December 12, 2014

Data to Be Presented at 2014 San Antonio Breast Cancer Symposium Demonstrate Immune-Stimulatory Properties of Peregrine Pharmaceuticals' Bavituximab in Models of Breast Cancer

Statistically Significant Tumor Growth Suppression With Single Agent Bavituximab Equivalent; Statistically Significant Increases in Ratios of Key Indicators of Immune Stimulation With Single Agent Bavituximab Equivalent

TUSTIN, CA -- (Marketwired) -- 12/12/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP), a biopharmaceutical company focused on advancing bavituximab, an investigational immuno-oncology antibody targeting the highly immunosuppressive phosphatidylserine (PS) signaling pathway, today announced preclinical data from recently conducted single agent studies at the 2014 San Antonio Breast Cancer Symposium in San Antonio, Texas being held December 9-13, 2014.

In a poster titled "Antibody-mediated Blockade of Phosphatidylserine Enhances the Anti-tumor Activity of Immune Checkpoint Inhibitor α-PD-1 by Affecting Myeloid Derived Suppressor Cells (MDSC) and Lymphocyte Populations in a Breast Tumor Microenvironment," newly published data show that ch1N11, the preclinical equivalent to bavituximab, as a single agent, demonstrated statistically significant (p=0.025) tumor growth inhibition in mice bearing EMT-6 breast tumors when compared to a control antibody. In addition, researchers using fluorescence-activated cell sorting (FACS) found that the single agent treatment of tumor bearing mice with ch1N11 yielded statistically significant increases in the percentage of CD4 (p=0.016) and CD8 (p=0.018) tumor infiltrating lymphocytes and decreases tumor MDSC/CD4 (p=0.026) and MDSC/CD8 (p=0.014) ratios, all key indicators of stimulating immune activation.

"These data supplement previous findings, also discussed in the poster, that the combination of a PS-targeting antibody and an anti-PD-1 antibody demonstrated statistically significant tumor growth inhibition in preclinical breast tumor models compared to anti-PD-1 alone," said Bruce Freimark, Ph.D., director, preclinical research, oncology at Peregrine Pharmaceuticals. "With these results we continue to see positive and consistent data of tumor growth suppression as well as decreases in important immune suppressive activities, making breast cancer a very promising indication for further clinical development."

The link to this poster can be found from the front page of the company's website at: www.peregrineinc.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'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 data from pre-clinical studies and early stage clinical trials, including ISTs, may not correlate with the results of later stage clinical trials and the risk that data from the company's Immuno-Oncology Development Program and/or translational studies may not correlate to the results of future clinical trials. 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 Securities and Exchange Commission 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.

Contact:
Christopher Keenan
Peregrine Pharmaceuticals, Inc.
(800) 987-8256
info@peregrineinc.com

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