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Study Shows Potential of Targeted Microbubbles Using Peregrine's VTA Technology to Identify Which Cancer Patients Would Benefit From Anti-Angiogenesis Therapy

- Ultrasound-Based Approach Could Allow Oncologists to Rapidly Determine If Patients Are Benefiting From Anti-Angiogenesis Treatments -
- Minimally Invasive and Accessible Diagnostic Tool Has the Potential to Increase the Utility and Cost Effectiveness of Anti-Angiogenesis Therapy -

TUSTIN, Calif., Jan. 9 /PRNewswire-FirstCall/ -- Peregrine Pharmaceuticals, Inc. (Nasdaq: PPHM), a clinical stage biopharmaceutical company developing targeted therapeutics for the treatment of cancer and hepatitis C virus (HCV) infection, today announced publication of a study demonstrating that microbubbles targeted to tumor blood vessels can be used to monitor patient response to anti-angiogenesis therapy, identifying at an early stage which cancer patients are benefiting from the treatment. This information could allow oncologists to modify patient treatment regimens soon after starting therapy, so that non-responders could be switched to other therapies that might be more effective for them. The potential of the approach is enhanced by the fact that the targeted microbubbles are "read" using ultrasound technology, which is widely available in most physicians' offices and is minimally invasive, safe and cost-effective.

The research, the results of which appear in the January 1, 2007 issue of Clinical Cancer Research, was conducted by scientists at the University of Texas Southwestern Medical Center and funded by Peregrine. The published article demonstrates the potential of Peregrine's Vascular Targeting Agent (VTA) technology platform for imaging and diagnosis of solid tumors using agents targeted to tumor blood vessels. Patents covering Peregrine's VTA technology platform have been exclusively licensed from the UT Southwestern Medical Center. The "personalized medicine" made feasible by this approach has the potential to increase the efficacy of cancer regimens, reduce side effects from ineffective treatments and improve the overall cost effectiveness of cancer therapy.

Anti-angiogenesis agents such as Avastin® treat cancer by preventing the formation of tumor blood vessels, thereby "starving" tumors. They are increasingly being used in combination with chemotherapy agents as cornerstones of cancer therapy, yet not all patients actually respond to the approach (the patient response rate in two recent studies ranged from 26% to 35%). The ability to determine which cancer patients are responding to anti-angiogenesis treatment early in the process could enable oncologists to ensure that each patient was receiving the therapy that is most effective for their specific condition, while reducing the risk of side effects from ineffective treatments and also enabling the health care system to avoid large expenditures on regimens that ultimately produce little therapeutic benefit.

"We believe this study demonstrating the potential utility of targeted microbubbles could be a breakthrough in developing cost-effective methods for monitoring the effectiveness of anti-angiogenesis therapies which may have great clinical and commercial significance," said Steven W. King, president and CEO of Peregrine. "This technology could have potential not only for evaluating the effectiveness of currently approved agents such as Avastin® but also for assessing new anti-angiogenesis approaches currently in clinical development, and eventually for evaluating the effectiveness of anti-angiogenic agent cocktails, which are likely to be developed as more products in this class are approved. We look forward to continuing our collaboration with the researchers at UT Southwestern to advance this technology toward human clinical studies in order to fully evaluate its potential."

The UT Southwestern researchers, led by Dr. Rolf Brekken, tested the targeted microbubble approach in several mouse models of pancreatic cancer, a particularly aggressive and lethal disease. The microbubbles are tiny lipid or albumin shells filled with an inert gas that have a well-established safety record as contrast agents for ultrasound imaging applications, and they are currently widely used in cardiovascular medicine.

In the reported studies, Dr. Brekken and his colleagues linked the microbubbles to antibodies that target them to specific markers on tumor blood vessels. The microbubbles were then administered to tumor-bearing animals and ultrasound images of the tumor were recorded. The ultrasound images identified the number of tumor blood vessel markers that were present before and after treatment with several anti-angiogenic agents, including Avastin and 2C3, a novel anti-angiogenic antibody in preclinical development by Peregrine. A decrease in the number of tumor blood vessel markers indicated that the treatment was working as intended. The researchers determined that measurements of tumor blood vessel markers made using the microbubble approach correlated well with measurements made using conventional invasive techniques.

"These encouraging results indicate that targeted microbubble contrast agents could be a robust and accessible method for increasing the utility and cost-effectiveness of anti-angiogenic cancer treatments," said Dr. Brekken, assistant professor of surgery and pharmacology, a researcher at the Nancy B. and Jake L. Hamon Center for Therapeutic Oncology Research and Effie Marie Cain Research Scholar in Angiogenesis Research at UT Southwestern. "The ability to rapidly monitor and modify therapy would be valuable for patients, physicians and the larger healthcare system. The clinical development of contrast agents is typically faster than for therapeutics, and clinical trials of this approach could be feasible within 12 to 18 months. We look forward to working with Peregrine to advance this potentially important new approach."

The article, "Monitoring Response to Anticancer Therapy by Targeting Microbubbles to Tumor Vasculature," is published in Clinical Cancer Research 2006:12(23) January 1, 2007.

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 five separate clinical trials in cancer and HCV infection in the U.S. and India with its lead product candidates bavituximab and Cotara®. Peregrine also has in-house manufacturing capabilities through its wholly owned subsidiary Avid Bioservices, Inc. (www.avidbio.com), which provides development and bio-manufacturing services for both Peregrine and outside customers. Additional information about Peregrine can be found at www.peregrineinc.com.

Safe Harbor Statement: Statements in this press release which are not purely historical, including statements regarding Peregrine Pharmaceuticals' intentions, hopes, beliefs, expectations, representations, projections, plans or predictions of the future are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The forward-looking statements involve risks and uncertainties including, but not limited to, the risk that use of targeted microbubbles to monitor patient response to anti-angiogenesis therapy may not be as effective when used in connection with human patients. It is important to note that the company's actual results could differ materially from those in any such forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, uncertainties associated with completing preclinical and clinical trials for our technologies; the early stage of product development; the significant costs to develop our products as all of our products are currently in development, preclinical studies or clinical trials; obtaining additional financing to support our operations and the development of our products; obtaining regulatory approval for our technologies; anticipated timing of regulatory filings and the potential success in gaining regulatory approval and complying with governmental regulations applicable to our business. Our business could be affected by a number of other factors, including the risk factors listed from time to time in the Company's SEC reports including, but not limited to, the annual report on Form 10-K for the year ended April 30, 2006, and the quarterly report on Form 10-Q for the quarter ended October 31, 2006. The Company cautions investors not to place undue reliance on the forward-looking statements contained in this press release. Peregrine Pharmaceuticals, Inc. disclaims any obligation, and does not undertake to update or revise any forward-looking statements in this press release.

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