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Patent for Peregrine Pharmaceuticals' Vasopermeation Enhancement Technology Issued

TUSTIN, Calif., Jun 17, 2002 (BW HealthWire) -- Peregrine Pharmaceuticals Inc. (Nasdaq:PPHM) today announced the issuance of U.S. Patent No. 6,403,096 covering the use of Permeability Enhancing Peptide (PEP) as a Vasopermeation Enhancement Agent (VEA).

The patent, entitled "Vasopermeability Enhancing Peptide of Human Interleukin-2 and Immunoconjugates Thereof," covers novel methods of targeting tumors using PEP, which is a synthetic fragment of interleukin-2 that lacks cytokine activity yet maintains permeability inducing activity. When the PEP molecule is joined to a monoclonal antibody and targeted at solid tumors, it enhances tumor vasculature permeability prior to administering chemotherapeutic drugs, toxins, or radionuclides. The patent, assigned to the University of Southern California (USC) and licensed exclusively to Peregrine, specifically covers the use of the PEP molecule as part of a VEA construct. Data on the use of PEP in conjunction with Peregrine's VEA technology was presented at the annual American Society of Clinical Oncology meeting last May.

Researchers Drs. Alan Epstein and Leslie Khawli of the Keck School of Medicine of USC created PEP while designing a drug compound that would have the ability to induce tumor vascular permeability only at the site of a tumor. Researchers identified, isolated, and synthesized the specific region of interleukin-2 that causes vasopermeability. Vasopermeability is where massive leaking of blood takes place outside of the blood vessel network. By attaching PEP to a monoclonal antibody that targets tumors, the scientists are able to localize vasopermeability specifically at the tumor site. By increasing permeability of the blood vessels that feed the tumor, uptake of cancer therapeutic drugs can be increased, thereby potentially leading to improved efficacy of therapeutics and reduced dosage requirements.

"We are pleased with the issuance of this patent. Exclusive rights to the PEP patent further expand and strengthen Peregrine's coverage of Vasopermeation Enhancement technology," stated Edward Legere, Peregrine's president and CEO. "We are continuing the pre-clinical work on our lead PEP-based Vasopermeation Enhancement compound under a sponsored research agreement with the University of Southern California, and we plan to file an IND to start human clinical studies with this compound later this year."

About Vasopermeation Enhancement Agents

Vasopermeation Enhancement Agents are a new class of drugs that are designed to increase the uptake of cancer drugs and imaging agents at the tumor site, potentially resulting in greater therapeutic efficacy. VEAs work by using monoclonal antibodies to deliver known vasoactive compounds - molecules that cause tissues to become more permeable - selectively to solid tumors. Once localized at the tumor site, VEAs alter the physiology and the permeability of the vessels and capillaries that feed the tumor. In pre-clinical studies, drug uptake has been increased up to 400% in solid tumors when VEAs were administered several hours prior to the therapeutic treatment. VEAs are intended to be used as a pre-treatment for most existing cancer therapies and imaging agents. VEAs may be effective across multiple tumor types.

About Peregrine Pharmaceuticals, Inc.

Peregrine Pharmaceuticals is a biopharmaceutical company focused on the development, commercialization, and licensing of unique technologies for the treatment of cancer, primarily based on its three "collateral targeting technologies." Peregrine's Tumor Necrosis Therapy (TNT), Vasopermeation Enhancement Agents (VEA), and Vascular Targeting Agents (VTA) target cell structures and cell types that are common among solid tumor cancers, giving them broad applicability across various tumor types. The company's lead TNT anti-cancer drug, Cotara™, is currently in a multi-center Phase II clinical trial for brain cancer and Phase I trials for colorectal, pancreas, liver, soft tissue sarcoma and biliary cancers. Final preparations are being made to start a multi-center, multi-national Phase III trial for brain cancer. Peregrine's Oncolym®, for the treatment of non-Hodgkin's B-cell lymphoma, is currently in a multi-center Phase I/II study. Copies of Peregrine press releases, SEC filings, current price quotes and other valuable information for investors may be found on the website http://www.peregrineinc.com.

Safe Harbor Statement: This release may contain certain forward-looking statements that are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Actual events or results may differ from the company's expectations as a result of risk factors discussed in Peregrine's reports on file with the U.S. Securities and Exchange Commission, including, but not limited to, the company's report on Form 10-K for the year ended April 30, 2001 and on Form 10-Q for the quarter ended January 31, 2002.

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