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Publication in Clinical Cancer Research Confirms Ability of Peregrine's Bavituximab to Target Tumor Blood Vessels with Excellent Specificity

- Data Further Supports High Degree of Tumor Targeting Specificity for Bavituximab, Currently in Phase II Cancer Trials in Combination with Chemotherapy - - Imaging Study Also Suggests Potential Utility of Anti-PS Agents for Molecular Imaging of Tumors -

TUSTIN, Calif., March 3, 2008 /PRNewswire-FirstCall via COMTEX News Network/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM), a clinical stage biopharmaceutical company developing monoclonal antibodies for the treatment of cancer and hepatitis C virus infection, today reported publication of a new preclinical study in Clinical Cancer Research that supports the specific tumor targeting properties of the company's novel anti-phosphatidylserine (anti-PS) antibody platform. Peregrine's most advanced anti-PS monoclonal antibody, bavituximab, is currently in Phase II cancer trials in combination with chemotherapy.

The newly published study demonstrates that in a model of prostate cancer, bavituximab's phosphatidylserine target is specifically exposed in tumors, but not in normal tissues. When labeled with a radioisotope, bavituximab preferentially targeted the tumor blood vessels, strongly localizing to the tumors rather than normal organs. The study was conducted by Dr. Philip Thorpe and his colleagues at UT Southwestern Medical Center and is published in the March 1 issue of Clinical Cancer Research. It is the latest in a series of preclinical studies that have confirmed important elements of the mechanism of action of bavituximab.

"These results confirming the high specificity of bavituximab to target tumor blood vessels with little or no localization to normal tissues support the good safety profile and encouraging signs of anti-tumor activity seen to date with bavituximab," said Dr. Thorpe, professor of pharmacology at UT Southwestern and a member of Peregrine's Scientific Resource Board. "Bavituximab's ability to achieve unusually clear images of tumors in living animals also suggests that it might have utility for the non-invasive imaging of tumors in cancer patients. Although the study was conducted in rats bearing prostate tumors, we expect that the observations will extend to other solid tumor types as well."

In the study, researchers administered radiolabeled bavituximab to rats with prostate tumors and then conducted molecular imaging studies of the rats over the next several days. The results showed that radiolabeled bavituximab localized to the tumor blood vessels with great specificity. In these subjects, 22 times as much bavituximab localized to the tumor compared to the liver when measured 72 hours post-injection. The study further showed no specific localization of bavituximab to blood or other tissues including the heart, kidney, intestine, muscle, bone and brain. The tumor blood vessel-selective targeting observed in vivo in the study was confirmed by further bio-distribution analyses and by histology studies.

"This important new peer-reviewed study reinforces earlier evidence that bavituximab targets tumor blood vessels with excellent specificity," said Steven W. King, president and CEO of Peregrine. "As we continue to advance the cancer clinical program for bavituximab, these types of studies are expanding the body of scientific evidence demonstrating the highly specific nature of bavituximab's ability to target PS on tumor blood vessels."

Bavituximab is a monoclonal antibody that binds to a phospholipid called phosphatidylserine that is usually located inside normal cells, but which becomes exposed on the outside of the cells that line the blood vessels of tumors, creating a specific target for anti-cancer treatments. Bavituximab is believed to help mobilize the body's immune system to destroy the blood vessels needed for tumor growth and spread. In a Phase Ib pilot trial in advanced cancer patients, bavituximab plus chemotherapy appeared to have a safety profile consistent with chemotherapy alone and showed positive signs of clinical activity, achieving objective response or disease stabilization in 50% of the evaluable patients. Peregrine has received regulatory approval to conduct three Phase II trials to study the anti-tumor effects of bavituximab in combination with chemotherapy. These include a breast cancer trial of bavituximab in combination with docetaxel that is currently enrolling patients, a breast cancer protocol assessing bavituximab in combination with carboplatin plus paclitaxel and a non-small cell lung cancer protocol assessing bavituximab in combination with carboplatin and paclitaxel. Bavituximab is in clinical trials in the U.S. in patients with advanced solid tumors and in patients co-infected with HCV and HIV.

The study, "Vascular Imaging of Solid Tumors in Rats with a Radioactive Arsenic-Labeled Antibody that Binds Exposed Phosphatidylserine," by Marc Jennewein, Matthew A. Lewis, Dawen Zhao, Edward Tsyganov, Nikolai Slavine, Jin He, Linda Watkins, Vikram D. Kodibagkar, Sean O'Kelly, Padmakar Kulkarni, Peter P. Antich, Alex Hermanne, Frank Rosch, Ralph P. Mason and Philip E. Thorpe, appears in the March 1, 2008 issue of Clinical Cancer Research.

About Peregrine Pharmaceuticals

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative product candidates in clinical trials for the treatment of cancer and hepatitis C virus (HCV) infection. The company is pursuing three separate clinical programs in cancer and HCV infection with its lead product candidates bavituximab and Cotara(R). Peregrine also has in-house manufacturing capabilities through its wholly owned subsidiary Avid Bioservices, Inc. (http://www.avidbio.com), which provides development and bio-manufacturing services for both Peregrine and outside customers. Additional information about Peregrine can be found at http://www.peregrineinc.com.

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