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Vion Pharmaceuticals Announces Presentation of Data from Phase III Trial of Cloretazine® (VNP40101M) and Cytarabine in Relapsed Acute Myelogenous Leukemia at the ASCO® Annual Meeting

NEW HAVEN, CT, June 2, 2008 – VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) today announced that data from the Phase III trial of its lead anticancer agent Cloretazine® (VNP40101M) in combination with cytarabine in patients with first relapse of acute myelogenous leukemia (AML) had been presented at the 44th Annual Meeting of the American Society of Clinical Oncology (ASCO®) in Chicago, Illinois.

The Phase III trial started in March 2005 and was conducted in 69 sites in North America and Europe. In May 2007, after an interim analysis of 210 patients by the trial's data safety monitoring board (DSMB), the Company suspended treatment and enrollment of patients, and the U.S. Food and Drug Administration (FDA) placed the trial on clinical hold, due to increased mortality in the cytarabine plus Cloretazine® (VNP40101M) treatment arm of the study, as compared to the cytarabine plus placebo control arm. In January 2008, the Company announced that the FDA had lifted the clinical hold and that a new trial with a lower dose of Cloretazine® (VNP40101M) in combination with cytarabine and increased supportive care measures could be pursued in the future.

The objective response rate of the cytarabine and Cloretazine® (VNP40101M) treatment arm of the trial was 37% versus 19% for the control arm. The median response duration was 11.2 months on the treatment arm versus 8.1 months on the control arm. Overall survival was 4.2 months on the treatment arm versus 6 months on the control arm.

The Company reported that on-study mortality (deaths from all causes in less than or equal to 30 days or from adverse events in less than or equal to 60 days from any treatment cycle) was 39% for the cytarabine and Cloretazine® (VNP40101M) treatment arm versus 9% for the control arm. Sepsis, pneumonia and infection accounted for 67% of the deaths on the treatment arm.

The most common severe adverse events (Grade 3 through 5) in both arms were hematologic, infectious, and respiratory disorders. The duration of myelosuppression, as well as the incidence of infectious and respiratory adverse events, was higher in the treatment arm as compared to the control arm.

Alan Kessman, Chief Executive Officer, said, "Although this trial was discontinued for safety reasons due to a disparity in on-study mortality between the two arms, in light of the objective response rate of the cytarabine and Cloretazine® (VNP40101M) arm, we believe that this combination merits further evaluation in first relapse of AML with modifications to address the observed toxicity and mortality at the studied dose and schedule."

At ASCO®, data were presented on the first 206 patients treated on the trial. The median age was 59 years and the median duration of patients' first remission was 9.7 months. 139 patients and 67 patients were treated on the treatment arm and the control arm respectively. The demographics of the patients in the treatment arm were essentially similar to patients in the control arm across age, sex, and ECOG performance status.

Mr. Kessman added, "Now that the clinical hold has been lifted by the FDA, we have the opportunity to move forward in first relapse of AML with a revised protocol of this combination. However, our main focus at the present time continues to be on achieving registration for Cloretazine® (VNP40101M) in the United States in previously untreated elderly patients with *de novo* poor-risk AML."

The Phase III trial was a double-blind placebo-controlled randomized evaluation of a treatment arm consisting of cytarabine plus Cloretazine® (VNP40101M) versus a control arm regimen of cytarabine and placebo. The trial was designed to accrue patients in first relapse of AML whose first complete remission (CR) was more than three months but less than twenty- four months in duration. Patients were stratified according to: (i) age, greater than or less than 60 years and (ii) length of the first CR, more than or less than 12 months in duration. The primary endpoint for the trial was the objective response rate, defined as CR plus CRp (a complete remission with incomplete recovery of platelet count). Secondary endpoints included time to progression, duration of response, overall survival and toxicity.

Preliminary blinded data for this randomized trial were previously presented at the American Society of Hematology Annual Meeting in December 2006. This was the first presentation of the unblinded data.

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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