September 17, 2002

Peregrine Pharmaceuticals Announces Grant of Patent for New Vascular Targeting Agents

TUSTIN, Calif., Sep 17, 2002 /PRNewswire-FirstCall via COMTEX/ -- Peregrine Pharmaceuticals (Nasdaq: PPHM) today announced the issuance of U.S. Patent No. 6,451,312 covering new Vascular Targeting Agent (VTA) therapeutics. Peregrine's VTA technology is based on targeting agents that specifically target tumor blood vessels. The targeting agents can be attached to therapeutic agents that destroy or occlude tumor blood vessels, leading to an avalanche of tumor cell death without harming the vasculature of normal tissue.

The new patent extends the company's broad patent coverage of VTA compositions and treatment methods by providing a unique "targeting agent- therapeutic agent" combination. The targeting agent is the ligand VEGF (vascular endothelial cell growth factor) and the therapeutic agent is a cytotoxic factor termed gelonin. The VEGF-gelonin constructs covered by the new patent complement Peregrine's other VTAs, which use a range of antibody- and ligand-based targeting agents to deliver therapeutic agents such as other cytotoxins, coagulant proteins and radionuclides, into the heart of solid tumors.

The VEGF-gelonin constructs protected by U.S. Patent No. 6,451,312 specifically targets tumor blood vessels and pre-clinical studies in animal models have shown impressive anti-tumor effects. In particular, a preclinical study published in June in the "Proceedings of the National Academy of Sciences," involved administering VEGF121/rGelonin (VEGF/rGel) in mice injected with human melanoma and human prostate cancer cells. Researchers found that tumors in mice treated with VEGF/rGel had been reduced by up to 84 percent compared to tumors in untreated mice. Furthermore, VEGF/rGel selectively destroyed blood vessels supplying human solid tumors without harming the vasculature of normal tissue.

"This patent is particularly designed to protect the ligand-based therapeutic conjugates licensed to SuperGen, Inc. (Nasdaq: SUPG)," said Edward J. Legere, Peregrine's president and CEO. "Our strong intellectual property position in the VTA field allows us to develop VTA-based therapeutics and diagnostics through multiple licenses and joint ventures and also in- house. Peregrine has seen significant interest in licensing its VTA platform. A number of VTA compounds are being evaluated by companies for their potential as anticancer agents. Peregrine is very active in its efforts to license various uses of the VTA platform. We look forward to future collaborations with other companies," Legere added.

About Vascular Target 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, it appears that 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, soft tissue sarcoma and biliary cancers. Final preparations are being made to start a multi-center Phase III trial for brain cancer. Copies of Peregrine press releases, SEC filings, current price quotes and other valuable information for investors may be found on the website 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, 2002 and on Form 10-Q for the quarter ended July 31, 2002.

SOURCE Peregrine Pharmaceuticals

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