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Data Presented at AACR Support Potential of Combining Peregrine's PS-Targeting Immunotherapy Agent Bavituximab With Irradiation in Lung Cancer

Combination of PS-Targeting Antibody and Radiation Resulted in 100% Survival at 6 Months Compared to 43% With Irradiation Alone in Preclinical Lung Cancer Model

TUSTIN, CA -- (Marketwired) -- 04/07/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP), a biopharmaceutical company developing first-in-class monoclonal antibodies focused on the treatment and diagnosis of cancer, today announced data from studies demonstrating that an equivalent antibody to Peregrine's lead immunotherapeutic antibody candidate bavituximab administered with stereotactic body radiation therapy (SBRT) showed a 100% improvement in survival and favorable tumor eradication in a model of non-small cell lung cancer (NSCLC) compared to irradiation alone. These data were presented yesterday at the 105th Annual Meeting of the American Association for Cancer Research (AACR) being held in San Diego, California from April 5-9, 2014. Bavituximab is an investigational immunotherapy currently being evaluated in NSCLC as part of the SUNRISE pivotal Phase III clinical trial.

"Data from these studies show a very impressive survival improvement and tumor burden reduction when administering an animal equivalent of bavituximab with radiation therapy compared to radiation alone," said Jeff T. Hutchins, Ph.D., vice president of preclinical research at Peregrine. "Importantly, the use of lower doses of stereotactic body radiation, a highly targeted therapeutic irradiation technique, demonstrates considerable therapeutic value in combination with bavituximab activity. Based on these results, we believe there is potential for more effective and less toxic combinations of stereotactic body radiation and investigational immunotherapies like bavituximab to work together as a potential treatment modality for patients with lung cancer."

These studies utilized rats bearing established orthotopic A549-luc NSCLC tumors, which were staged and monitored by bioluminescence imaging. Animals were treated with 3x12 Gy of radiation alone or combined with 2aG4 (mouse equivalent antibody to bavituximab) injected twice weekly. Rats treated with radiation and 2aG4 had a 100% survival rate 184 days after implantation and tumors were completely eradicated in 67% of these animals. In contrast, rats treated with radiation had a survival rate of 43% while only 12.5% of untreated rats survived. A toxicity study was conducted in which 3x12 Gy of radiation was delivered to central organs of tumor-free rats. This treatment does not appear to cause severe toxicity. These results suggest that bavituximab with radiation may result in improved clinical outcome in patients with centrally-located NSCLC. This research was conducted under grant RP120670-P4 by the Cancer Prevention Research Institute of Texas (CPRIT) awarded to The University of Texas Southwestern Medical Center.

Abstract Details:
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Presentation Title: Antibody-mediated blockade of phosphatidylserine combined with radiation improves survival and tumor eradication in a rat model of non-small cell lung cancer
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Poster Board Number: 14
Author Block: Olivier Belzile, Zhang Zhang, Xianming Huang, Debabrata Saha, Rolf A. Brekken. University of Texas Southwestern Medical Center, Dallas, Texas

A copy of this poster is available in the Technology section of Peregrine's website located at http://www.peregrineinc.com/technology/bavituximab-oncology/recent-data.html.

About Bavituximab: A Targeted Investigational Immunotherapy
Bavituximab is a first-in-class phosphatidylserine (PS)-targeting monoclonal antibody that represents a new approach to treating cancer. PS is a highly immunosuppressive molecule usually located inside the membrane of healthy cells, but "flips" and becomes exposed on the outside of cells that line tumor blood vessels, creating a specific target for anti-cancer treatments. PS-targeting antibodies target and bind to PS and block this immunosuppressive signal, thereby enabling the immune system to recognize and fight the tumor. These data detailing the immune-stimulatory mechanism of action of PS-targeting antibodies, such as the company's lead drug candidate bavituximab, are 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 and rectal cancer with a trial in advanced melanoma anticipated to initiate in the near future.

About SUNRISE Trial:
SUNRISE is a pivotal Phase III, randomized, placebo-controlled, double-blind, multinational clinical trial evaluating the efficacy and safety of bavituximab (bav i tux' i mab), 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 more information about the SUNRISE trial, please visit: www.SunriseTrial.com

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 is developing multiple clinical programs in cancer with its lead immunotherapy candidate bavituximab while seeking a partner to further advance its novel brain cancer agent Cotara®. 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 human clinical studies involving combinations of bavituximab with irradiation 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; 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, 2013 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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