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Peregrine Pharmaceuticals Finalizes Agreement to Evaluate VTA Platform for Treatment of Ocular Disease

Preclinical Studies Will Be Conducted at The Wilmer Eye Institute

TUSTIN, Calif., April 28 /PRNewswire/ -- Peregrine Pharmaceuticals (Nasdaq: PPHM) announced today that The Foundation Fighting Blindness (FFB), a US non-profit organization dedicated to retinal research, has agreed to perform preclinical proof-of-principle studies utilizing Peregrine's Vascular Targeting Agent (VTA) technology platform for use in ocular (eye) diseases. The preclinical studies will be carried out at the Johns Hopkins University School of Medicine's Wilmer Eye Institute.

The Foundation Fighting Blindness is dedicated to finding treatments and cures for the entire spectrum of retinal degenerative diseases including macular degeneration, retinitis pigmentosa and Usher syndrome. Over 6 million Americans suffer vision loss from these blinding diseases. An additional 15 million Americans have pre-symptomatic signs of macular degeneration that may lead to vision loss.

"We are pleased to have the opportunity to work with Peregrine, a world leader in developing vascular targeting agents aimed at targeting and destroying aberrant vessels, which is a prominent feature of ocular diseases including macular degeneration and diabetic retinopathy. In an effort to expedite research into clinical trials, the foundation works with leading-edge companies, such as Peregrine, and academic groups in promising areas such as genetics, gene therapy, retinal cell transplantation, artificial retinal implants and pharmaceutical and nutritional therapies," said Dr. Gerald J. Chader, Chief Scientific Officer of the FFB.

Dr. David Sherris, Peregrine's head of business development, said, "We have identified compounds within our VTA and anti-angiogenesis programs that we believe may be effective at treating angiogenesis dependent eye diseases such as age related macular degeneration. We believe that using the expertise and scientific resources of The Foundation Fighting Blindness is important to developing robust treatments to attack retinal diseases. This collaboration demonstrates the vast potential opportunities of VTAs and anti-angiogenesis compounds being developed by Peregrine in addition to cancer therapeutics. We are looking forward to the preclinical proof-of-principle studies being performed by the FFB and the potential of a new clinical indication."

Research in the respective disciplines has shown that tumor growth and the development of age related macular degeneration are both associated with the growth of new blood vessels through a process known as angiogenesis. Peregrine's VTA platforms consist of agents that target and destroy vessels selectively in disease sites whereas Peregrine's anti-angiogenesis agents inhibit the growth of new vessels associated with disease progression. For this reason, Peregrine believes that selected VTAs and anti-angiogenesis agents may be effective agents for the treatment of certain ocular diseases, including wet age related macular degeneration.

Anti-angiogenic agents function by inhibiting the growth of neovasculature (newly forming blood vessels) through very specific mechanisms of action along the cascade of events needed to form the pathological vessel. There has been a great deal of interest in porting over anti-angiogenic tumor agents to ocular disease indications. However, even if these agents are effective in inhibiting the growth of ocular neovasculature, they will not be expected to regress existing vessels, which is necessary to treat such diseases of the retina. For that reason, vascular targeting agents that are able to inhibit growth and, more importantly, regress existing vessels may become important agents for treating ocular diseases. For this reason Peregrine is actively working to validate both its anti-angiogenesis and VTA platforms for the treatment of ocular disease.

About Disease Related Angiogenesis

Tumors and various eye diseases have similar characteristics in their neovasculature. It is these similarities that lead to the exploration of using VTAs and anti-angiogenesis agents, normally developed for cancer, for the treatment of eye diseases. Ocular diseases, notably wet age-related macular degeneration and diabetic retinopathy, have been shown to display pathological neovasculature. As these vessels are not caused by a malignant condition, it is of interest to determine whether they are formed in a manner not unlike that of cancer. Hence, there is great interest in determining whether vascular targeting agents could be effective in treating macular degeneration and diabetic retinopathy.

As tumors grow beyond a few millimeters in diameter, their need for their own vasculature becomes a requirement for continued

growth. New vessels sprout from normal vessels adjacent to the growing tumor in a process known as angiogenesis. Angiogenesis occurs through a cascade of events initiated by the release of a host of factors from the tumor cells interacting with endothelial cells of normal vasculature ultimately resulting in the growth of vessels into the tumor. Hence, this interplay of events between the tumor cell and vasculature orchestrate the growth of the aberrant tumor neovasculature. Tumors and ocular disease are only two examples of diseases that require the growth of neovasculature.

About Peregrine Pharmaceuticals, Inc.

Peregrine's research and development efforts focus on discovering and developing products that affect blood flow to tumors. Peregrine's vascular research programs fall under several different proprietary platforms including Anti-Phospholipid Therapy (APT), Vascular Targeting Agents (VTAs), anti- Angiogenesis and Vasopermeation Enhancement Agents (VEAs). The company has research collaborations with pharmaceutical and biotechnology companies to develop its VTA platform for therapeutic and diagnostic applications and expects to enter its first APT compound into clinical trials for cancer therapy during calendar year 2004.

Peregrine's vascular agents may also have applications in other angiogenesis-dependent diseases besides cancer such as diabetes, arthritis, skin disorders and eye diseases. Peregrine currently has exclusive rights to over 190 U.S. and foreign patents and patent applications that broadly cover its vascular programs. In addition, the company is currently evaluating its proprietary targets for use in treating non-angiogenesis dependent diseases such as viral infections. The company believes that the pre-clinical data generated by the company and the broad nature of its intellectual property may provide many opportunities for product development, partnering and licensing.

Peregrine's most clinically advanced therapeutic program is based on a targeting platform outside vascular biology. This technology platform is known as Tumor Necrosis Therapy (TNT) and targets dead or dying tumor cells that are common to the majority of different tumor types. Cotara™, the most clinically advanced TNT program, is currently in a Phase I clinical trial for the treatment of colorectal carcinoma at Stanford University Medical Center. In addition, we have received protocol approval from the U.S. Food and Drug Administration ("FDA") to initiate a registration clinical study for the treatment of brain cancer. The company is currently seeking a development or funding partner to move the brain cancer program forward. The company believes that continuing the clinical development of Cotara™ in tumor types other than brain cancer will add significant value t the program. The company has a research collaboration to develop immunocytokines based on the TNT platform and a TNT based agent has been developed and approved for the treatment of lung cancer in China under a licensing agreement.

The company also operates a cGMP contract manufacturing facility for monoclonal antibodies and recombinant proteins through its wholly owned subsidiary Avid Bioservices, Inc. (http://www.avidbio.com). Avid produces clinical trial materials to support Phase I through phase III clinical trials for biotechnology companies including Peregrine. Copies of Peregrine press releases, SEC filings, current price quotes and other valuable information for investors may be found on the website http://www.peregrineinc.com.

Safe Harbor Statement: This release may contain certain forward-looking statements that are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Actual events or results may differ from the company's expectations as a result of risk factors discussed in Peregrine's reports on file with the U.S. Securities and Exchange Commission, including, but not limited to, Peregrine's report on Form 10-Q for the quarter ended January 31, 2004 and on Form 10-K for the year ended April 30, 2003.

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