**COMPANY CONTACT:** **Vion Pharmaceuticals, Inc.**
Alan Kessman, Chief Executive Officer
Howard B. Johnson, President and CFO
(203) 498-4210

## VION REPORTS 2006 SECOND QUARTER AND SIX MONTH FINANCIAL RESULTS

**NEW HAVEN, CT, August 8, 2006 – VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION)** today announced results for the three-month and six-month periods ended June 30, 2006.

The Company reported a net loss of $6.9 million, or $0.10 per share, for the three-month period ended June 30, 2006, compared to a net loss of $5.1 million, or $0.08 per share, for the same period in 2005. Weighted-average common shares outstanding for the three months ended June 30, 2006 and 2005 were 66.2 million and 65.9 million, respectively.

For the six-month period ended June 30, 2006, the net loss was $12.9 million, or $0.20 per share, compared to a net loss of $9.7 million, or $0.15 per share, for the same period in 2005. Weighted-average common shares outstanding for the six months ended June 30, 2006 and 2005 were 66.1 million and 64.3 million, respectively.

Total operating expenses were $7.4 million and $5.6 million for the three months ended June 30, 2006 and 2005, respectively, and $13.9 million and $10.5 million for the six months ended June 30, 2006 and 2005, 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, as well as (ii) preclinical development costs related to the Company's preclinical anticancer agent, VNP40541, and (iii) stock-based compensation expense. In addition, general and administrative expenses were higher than the previous period, primarily due to stock-based compensation expense.

In the quarter, the Company continued to accrue patients to its Phase III trial of Cloretazine® (VNP40101M) in combination with Ara-C in patients with relapsed acute myelogenous leukemia (AML). The Company also initiated a pivotal Phase II trial of Cloretazine® (VNP40101M) in elderly patients with previously untreated *de novo* poor-risk AML. In June, the Company submitted an Investigational New Drug Application (IND) with the U.S. Food and Drug Administration (FDA) for its hypoxia-selective anticancer agent, VNP40541. Based on discussions with the FDA related to its initial filing, the Company will seek to provide additional information to the FDA and resubmit the IND when this information is available.

Alan Kessman, Chief Executive Officer, said, "Vion continued to make progress this quarter towards our goal of product registration for Cloretazine® (VNP40101M). We now have two

ongoing pivotal trials of Cloretazine® (VNP40101M) in AML. We will work hard to provide the FDA with the requested additional information for VNP40541 in a timely fashion so that we can move forward with the clinical development of our third anticancer agent."

The Company reported ending the quarter with $41.4 million in cash and cash equivalents. Based on revisions to its operating plan, the Company expects its cash resources will be sufficient to fund its operations through the fourth quarter of 2007. The revisions to the operating plan include: (i) a reduction in the costs of three planned trials of Cloretazine® (VNP40101M) and the elimination of two planned investigator-sponsored trials of Cloretazine® (VNP40101M); (ii) strict control of the timing and amount of pre-launch marketing and commercialization expenses for Cloretazine® (VNP40101M); (iii) a delay in the initiation of a Phase I trial of VNP40541; (iv) a reduction in the preclinical development of the hydrazone compounds; and (v) an adjustment to the timing of the plan's cash flow to reflect the latest estimated payment schedules for the two pivotal trials of Cloretazine® (VNP40101M).

Alan Kessman, Chief Executive Officer, commented, "We are pleased to say that, based on revisions to our operating plan and current assumptions, we believe that our cash position funds the Company through 2007." Mr. Kessman added, "We expect to be able to extend the use of our cash resources while maintaining a clinical development plan for Cloretazine® (VNP40101M) consisting of some additional future trials to complement our two existing pivotal trials and three other ongoing trials. There is also no change assumed to the expected timing of accrual in the two pivotal trials. Based on the current accrual plan, we continue to be on track to complete accrual to our two pivotal trials in 2007."

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. Additional trials of Cloretazine® (VNP40101M) as a single agent in pediatric brain tumors, small cell lung cancer, and in combination with temozolomide in hematologic malignancies, are 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. 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 ability to secure external sources of funding to continue its operations, the inability to access capital and funding on favorable terms, continued operating losses and the inability to continue operations as a result, its dependence on regulatory approval for its products, delayed or unfavorable results of drug trials, the possibility that favorable results of earlier clinical trials are not predictive of safety and efficacy results in later clinical trials, the need for additional research and testing, 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 discussed in Vion's Annual Report on Form 10-K for the year ended December 31, 2005. 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 June 30, 2006 | 2005 | Six Months Ended June 30, 2006 | 2005 |
|---|---|---|---|---|
| Revenues | $ 1 | $ 7 | $ 10 | $ 12 |
| Operating expenses: | | | | |
| Clinical trials | 3,563 | 2,626 | 6,698 | 5,675 |
| Other research and development | 2,233 | 1,958 | 4,178 | 3,103 |
| Total research and development | 5,796 | 4,584 | 10,876 | 8,778 |
| General and administrative | 1,053 | 981 | 2,153 | 1,672 |
| Marketing | 582 | -- | 891 | -- |
| Total operating expenses | 7,431 | 5,565 | 13,920 | 10,450 |
| Loss from operations | (7,430) | (5,558) | (13,910) | (10,438) |
| Interest income | 526 | 454 | 1,058 | 795 |
| Other income (expense), net | (18) | 8 | (28) | 6 |
| Loss before income taxes | (6,922) | (5,096) | (12,880) | (9,637) |
| Income tax provision | 11 | 11 | 24 | 22 |
| Net loss | $ (6,933) | $ (5,107) | $ (12,904) | $ (9,659) |
| Basic and diluted loss per share | $ (0.10) | $ (0.08) | $ (0.20) | $ (0.15) |
| Weighted-average number of shares of common stock outstanding | 66,158 | 65,932 | 66,134 | 64,298 |

## CONDENSED CONSOLIDATED BALANCE SHEET DATA
**(Unaudited)**

| *(In thousands)* | June 30, 2006 | Dec. 31, 2005 |
|---|---|---|
| Cash and cash equivalents | $ 41,415 | $ 52,762 |
| Total assets | 42,280 | 53,719 |
| Total liabilities | 5,544 | 5,080 |
| Shareholders' equity | 36,736 | 48,639 |

###