



COMPANY CONTACT:

Vion Pharmaceuticals, Inc.

Alan Kessman, Chief Executive Officer
Howard B. Johnson, President & CFO
(203) 498-4210 phone

**Vion Pharmaceuticals Enters into Agreement to
Conduct a Phase I/II Clinical Trial of Cloretazine[®] in Combination with
Induction Therapy in Poor Prognosis AML Patients**

NEW HAVEN, CT, September 22, 2008 - VION PHARMACEUTICALS, INC. (OTC Bulletin Board: VION) announced today that it had entered into an agreement with the Institut Paoli-Calmettes in Marseille, France to conduct a multi-center Phase I/II clinical trial of laromustine (Cloretazine[®] (VNP40101M)) with remission-induction therapy in patients aged 18-60 with previously untreated acute myelogenous leukemia (AML) and a poor prognosis based on their cytogenetic profile.

The Institut Paoli-Calmettes will be leading the study for the French cooperative group GOELAMS (Groupe Ouest Est d'Etude des Leucémies et Autres Maladies du Sang).

Alan Kessman, Chief Executive Officer, commented, "We are pleased to be working with the Paoli-Calmettes Institute and GOELAMS on this clinical study to further evaluate the role that Cloretazine[®] can play in frontline AML therapy. This study will provide important information on the combination of Cloretazine[®] and induction therapy in patients with unfavorable cytogenetics that need new treatment options."

Dr. Norbert Vey, Head of the Leukemia Service of the Institut Paoli-Calmettes and Chief Investigator, said, "AML with unfavorable cytogenetics is a very serious form of leukemia from which few patients can be cured currently. The objective of our study is to improve the complete remission rate in these patients with the addition of Cloretazine[®] to a conventional induction regimen."

The trial will be conducted in two parts. In Phase I, the objective is to determine the dose of Cloretazine[®] in combination with daunorubicin and cytarabine. Phase II will determine the complete remission (CR) rate of the combination in AML patients with an unfavorable prognosis based on their cytogenetic profile. Secondary objectives will be to evaluate the tolerance and toxicities of the combination therapy, as well as progression-free survival and overall survival. Patients will be stratified according to age (less than or more than 60 years of age). The prognostic value of various molecular markers will also be studied.

The trial is expected to start this fall and will be conducted at various sites in France.

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. Laromustine (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 (AML). The Company is also conducting clinical trials of laromustine (Cloretazine[®] (VNP40101M)) with cytarabine in elderly patients with AML, with temozolomide in patients with brain tumors, and with stem cell transplants in patients with advanced hematologic malignancies. A Phase III trial of laromustine (Cloretazine[®] (VNP40101M)) in combination with standard induction therapy in previously untreated AML and high-risk myelodysplastic syndrome (MDS) patients is expected to start this fall. 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 web site at www.vionpharm.com.

About Institut Paoli-Calmettes

The Institut Paoli-Calmettes Cancer Center (IPC) is a private non-profit institution. Located in Marseille, IPC is a regional university hospital that is part of a network of 20 cancer treatment centers in France. Institut Paoli-Calmettes sets out to organize and prioritize the synergies between fundamental research, transfer laboratories, biotechnology companies and hospital departments. Employing the latest in innovation, Institut Paoli-Calmettes has been able to keep a humanist approach to its mission by putting patients at the heart of the treatments and decisions that concern them. Each year, more than 1,200 staff members treat over 19,000 patients at the Institut. Research activities are undertaken by a critical mass of more than 200 scientific staff personnel.

About GOELAMS

The GOELAMS is a large multi-center cooperative group that includes 49 centers in France. The focus of the group is clinical and translational research on acute leukemia and lymphomas. The group is involved in many academic clinical trials and also sponsors some trials. It has set up a network of biologists in order to facilitate the use of new technologies and biologic markers in a multi-center setting, as well as a centralized cell repository. The trial described above is part of a large AML frontline therapy program. Two Phase III trials are currently ongoing for patients with favorable and intermediate-risk AML.

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 file a New Drug Application or obtain regulatory approval for its products, particularly laromustine (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 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 June 30, 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.

#