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Peregrine Pharmaceuticals Announces U.S. Patent Granted for New Cancer Treatment

TUSTIN, Calif., Jun 18, 2002 (BW HealthWire) -- Peregrine Pharmaceuticals (Nasdaq:PPHM) today announced the issuance of U.S. Patent No. 6,406,693 covering new methods for treating vascularized tumors using antibodies that bind to a particular group of lipids, termed aminophospholipids, specific markers of tumor blood vessels. The patent was issued to the University of Texas System and is licensed exclusively to Peregrine. Entitled, "Cancer Treatment Methods Using Antibodies to Aminophospholipids," the patent also provides aminophospholipid-targeted diagnostic and therapeutic constructs for use in tumor intervention and further fortifies Peregrine's extensive patent portfolio of Vascular Targeting Agents (VTAs), a platform technology for the diagnosis and treatment of vascularized tumors.

The patented treatment methods were developed by Dr. Philip E. Thorpe, professor of pharmacology, and Dr. Sophia Ran, assistant professor of pharmacology, at the University of Texas Southwestern Medical Center at Dallas. The patent describes the use of "naked" (unmodified) antibodies to target aminophospholipids, such as phosphatidylserine, located on the walls of tumor blood vessels. The antibodies act by localizing in tumor vasculature and destroying tumor blood vessels while leaving healthy tissue intact. Animal studies have shown that administration of the anti-aminophospholipid antibodies alone, without conjugation to toxins or other agents, is sufficient to induce specific damage to tumor vasculature and tumor regression. The new technology provides single-agent therapeutics for use in the safe and effective treatment of a wide range of solid tumors.

"This is the important new Vascular Targeting molecule that Peregrine has been publicizing over the last few weeks and Dr. Thorpe and Dr. Ran have discussed at international conferences," said Edward Legere, Peregrine's president and CEO. "The patent extends the company's already strong intellectual property position of Vascular Target Agents as we continue to research and develop aminophospholipids as viable targets for the treatment of tumors."

About Vascular Targeting Agents -- The Next Generation of Cancer Therapy

Virtually all detectable tumors rely on a vascular network to obtain oxygen and nutrients, and disruption of this network can have a devastating effect on a tumor. In pre-clinical animal studies, VTAs have shown to be potent anti-cancer agents that act by cutting off the supply of oxygen and nutrients to tumor cells by causing blood clots to form within the tumor's blood supply network. VTAs localize within the tumor vasculature by selectively binding to the flat endothelial cells that line tumor blood vessels. Once the VTA binds to its target, it initiates thrombosis (blood clotting) through a coagulation cascade, which leads to complete clotting of the tumor blood vessels within a matter of minutes. Because blockage of a single capillary results in the destruction of thousands of tumor cells, only a small quantity of VTAs localized in the tumor's vascular system may cause an avalanche of tumor cell death.

Vascular targeting agents offer several advantages as potentially powerful anti-cancer treatments. By targeting receptors unique to tumor cell vasculature, VTAs can kill tumors by cutting off oxygen and nutrients without causing damage to surrounding healthy tissue. Additionally, VTAs reduce the risk of potential side effects by operating at lower dosages than traditional cancer therapies because they do not need to penetrate the innermost layer of a tumor to take effect. Lastly, while drug resistance caused by the instability and mutability of cancer cells is a significant problem with conventional therapies that target tumor cells, cells targeted by VTAs do not mutate to become drug resistant.

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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