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Vion Pharmaceuticals Presents Data on Cloretazine® In Elderly *De Novo* Acute Myelogenous Leukemia at ASCO Meeting

NEW HAVEN, CT, June 5, 2006 - VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) presented data in a poster discussion session on its lead anticancer agent Cloretazine® (VNP40101M) in elderly patients with *de novo* acute myelogenous leukemia (AML) at the 42nd Annual Meeting of the American Society for Clinical Oncology (ASCO) in Atlanta, Georgia. The data was from the Company's recently completed multi-center Phase II trial, CLI-033, in AML and high-risk myelodysplastic syndrome.

Data has been presented previously on 107 patients treated overall in one of two treatment arms in CLI-033. In the poster discussion session at ASCO, data was presented from this study on a subset of 44 patients who had *de novo* AML. The median age of the *de novo* group was 76 years (range 60-88). 27% of the patients were less than 70 years of age; 52% were between 70 and 79 years of age; and 21% were 80 years of age or older. In this group of patients, 61% had intermediate cytogenetics and 39% had unfavorable cytogenetics. ECOG performances status (PS) of the group was PS0 (18%); PS1 (48%); and PS2 (34%).

The Company reported a 50% overall response rate in the 44 *de novo* AML patients: 20 complete response (CR) and 2 CRp (complete response with incomplete platelet recovery). Of these remissions, 52% occurred in patients with intermediate cytogenetics and 47% in patients with unfavorable cytogenetics.

The Company also reported analysis of the *de novo* subgroup in CLI-033 by certain factors related to elderly poor-risk AML, including unfavorable cytogenetics, ECOG performance status of 2, and cardiac, pulmonary and hepatic disease. Of the 44 *de novo* AML patients, 18% had no additional poor-risk factors (other than age), 23% had one additional poor-risk factor, 34% had 2 additional poor-risk factors and 25% had 3 or more additional poor-risk factors. Responses occurred regardless of the number of risk factors. Response rates in the various poor-risk factor groups were 62%, 50%, 33% and 64%, respectively.

Cloretazine® (VNP40101M) was well-tolerated in the *de novo* patient group. The overall early death rate (death within 30 days of treatment) in this group was 18%, and there was little evidence of non-hematologic toxicity.

Median survival in the 22 *de novo* AML patients with complete remission was 171 days compared to 47 days in the *de novo* AML patients that did not respond to treatment. In the responder group, overall survival at one year was reported at 30% and disease-free survival at one year was 20%.

Dr. Judith Karp, Professor of Oncology and Medicine and Director of the Leukemia Program at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, commented, "Cloretazine® (VNP40101M) has yielded provocative results in older adults with *de novo* AML. New agents are desperately needed if we are going to improve the outcome for this group of patients for whom currently accepted approaches are clearly not adequate."

The Company enrolled the first patient on CLI-043, its pivotal Phase II trial of Cloretazine® (VNP40101M) in patients with elderly *de novo* poor-risk AML, in late May. The trial is designed to accrue 85 patients in two stages, and will be conducted in approximately 20 sites in North America and Europe.

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 adult and pediatric brain tumors, and 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 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 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.

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