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

Vion Pharmaceuticals Receives Orphan Drug Designation for Cloretazine® in Europe for Treatment of Acute Myeloid Leukemia

NEW HAVEN, CT, January 23, 2006 - VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) announced today that orphan designation was granted by the European Commission to its lead anticancer agent, Cloretazine®, for the treatment of acute myeloid leukemia. The designation was granted to Vion (UK) Limited, the Company's wholly-owned European subsidiary and will appear on the European Medicines Agency website (www.emea.eu.int) under the product name of 1,2-bis (methylsulphonyl)-1-(2-chloroethyl)-2-[(methylamino)carbonyl] hydrazine.

Receipt of the designation followed from a favorable opinion from the Committee for Orphan Medicinal Products of the European Medicines Agency. Opinions on orphan medicinal products designations are based on the following cumulative criteria: (i) the seriousness of the condition, (ii) the existence or not of alternative methods of diagnosis, prevention or treatment and (iii) the rarity of the condition (considered to affect not more than five in ten thousand persons in the European Community) and (iv) the presentation of evidence of medical plausibility.

Acute myeloid leukemia (AML) is considered to affect about 32,000 persons in the European Union. Orphan drug status is granted by the European Commission to promote development of drugs to treat rare diseases or conditions. Orphan drug designation entitles Cloretazine® to: (i) ten years of market exclusivity for in the indication of AML; (ii) protocol assistance from the European Medicines Agency to optimize drug development in preparing a dossier that will meet regulatory requirements; (iii) reduced fees associated with applying for market approval; and (iv) access to European Union research funding. An orphan designation is not a marketing authorization. As a consequence, demonstration of quality, safety and efficacy will be necessary before Cloretazine® can be granted a marketing authorization.

Vion Pharmaceuticals, Inc. is developing cancer therapeutics. Vion has two agents in clinical trials: Cloretazine®, a unique sulfonylhydrazine alkylating agent, is being evaluated in a Phase III trial in combination with cytarabine in relapsed acute myelogenous leukemia. Trials of Cloretazine® as a single agent in previously untreated elderly acute myelogenous leukemia and high-risk myelodysplastic syndrome, adult and pediatric brain tumors, small cell lung cancer and chronic lymphocytic leukemia, 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 KS119W, a hypoxia-selective compound from the sulfonylhydrazine class, and heterocyclic hydrazones. 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, 2004. 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.

# # #