securities and Exchange Commission, including but not limited to the risks attendant to the forward-looking statements included under Item 1A, "Risk Factors" in Vion's Annual Report on Form 10-K for the year ended December 31, 2006. In particular, there can be no assurance as to the results of any of the Company's clinical trials, that any of these trials will continue to full accrual, or that any of these trials will not be discontinued, modified, delayed or ceased altogether. Except in special circumstances in which a duty to update arises under law when prior disclosure becomes materially misleading in light of subsequent events, Vion does not intend to update any of these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

--Financial Statements Follow--

VION PHARMACEUTICALS, INC.
(A Development Stage Company)

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

(In thousands, except per share data)	Three Months Ended March 31, 2007	2006
Technology License Fee Revenue	$ 5	$ 9
Operating expenses:		
Clinical trials	3,399	3,135
Other research and development	2,513	1,945
Total research and development	5,912	5,080
Sales, general and administrative	1,967	1,409
Total operating expenses	7,879	6,489
Loss from operations	(7,874)	(6,480)
Interest income	667	532
Interest expense	(739)	--
Other expense, net	(3)	(10)
Loss before income taxes	(7,949)	(5,958)
Income tax provision	6	13
Net loss	$ (7,955)	$ (5,971)
Basic and diluted loss per share	$ (0.12)	$ (0.09)
Weighted-average number of shares of common stock outstanding	66,362	66,186

CONDENSED CONSOLIDATED BALANCE SHEET DATA
(Unaudited)

(In thousands)	March 31, 2007	Dec. 31, 2006
Cash and cash equivalents	$ 79,564	$ 30,914
Total assets	81,598	31,856
Convertible senior notes	53,494	--
Total liabilities	60,077	6,402
Shareholders' equity	21,521	25,454

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