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

Vion Pharmaceuticals Announces Presentation of Interim Data from Pivotal Phase II Trial of Cloretazine® (VNP40101M) in Acute Myelogenous Leukemia at the ASCO® Annual Meeting

NEW HAVEN, CT, June 2, 2008 – VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) today announced that interim data from the pivotal Phase II trial of its lead anticancer agent Cloretazine® (VNP40101M) in elderly patients with *de novo* poor-risk acute myelogenous leukemia (AML) had been presented at the 44th Annual Meeting of the American Society of Clinical Oncology (ASCO®) in Chicago, Illinois.

At ASCO®, data were presented in 85 evaluable patients. The median age of these patients was 73 years (range of 60-87 years). Ninety-five percent of patients had two or more risk factors associated with a poor prognosis in elderly AML and 74% had three or more risk factors. The most common risk factors were age greater than or equal to 70 (78% of patients), and cardiac and pulmonary dysfunction (73% and 76% of patients respectively). In addition, 47% of patients had unfavorable cytogenetics.

The overall complete response rate was 35% (22 CR and 8 CRp). 90% of responses occurred after first induction treatment. While follow-up is still ongoing, the median (range) of overall survival for responders was 6.3 months (1.7-16.4 months) and for all patients was 3.2 months (0.1-16.4 months).

The induction death rate within 30 days of first induction treatment was 14%. The majority of first induction deaths were either due to progression of disease or infection. Myelosuppression was the primary toxicity, with pneumonia, infection and sepsis and non-infectious pulmonary disorders (hypoxia and dyspnea) being the most common severe adverse events (greater than or equal to grade 3).

Dr. Gary Schiller, Professor of Medicine at the David Geffen School of Medicine at UCLA and a lead investigator on the study, said "The responses observed in this trial represent a clinically meaningful outcome for many of these difficult-to-treat AML

patients. As a single-agent, single-infusion therapy, Cloretazine® (VNP40101M) has the potential to be an important new treatment option for older patients with poor-risk AML."

Alan Kessman, Chief Executive Officer, said, "These interim data continue to demonstrate Cloretazine® (VNP40101M)'s potential utility in a patient population which represents an unmet medical need." He added, "It continues to be our plan to file a new drug application with the U.S. Food and Drug Administration in 2008 based on the data from this trial and our previous Phase II trial in elderly patients with AML."

The pivotal Phase II trial started in May 2006 and was conducted in 25 sites in North America and Europe. Enrollment of the primary study was completed in August 2007. The trial remains open at selected sites in order to collect QT/QTc interval data in an electrocardiogram sub-study in accordance with FDA/ICH guidelines.

The study was designed for patients with untreated *de novo* AML who are age 60 or older and have at least one of the following adverse prognostic factors: age greater or equal to 70, ECOG performance status equal to 2, unfavorable cytogenetics or organ dysfunction. The primary endpoint of the trial is the overall complete response rate measured as either complete remission (CR) or CRp, a complete response with incomplete platelet recovery. Secondary endpoints are progression-free survival, leukemia-free survival, overall survival and the toxicity of Cloretazine® (VNP40101M) in this patient population.

Patients receive induction therapy of 600 mg/m^2 of Cloretazine® (VNP40101M) in a sixty-minute infusion. Second induction is permitted between days 35 and 60 in patients with bone marrow improvement but residual disease. Patients who respond can receive consolidation therapy with a continuous infusion of 400 mg/m^2 of cytarabine for five days.

Preliminary data for this trial were previously announced at the American Society of Hematology Annual Meeting in December 2007.

About Vion

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 a Phase II pivotal trial as a single agent in elderly patients with previously untreated *de novo* poor-risk acute myelogenous leukemia. Clinical trials of Cloretazine® (VNP40101M) with cytarabine in elderly patients with acute myelogenous leukemia, with temozolomide in brain tumors, and with stem cell transplantation in advanced hematologic malignancies, are also being conducted. Triapine®, a potent inhibitor of a key step in DNA synthesis, is being evaluated in clinical trials sponsored by the National Cancer Institute. 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, particularly Cloretazine® (VNP40101M), delayed or unfavorable results of drug

trials, the possibility that favorable results of earlier preclinical studies, clinical trials or interim clinical trial data are not predictive of safety and efficacy results in later or final clinical trials, the need for additional research and testing, the inability to manufacture product, 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, the possible delisting of the Company's common stock from the NASDAQ Capital Market 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 Form 10-K for the year ended December 31, 2007 and Form 10-Q for the quarter ended March 31, 2008. In particular, there can be no assurance as to the results of any of the Vion'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.

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