October 31, 2012

New Data Support Ability of PS-Targeting Antibodies to Specifically Target Tumors and Stimulate Cancer-Fighting Immune Responses

Presentation at the 27th Annual Meeting of the Society for Immunotherapy of Cancer Highlights Ability of PS-Targeting Antibodies to Induce Innate and Adaptive Immune Responses; Published Article in Nuclear Medicine and Biology Supports Potential of Peregrine's PS-Targeting Antibody PGN635 to Detect Tumor Response to Therapy

TUSTIN, CA -- (Marketwire) -- 10/31/12 -- Peregrine Pharmaceuticals (NASDAQ: PPHM), a biopharmaceutical company developing first-in-class monoclonal antibodies focused on the treatment and diagnosis of cancer, today announced the presentation of preclinical data showing specific localization and enhancement of anti-tumor functions of immune cells inside tumors following administration of phosphatidylserine (PS)-targeting antibodies. These data show that by specifically targeting PS exposed on tumor blood vessels, Peregrine's antibodies mediate beneficial changes in the local tumor environment including the increase of signaling chemicals associated with anti-tumor immune responses, a reduction of signaling chemicals associated with immune suppression, as well as increasing the prevalence of tumor-destroying immune cells. The antibody-induced effects are localized to the tumor environment, and therefore do not appear to cause systemic side effects. Peregrine's lead PS-targeting antibody, bavituximab, is currently being evaluated in eight clinical trials in multiple oncology indications.

"We believe these results build on previous findings showing the potential of PS-targeted agents for diagnosis, therapy and to monitor the effectiveness of anti-tumor agents," said Jeff T. Hutchins, Ph.D., Peregrine's Vice President of Preclinical Research. "While several new promising cancer immunotherapies are successful in amplifying the anti-tumor behavior of specific cell types, they carry the risk of side-effects associated with systemic immune activation. To date, data from our collective preclinical studies and clinical trials shows that exposed PS produces a dominant immunosuppressive signal favoring tumor survival and growth. By specifically targeting and blocking PS with our antibodies, we see potent anti-tumor effects through a shift of multiple immune cells and their associated signaling chemokines. These new data further support our continued enthusiasm for the broad-spectrum cancer-fighting potential of bavituximab as we look forward to data from several clinical trials in the coming months."

The immune modulation of anti-tumor responses data were presented at the 27th Annual Meeting of the Society for Immunotherapy of Cancer(1) held in Bethesda, Maryland from October 24-28, 2012. Separately, data were published in the peer-reviewed journal Nuclear Medicine and Biology highlighting results from a study investigating the company's fully human phosphatidylserine (PS)-targeting antibody PGN635 utilized as a radiolabeled tumor imaging probe(2). Data from the study showed that in animals pre-treated with the chemotherapeutic agent paclitaxel, a high accumulation of the radiolabeled antibody (89Zr-PGN635) was observed in the treated tumors, reaching tumor to blood ratios of up to 13-fold. These results demonstrate the potential breadth of applicability of the company's PS-targeting antibodies to clearly image solid tumors regardless of cancer type, and provide a potential method to rapidly assess the anti-tumor efficacy of chemotherapies and other approved and experimental cancer treatments.

1. Targeting of Phosphatidylserine by Monoclonal Antibodies Induces Innate and Specific Anti-tumor Responses. Bruce Freimark1, Jian Gong1, Richard Archer1, Van Nguyen1, Christopher Hughes2, Xianming Huang3, Yi Yin3, Philip Thorpe3 1. Peregrine Pharmaceuticals, Inc., Tustin, CA; 2. Molecular Biology & Biochemistry, University of California, Irvine, CA; 3. Pharmacology, University of Texas Southwestern Medical Center, Dallas, TX

2. ImmunoPET imaging of phosphatidylserine in pro-apoptotic therapy treated tumor models.
Annie Ogasawara, Jeff N. Tinianow, Alexander N. Vanderbilt, Herman S. Gill, Sharon Yee, Judith E. Flores, Simon-Peter Williams, Avi Ashkenazi, Jan Marik, Nuclear Medicine and Biology, doi: 10.1016/j.nucmedbio.2012.09.001.

About Bavituximab
Bavituximab is a first-in-class phosphatidylserine (PS)-targeting monoclonal antibody that represents a new approach to treating cancer. Bavituximab is the lead drug candidate from the company's PS technology platform and is currently being tested in eight clinical trials including three randomized Phase II trials in front-line and second-line non-small cell lung cancer, front-line pancreatic cancer and five investigator-sponsored trials (ISTs) in additional oncology indications. 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.

About Peregrine Pharmaceuticals, Inc.
Peregrine Pharmaceuticals, Inc. is a biopharmaceutical company with a portfolio of innovative monoclonal antibodies in clinical trials focused on the treatment and diagnosis of cancer. The company is pursuing multiple clinical programs in cancer with its lead product candidate bavituximab and 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 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 final data from the randomized, double-blind, placebo-controlled Phase IIb may never support future development in second-line NSCLC, the risk that the company may not have or raise adequate financial resources to sustain its operations, the risks associated with the recently filed class action lawsuits or potential regulatory investigations due to the uncertainty created by the above referenced discrepancies, the risk that Avid's revenue growth may slow or decline, the risk that Avid may experience technical difficulties in processing customer orders which could delay delivery of products to customers and receipt of payment, and the risk that one or more existing Avid customers, including those with committed manufacturing or representing its backlog, terminates its contract prior to completion. 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 our SEC reports including, but not limited to, the annual report on Form 10-K for the fiscal year ended April 30, 2012 and quarterly report on Form 10-Q for the quarter ended July 31, 2012. 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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