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Vion Pharmaceuticals Announces Initiation of Clinical Trial of Cloretazine\* (VNP40101M) in Combination with Stem Cell Transplantation

NEW HAVEN, CT, December 4, 2007 – VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) today announced the start of an investigator-sponsored Phase I clinical trial of its lead anticancer agent Cloretazine\* (VNP40101M) in combination with hematopoietic cell transplant (HCT) in patients with various advanced hematologic malignancies. The trial is being conducted under the direction of Roy Jones, M.D., Ph.D., a professor in the Department of Stem Cell Transplantation at The University of Texas M.D. Anderson Cancer Center.

The objective of the trial is to define the maximum tolerated dose (MTD) of Cloretazine\* (VNP40101M) when given to patients of 18 to 65 years of age with poor-prognosis leukemia, lymphoma, and Hodgkin's disease who are undergoing either an allogeneic or autologous HCT.

Ann Cahill, Vice President of Clinical Development, commented, "Both patients and physicians are searching for ways to improve outcomes after stem cell transplantation. Patients with advanced disease are particularly in need of new therapies." Ms. Cahill concluded, "We are hopeful that Cloretazine\* (VNP40101M) can make a contribution in the stem cell transplant setting."

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) as a single agent in small cell lung cancer, with temozolomide in brain tumors, and with stem cell transplantation in advanced hematologic malignancies, are also being

conducted. Triapine<sup>®</sup>, 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 <a href="https://www.vionpharm.com">www.vionpharm.com</a>.

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 Form 10-K for the year ended December 31, 2006 and the Company's Form 10-Q for the quarter ended September 30, 2007. 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.