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Peregrine Researchers Present New Preclinical Data at AACR Annual Meeting Confirming Unique Anti-Tumor Mechanism of Bavituximab

- Bavituximab Causes Pro-Inflammatory Effects in the Tumor Microenvironment That May Contribute to Its Anti-Tumor Efficacy -
- Studies Show Similar Results for a New Fully Human Version of the Antibody -

SAN DIEGO and TUSTIN, Calif., April 15, 2008 /PRNewswire-FirstCall via COMTEX News Network/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM) today reported that preclinical studies being presented at the 2008 Annual Meeting of the American Association for Cancer Research (AACR) confirm a unique mechanism by which bavituximab, its lead anti-phosphatidylserine (anti-PS) antibody in Phase II cancer trials, affects the tumor microenvironment and contributes to its anti-tumor efficacy. The research, which was conducted by scientists at Peregrine, showed similar effects for bavituximab and for PGN635, a fully human version of the bavituximab antibody.

In the in vitro and in vivo studies, lead author Dr. Monica Friedrich and colleagues at Peregrine show that both bavituximab and PGN635 cause the destruction of targeted cells. They demonstrate that by blocking the anti-inflammatory signals of the phosphatidylserine found on the surface of targeted cells, these anti-PS antibodies could create a unique tumor microenvironment, by enhancing production of the pro-inflammatory cytokines TNF-alpha and GM-CSF, while decreasing production of anti-inflammatory cytokines such as interleukin 10. The studies also show that bavituximab and PGN635 promote the migration of tumor-killing macrophages and induce antibody-dependent cell-mediated cytotoxicity. In addition, the studies showed that similar to bavituximab, PGN635 localizes to tumors but not to healthy tissue.

"The AACR Annual Meeting represents an ideal opportunity to present these important data to the cancer research community confirming a unique mechanism of action of our anti-PS antibodies," said Steven W. King, president and CEO of Peregrine. "We know that these antibodies can combat cancer by targeting the PS located on the surface of tumor blood vessels. These new data confirm an important part of the mechanism of action of our anti-PS approach that acts by counteracting the immune-suppressing role of the PS found on the surface of cancer cells. PS is thought to contribute to the body's inability to mount an effective immune response to cancer, by causing certain anti-inflammatory effects in the tumor microenvironment. These studies show that by blocking PS and its anti-inflammatory signals, our anti-PS antibodies unleash powerful pro-inflammatory effects that enhance their anti-cancer effectiveness. We look forward to further assessments of bavituximab's potential efficacy in our ongoing Phase II cancer trials."

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 helps mobilize the body's immune system to destroy the tumor and 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 two breast cancer protocols and a non-small cell lung cancer protocol. One of the bavituximab breast cancer trials is currently enrolling and dosing patients and the two other trials are expected to begin shortly. Bavituximab is in clinical trials in the U.S. in patients with advanced solid tumors and in patients co-infected with HCV and HIV.

No. 4079: Monica L. Friedrich, Claudia I. Guevara, Daniel M. Falcon, Longen Zhou, Connie Chang and Bruce Freimark, Antibody targeting of phosphatidylserine produces a cytokine microenvironment that enhances innate anti-tumor immune responses, Peregrine Pharmaceuticals, Inc., April 15, 2008, 8:00 AM - 11:00 AM PDT

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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