November 7, 2014

Data to Be Presented at the SITC Annual Meeting Support Synergy of PS-Targeting and Anti-CTLA-4 Immunotherapies to Enhance Anti-Tumor Treatments in Melanoma

Combining PS-Targeting and Anti-CTLA-4 Antibodies Results in Statistically Significant Improvement in Anti-Tumor Activity as Compared to Anti-CTLA-4 Treatment Alone; Data Support Ability of PS-Targeting Antibodies to Decrease Immunosuppressive MDSCs and M2 Macrophages Which Potentiates Anti-CTLA-4 Anti-Tumor Effects

TUSTIN, CA -- (Marketwired) -- 11/07/14 -- Peregrine Pharmaceuticals, Inc. (NASDAQ: PPHM) (NASDAQ: PPHMP), today announced the first of four presentations of clinical and preclinical data related to the company's immuno-oncology development program and its lead investigational immunotherapy drug candidate bavituximab. Data from today's presentation show that the combination of a phosphatidylserine (PS)-targeting antibody equivalent to bavituximab and an antibody targeting the immune checkpoint CTLA-4 yielded statistically significant anti-tumor effects as compared to the anti-CTLA-4 antibody alone. In addition, this combination decreased levels of Arg1, a molecule predominantly expressed by myeloid derived suppressor cells (MDSC) and M2 macrophages; two key cell types that contribute to immunosupressive activity in animal models of melanoma. This presentation will be made at the Society for Immunotherapy of Cancer's (SITC) 29th Annual Meeting and Associated Programs being held November 6-9, 2014 at the Gaylord National Hotel and Convention Center in National Harbor, Maryland.

The poster titled: "Antibody-mediated Blockade of Phosphatidylserine Enhances the Anti-tumor Activity of Immune Checkpoint Inhibitor anti-CTLA-4 by Affecting Myeloid Derived Suppressor Cells (MDSC) and Lymphocyte Populations in a Melanoma Tumor Microenvironment" will be presented in a poster session on Friday, November 7, 2014 by Bruce Freimark, Ph.D., director, preclinical research, oncology at Peregrine Pharmaceuticals. Dr. Freimark's presentation will review preclinical data demonstrating that animals treated with the PS-targeting antibody ch1N11, the preclinical equivalent to bavituximab, in combination with anti-CTLA-4 in melanoma models demonstrated statistically significant (p=0.0019) delayed tumor growth and suppression compared to anti-CTLA-4 alone. New data presented today show the expression of Arg1 is decreased in K1735 tumors treated with ch1N11 alone or in combination with anti-CTLA-4 compared with anti-CTLA4 or control antibody. In addition, using immunohistochemistry, the ratio of CD8/CD3 T cells is increased in tumors from animals administered the combination of ch1N11 and anti-CTLA-4 compared to tumors from animals administered control antibodies.

Dr. Freimark said: "These statistically significant data show that the combination of a PS targeting antibody and the immune checkpoint inhibitor, anti-CTLA-4, achieved a superior tumor immune response over anti-CTLA-4 alone. It is gratifying to see the immunostimulatory mechanism of action of PS-targeting antibodies that our colleagues at UT Southwestern published utilizing tumor xenograft models is robustly translating to our immune competent models of melanoma in mice; particularly when it comes to lowering the levels of MDSCs and M2 macrophages in the tumor microenvironment. These data further support the mechanism of action of bavituximab and strengthen the pre-clinical rationale for an ongoing Phase Ib evaluation of bavituximab in combination with the approved CTLA-4 inhibitor Yervoy® in patients with advanced melanoma; highlighting our belief that the combination of upstream and downstream checkpoint inhibitors could improve overall response rates."

Peregrine today also announced that the following poster presentations will be made during sessions tomorrow, Saturday, November 8, 2014.

Title: Correlative Studies of a Phase II Clinical Study of Bavituximab and Sorafenib in Patients with Advanced Hepatocellular Carcinoma
Presenter: Nikoletta Lea Kallinteris, M.Sc., CCRP, senior scientist, translational research at Peregrine Pharmaceuticals, Inc.
Poster No.: P236

Title: 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
Presenter: Bruce Freimark, Ph.D., director, preclinical research, oncology at Peregrine Pharmaceuticals, Inc.
Poster No.: P228

Title: Antibody-mediated Blockade of Phosphatidylserine Enhances the Anti-tumor Activity of Immune Checkpoint Inhibitor anti-PD-1 by Affecting Myeloid Derived Suppressor Cells (MDSC) and Lymphocyte Populations in a Melanoma Tumor Microenvironment
Presenter: Xianming Huang, Ph.D., assistant professor, Hamon Center for Therapeutic Oncology, Pharmacology, Simmons Comprehensive Cancer Center University of Texas Southwestern Medical Center, Dallas, Texas.
Poster No.: P226

In addition to these poster presentations, Peregrine will be hosting conference attendees at Booth #117 located in Prince George's Exhibition Hall C.

The link to today's 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 future results clinical studies involving combinations of PS-targeting agents with immune checkpoint inhibitors such as anti-PD-1 or anti-CTLA-4 may not correlate with the data from these 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 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.

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