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Preclinical Data Presented at Annual Immunotherapies and Vaccine Summit Show That the Combination of Peregrine Pharmaceuticals' PS-Targeting Antibodies and Anti-PD-1 Antibodies Significantly Reduce Breast Cancer Progression

Combination Mediated Impressive Increase in Tumor-Fighting T-Cells and Significantly Reduce Tumor Growth by Over 78% as Compared to Anti-PD-1 Alone; Combination Data Show Synergies That Enhance the Effectiveness of Recently Approved and Experimental Immuno-Oncology Treatments That Extend the Duration and Effectiveness of Tumor Fighting T-Cells; Results Build on Data Seen in Studies Combining Bavituximab With Anti-CTLA-4 or Anti-PD-1 Antibody in Models of Melanoma and Colon Cancer

TUSTIN, CA -- (Marketwired) -- 08/11/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP), today announces preclinical data further validating the potent immune-stimulatory mechanism of its phosphatidylserine (PS)-targeting immuno-oncology platform. Results show that the combination of a PS-targeting antibody equivalent to bavituximab administered with an anti-PD-1 antibody displayed statistically significant tumor growth suppression while also demonstrating a significant increase in tumor-fighting T-cells into the tumor microenvironment compared to anti-PD-1 antibody treatment alone in an immune competent animal model of breast cancer. These data will be presented today at 12:00 PM EDT at ImVacS, the 9th Annual Immunotherapies and Vaccine Summit being held August 11-14, 2014 in Boston, Massachusetts. Bavituximab is currently being evaluated in second-line non-small cell lung cancer (NSCLC) as part of the SUNRISE pivotal Phase III clinical trial.

"These statistically significant results are an important extension of earlier data obtained combining our PS-targeting antibodies with other immune checkpoint inhibitors in different tumor types and our clinical experience in treating breast cancer patients," said Jeff Hutchins, Ph.D., vice president of preclinical research at Peregrine and the study's presenter. "These data further validate that blocking the immunosuppressive effects of PS facilitate an increase in tumor-fighting T-cells, and that the combination with PD-1 then allows for a more effective anti-tumor T-cell response. We believe these studies, along with our previously released Phase II breast cancer results, warrant an expanded clinical investigation in breast cancer that would build on our ongoing immunotherapy combination clinical trial in advanced melanoma."

In a presentation titled: "*Phosphatidylserine (PS)-Targeting Antibodies Enhance Activity of Immune Checkpoint Inhibitors by Repolarizing Immunosuppressive Immune Cells Populating the Tumor Microenvironment*", Dr. Hutchins will provide an overview of the company's PS-targeting platform including preclinical data emerging from the company's immuno-oncology development program. This presentation includes new data showing that animals treated with the PS-targeting antibody ch1N11, the preclinical equivalent to bavituximab, in combination with anti-PD-1 in an EMT-6 mouse breast tumor model, significantly delayed the treatments group median tumor growth compared to anti-PD-1 alone. Specifically, following once weekly treatments of ch1N11 plus anti-PD-1, tumor growth was inhibited by 78.7% ($p= 0.0048$ on day 23) compared anti-PD-1 alone. In addition, 50% of the tumors treated with the combination either regressed or did not progress compared to 0% for anti-PD-1 alone. Also, the once weekly combination treatment with ch1N11 and anti-PD-1 led to a 78% and 81% increase in intratumoral CD4+ and CD8+ T cells, two key indicators that show that tumor fighting immune cells are present in the local tumor environment, compared to the single agent anti-PD-1.

"With these combination results, we are clearly seeing both a significant delay in tumor growth as a group and a decrease in the number of animals with tumor progression," said Bruce Freimark, Ph.D., director of pre-clinical research in oncology. "We believe these data present encouraging observations to support the expanded clinical use of tumor immunotherapy combinations using PS-targeting antibodies."

A copy of Dr. Hutchins' presentation is available on the company's website at www.peregrineinc.com.

About Bavituximab: A Targeted Investigational Immunotherapy

Scientific research has shown that tumors evade immune detection due partly to the expression of phosphatidylserine, or PS, a highly immunosuppressive molecule exploited by tumors. Peregrine's immuno-oncology development program has developed bavituximab, an investigational PS-targeting monoclonal antibody that targets and binds to PS and blocks the immunosuppressive effects of PS while activating tumor fighting immune cells, thus enabling the immune system ability to recognize and fight cancer. Bavituximab's immune-stimulatory mechanism-of-action data is the subject of a manuscript

published in the October 2013 issue of the American Association for Cancer Research (AACR) peer-reviewed journal, Cancer Immunology Research. Bavituximab is currently being evaluated in several solid tumor indications, including non-small cell lung cancer, breast cancer, liver cancer, rectal cancer and advanced melanoma. In January 2014, bavituximab received Fast Track designation by the U.S. Food and Drug Administration (FDA) for the potential treatment of second-line non-small cell lung cancer.

About The SUNRISE Trial

SUNRISE is a pivotal Phase III, randomized, placebo-controlled, double-blind, multinational clinical trial evaluating the efficacy and safety of bavituximab, a novel investigational immunotherapy, plus docetaxel versus placebo plus docetaxel as a second-line treatment for patients with Stage IIIb/IV non-squamous non-small cell lung cancer (NSCLC). For additional information about the SUNRISE trial please visit www.sunrisetrial.com or ClinicalTrials.gov using the Identifier NCT01999673.

About Peregrine Pharmaceuticals, Inc.

Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a pipeline of novel drug candidates in clinical trials for the treatment and diagnosis of cancer. The company's lead immunotherapy candidate, bavituximab, is in Phase III development for the treatment of second-line non-small lung cancer (the "SUNRISE trial") along with several investigator-sponsored trials evaluating other treatment combinations and additional oncology indications. The company is also advancing a molecular imaging agent, 124I-PGN650, in an exploratory clinical trial for the imaging of multiple solid tumor types. Peregrine also has in-house cGMP manufacturing capabilities through its wholly-owned subsidiary Avid Bioservices, Inc. (www.avidbio.com), which provides development and biomanufacturing services for both Peregrine and third-party 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 results from potential human clinical studies involving combinations of bavituximab with PD-1 antibodies may not correlate with the data from the preclinical studies. 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, including the Phase III SUNRISE trial; 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 our reports filed with the SEC including, but not limited to, our annual report on Form 10-K for the fiscal year ended April 30, 2014 as well as any updates to these risk factors filed from time to time in the company's other filings with the Securities and Exchange Commission. 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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