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Data in Clinical Cancer Research Article Shows that Peregrine's Lead VEA Compound Enhances Efficacy of Multiple Chemotherapeutic Agents

Published Report Contains Data Demonstrating That Peregrine's Lead Vasopermeability Enhancement Agent (VEA) Increases Efficacy of Taxol, Doxorubicin, Vinblastine, VP-16 and 5-FU By Up to Threefold

TUSTIN, Calif., April 15, 2005 /PRNewswire-FirstCall via COMTEX/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM) today announced that a paper titled "NHS76/PEP2, a Fully Human Vasopermeability-Enhancing Agent to Increase the Uptake and Efficacy of Cancer Chemotherapy," was published in the April 15 issue of Clinical Cancer Research. The publication shows that the antibody-targeted VEA (vasopermeability enhancing agent) NHS76/PEP2 greatly enhanced the uptake and efficacy of a variety of chemotherapeutic agents in solid tumor models. The publication contains data showing that NHS76/PEP2 pretreatment enhanced the efficacy of chemotherapy in tumors known to be sensitive to the specific drugs. In addition, the report shows that NHS76/PEP2 plus chemotherapy also generated responses in tumors normally resistant to specific therapies, such as MAD109 murine lung carcinoma treated with paclitaxel, vinblastine or 5-FU. Moreover, improvements in drug uptake were seen in as little as 1 to 2 hours following pretreatment with NHS76/PEP2.

"The results of this work highlight the potential of Peregrine's VEA technology as a candidate for improving the efficacy of current chemotherapeutic drugs," said Steve King, president and CEO of Peregrine Pharmaceuticals."

NHS76/PEP2 is the result of a fusion protein between NHS76, a fully human version of one of Peregrine's Tumor Necrosis Therapy antibodies, and PEP2 (vasopermeability-enhancing peptide), a peptide derived from interleukin 2. To test the therapeutic potential of NHS76/PEP2, groups of mice bearing tumors derived from lung and colon carcinoma cell lines were treated with suboptimal therapeutic doses of single-agent chemotherapeutic drugs (etoposide, doxorubicin, paclitaxel, docetaxel, 5-fluorouracil or vinblastine), with and without NHS76/PEP2 pretreatment.

"For many years now, drug development companies have been working to isolate and remove that portion of the interleukin 2 molecule responsible for a phenomenon known as vascular leak syndrome, in order to generate a low-toxicity version of the cytokine," said Dr. Missag Parseghian, Peregrine's director of research and development. "We have decided to turn that idea on its head by harnessing the effects of vascular leak in order to improve tumor uptake of therapeutics." Dr. Parseghian continued, "We see a tremendous advantage in supplementing standard therapeutic regimens with targeted hemorrhaging at the tumor site."

About Peregrine Pharmaceuticals

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a broad portfolio of products under development directed towards the treatment of cancer, viruses and other diseases. The company plans to initiate patient enrollment in two separate clinical trials for the treatment of all solid tumors using Tarvacin™ (under its Anti-Phospholipid Therapy platform) and for the treatment of brain cancer using Cotara® (under its Tumor Necrosis Therapy platform). Our agents in development for oncology applications fall under several different proprietary platforms, including Anti-Phospholipid Therapy, Vascular Targeting Agents (VTAs), Tumor Necrosis Therapy (TNT), Anti-Angiogenesis, and Vasopermeation Enhancement Agents (VEAs). Our viral therapy approach is based on the fact that enveloped viruses and virally infected cells have phospholipids exposed on their surface and thus can be targeted using our Anti-Phospholipid Therapy agents.

Peregrine Pharmaceuticals also has in-house expertise to develop and manufacture antibodies and recombinant proteins through its wholly-owned subsidiary, Avid Bioservices, Inc., (http://www.avidbio.com). Avid is engaged in providing contract manufacturing services and development of biologics for biopharmaceutical and biotechnology companies, including Peregrine.

Copies of Peregrine Pharmaceuticals press releases, SEC filings, current price quotes and other valuable information for investors may be found at http://www.peregrineinc.com

Statements in this press release which are not purely historical, including statements regarding Peregrine Pharmaceuticals' intentions, hopes, beliefs, expectations, projections, plans or predictions of the future, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The forward-looking statements, which include statements with respect to the potential therapeutic benefits and successful development of drug candidates, involve risks and uncertainties including, but not limited to, the risks and uncertainties detailed from time to time in the Company's filings with the Securities

and Exchanges Commission, including its Annual Report on Form 10-K for the year ended April 30, 2004, and its quarterly report on Form 10-Q for the quarter ended January 31, 2005. It is important to note that the Company's actual results could differ materially from those in any such forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, uncertainties associated with completing pre-clinical and clinical trials for our technologies; the early stage of product development; the significant costs to develop our products as all of our products are currently in development, pre-clinical studies or clinical trials; our ability to obtain additional financing to support our operations and the development of our products; our ability to obtain regulatory approval for our technologies; the timing of regulatory filings and the potential success in gaining regulatory approval and complying with governmental regulations applicable to our business. The Company cautions investors not to place undue reliance on the forward looking statements contained in this press release. Peregrine Pharmaceuticals, Inc. disclaims any obligation, and does not undertake, to update or revise any forward-looking statements in this press release.

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