October 16, 2003

Peregrine's Anti-Angiogenesis 2C3 Anti-VEGF Antibody Presented at American Association For Cancer Research Meeting

TUSTIN, Calif., Oct. 16 /PRNewswire-FirstCall/ -- Peregrine Pharmaceuticals (Nasdaq: PPHM) presented the preclinical data for its anti- Vascular Endothelial Growth Factor (VEGF) anti-angiogenesis antibody 2C3 in a poster presentation at the American Association for Cancer Research's (AACR) Special Conference in Cancer Research called "New Directions in Angiogenesis Research" in Chicago.

The data was presented by Dr. Rolf Brekken, a co-inventor of the 2C3 technology and assistant professor of surgery and pharmacology at The University of Texas Southwestern Medical Center at Dallas, whose work centers on angiogenesis research at the medical center's Nancy B. and Jake L. Hamon Center for Therapeutic Oncology Research. The conference was attended by some of the world's leading experts on angiogenesis.

Dr. Brekken's presentation was titled "Inhibition of tumor-derived VEGF activity decreases primary and metastatic burden in heterotopic and orthotopic models of pancreatic cancer."

"We are pleased to present this preclinical research to our scientific peers at this conference," said Steven King, president and CEO of Peregrine. "Our 2C3 antibody has several potentially important differences from other VEGF antibodies under development. It has the ability to selectively block a main receptor that cancer cells use to grow new blood vessels, but does not inhibit a critical receptor that is used by the body to naturally fight cancer. This is potentially a very important development and may improve the safety profile of this compound compared to other VEGF antibodies. We are currently developing a fully human antibody for this technology that can be evaluated for use in human clinical studies."

VEGF-dependent angiogenesis is a key factor in pancreatic tumor growth, metastasis and cancer related death. This study determined the effect of 2C3 on the growth of heterotopic (subcutaneous) and orthotopic (tumor in the pancreas) human pancreatic adenocarcinomas in mice. The study utilized magnetic resonance (MR), ultrasound (US) and in vivo fluorescence imaging techniques to evaluate the extent of tumor burden in mice bearing orthotopic pancreatic tumors. Consistent with its anti-angiogenic activity, 2C3 decreased total microvessel density, immature microvessel density, VEGFR2 levels, and vascular perfusion in responsive tumors. 2C3 also controlled the growth of human pancreatic tumor cells injected in the pancreas such that the 2C3 treated mice had primary tumors 50% smaller than tumors in controlled treated mice. In addition, 2C3 therapy reduced the number and size of metastatic colonies in the liver as well as the number of mice with metastatic disease. The researchers were also successful in using MR and US to accurately measure tumor size, highlighting the utility of non-invasive imaging methods for evaluating therapeutic response to 2C3 therapy in a clinically relevant animal model of pancreatic cancer. No therapy related toxicity was observed in any of these studies.

2C3 is an antibody that blocks the interaction of Vascular Endothelial Growth Factor (VEGF) with one of its key receptors. VEGF is a primary stimulant of tumor angiogenesis. Peregrine's researchers have developed a monoclonal antibody (2C3) that blocks VEGF from binding to VEGF receptor 2 (KDR/Flk-1) but not VEGF receptor 1 (FLT-1/flt-1). Other VEGF antibodies block both VEGF receptors.

Inhibiting VEGF receptor 2, but not VEGF receptor 1, is a key difference in the anti-tumor activity of 2C3. VEGF receptor 2 has been shown to be the main receptor that cancer cells use to grow new vessels, whereas VEGF receptor 1 is utilized for normal cellular function of macrophages and monocytes. An inhibitor of VEGF that selectively blocks the function of VEGF receptor 2 should not interfere with macrophage infiltration into tumors, which is an important part of the body's defenses against cancer. This is potentially a significant difference of 2C3 over other VEGF inhibitors that block VEGF binding to both receptors and may provide a better safety profile.

Anti-angiogenesis Agents

Every cancer begins its existence as a tiny cluster of abnormal tumor cells growing in an organ. Without its own blood supply to bring in oxygen and nutrients, the tumor cannot grow larger than 1-2 millimeters in diameter (about the size of a small pea). While this early stage of tumor growth can last for months or even years, eventually a few cancer cells gain the ability to produce proteins known as angiogenic growth factors. These 'growth factors' are released by the tumor into nearby tissues, and they stimulate new blood vessels to sprout vigorously from existing healthy blood vessels, into the tumor. Anti-angiogenic therapy is a new form of cancer treatment using drugs called "angiogenesis inhibitors" that specifically halt new blood vessel

growth, stabilize the patient and in some cases shrink tumors. Anti- angiogenesis agents work by blocking growth factors that are responsible for tumor growth.

About Peregrine Pharmaceuticals

Peregrine Pharmaceuticals is a biopharmaceutical company focused on the development, commercialization and licensing of unique technologies for the treatment of cancer, primarily based on three collateral targeting technologies. Peregrine's Tumor Necrosis Therapy (TNT), Vasopermeation Enhancement Agents (VEA), and Vascular Targeting Agents (VTA) technologies target cell structures and cell types that are common among solid tumor cancers, giving them broad applicability across various tumor types. The company has received approval from the FDA to start a Cotara™ registration clinical trial for brain cancer. Cotara is also being studied in a Phase I trial for colorectal, pancreas, soft tissue sarcoma and biliary cancers at Stanford University. The company is focused on licensing collaborations for all of its technologies under development. The company's Oncolym® technology to treat non-Hodgkin's B-cell lymphoma in Phase I/II of development is available for licensing. The company operates a cGMP contract manufacturing facility for monoclonal antibodies and recombinant proteins through its wholly owned subsidiary Avid Bioservices, Inc. (www.avidbio.com). Copies of Peregrine press releases, SEC filings, current price quotes and other valuable information for investors may be found on the website www.peregrineinc.com.

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Investor Relations Contact
Frank Hawkins and Julie Marshall
Hawk Associates, Inc.
(800) 987-8256 or
info@hawkassociates.com

SOURCE Peregrine Pharmaceuticals, Inc.

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/CONTACT: Frank Hawkins or Julie Marshall of Hawk Associates, +1-800-987-8256, or email, info@hawkassociates.com, for Peregrine Pharmaceuticals, Inc./

/Web site: http://www.peregrineinc.com /

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