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Dr. James Tanguay Joins Vion Pharmaceuticals' Senior Management Team

NEW HAVEN, CT, April 11, 2007 - VION PHARMACEUTICALS, INC. (NASDAQ CAPITAL MARKET: VION) today announced that James Tanguay, Ph.D. had joined the Company's senior management team as Vice President, Chemistry, Manufacturing & Control.

Dr. Tanguay was formerly Vice President, Technical Operations at Kos Pharmaceuticals, acquired by Abbott Laboratories in 2006 for $3.7 billion. From 2003 until recently, he was responsible for strategic planning and administration of all domestic and international commercial manufacturing, testing and distribution. In 2005, Kos Pharmaceuticals reported net sales of over $725 million from multiple products. As Vice President of Technical Operations, he managed 185 people in four divisions. He also managed contract manufacturers, contract packagers and a contract warehouse. Dr. Tanguay started at Kos Pharmaceuticals in 1996, and helped to build the company in several positions in quality control and analytical sciences while rising to his final position in senior management.

Alan Kessman, Chief Executive Officer said, "We are extremely pleased to have Jim Tanguay joining Vion to lead our manufacturing operations. His experience helping build Kos Pharmaceuticals through the initial commercialization of its products, and until its eventual sale to Abbott Laboratories, will be directly applicable to what we are trying to accomplish at Vion."

Dr. Tanguay commented, "I am excited to be joining a company which has a novel cytotoxic agent like Cloretazine® (VNP40101M) in late-stage clinical trials for the treatment of acute myelogenous leukemia. Furthermore, Vion has a number of other interesting anticancer products in various stages of development." He concluded, "I look forward to working with the whole team at Vion to bring new anticancer products to market with the goal of improving the treatment of cancer patients worldwide."

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. An additional trial of Cloretazine® (VNP40101M) as a single agent in small cell lung cancer is also underway. Triapine®, a potent inhibitor of a key step in DNA synthesis, is being evaluated in clinical 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 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 Annual Report on Form 10-K for the year ended December 31, 2006. 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.

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