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Aeolus Pharmaceuticals' AEOL 10113 Demonstrates Potential to Accelerate Recovery of Bone Marrow Stem Cells Following Cancer Radiation Therapy

Data presented at the American Association for Cancer Research Meeting in Poster entitled "Enhanced DNA Response Following Whole-body Irradiation Plus Treatment with an Antioxidant Mimetic"

LAGUNA NIGUEL, CA, April 20, 2007-- Aeolus Pharmaceuticals, Inc. (OTC Bulletin Board: AOLS.OB) announced the presentation of data by researchers at Loma Linda University Medical Center, National Jewish Medical and Research Center and Duke University showing that one of the Company's metalloporphyrin antioxidants, AEOL 10113, accelerates the recovery of blood cellular components derived from stem cells.

Success with cancer radiotherapy is limited by damage to normal tissues, such as the hematopoietic/immune system. AEOL 10113 was studied to determine its ability to modify radiation induced effects on bone marrow-derived cells. Researchers observed greater increases in DNA synthesis in samples of whole blood taken 4 days after radiation exposure, with the greatest increase occurring in animals that received AEOL 10113 12 and 24 hours after radiation exposure. On day 14, all groups treated with drug were similar to the control group, while the radiation only group had significantly higher DNA synthesis. By day 46, DNA synthesis had fallen to very low levels in all groups, suggesting that reconstitution had been completed. A similar pattern was observed for splenocytes. The researchers concluded that the results suggest that AEOL 10113 can modify the timing of hematopoietic reconstitution following whole body irradiation.

The Potential for Metalloporphyrin Antioxidants in Radiotherapy for Cancer

Radiotherapy treatment in cancer has the positive effect of tumor destruction, but also has the negative effect of normal tissue damage. Optimal dosing in radiotherapy balances maximum tumor destruction with minimal toxicity and damage to normal tissue. The "ionizing radiation" used in cancer radiotherapy generates reactive oxygen species (ROS) and other free radicals. These free radicals cause DNA damage and cell death. Catalytic antioxidants, such as Aeolus' AEOL 10150 and AEOL 10113 have been shown to neutralize free radicals and can reduce radiation-induced normal tissue damage. It is equally important that they also not protect the cancer from radiotherapy. A compound that protected healthy normal cells while not interfering

with tumor destruction could provide patients and physicians the ability to either reduce side effects from cancer radiotherapy or to increase the radiotherapy dose, thus enhancing the potential for tumor destruction.

Aeolus' lead compound, a metalloporphyrin antioxidant called AEOL 10150, has been shown to be safe and well-tolerated in both a single and a multi-dose phase 1 studies. In animal models, the compound has shown promise in Amyotrophic Lateral Sclerosis (ALS), protection of healthy cells from radiation therapy, Parkinson's disease, stroke and neurofibromatosis, among other indications. The Company is currently in the process of planning and securing the financial resources to support a phase 2 study to test the efficacy of AEOL 10150 in humans.

About Aeolus Pharmaceuticals

Aeolus is developing a variety of therapeutic agents based on its proprietary small molecule catalytic antioxidants, with AEOL 10150 being the first to enter human clinical evaluation. AEOL 10150 is a patented, small molecule catalytic antioxidant that has shown the ability to scavenge a broad range of reactive oxygen species, or free radicals. As a catalytic antioxidant, AEOL 10150 mimics and thereby amplifies the body's natural enzymatic systems for eliminating these damaging compounds. Because oxygen-derived free radicals are believed to have an important role in the pathogenesis of many diseases, Aeolus' catalytic antioxidants are believed to have a broad range of potential therapeutic uses.

The statements in this press release that are not purely statements of historical fact are forward-looking statements. Such statements include, but are not limited to, those relating to Aeolus' product candidates, as well as its proprietary technologies and research programs. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause Aeolus' actual results to be materially different from historical results or from any results expressed or implied by such forward-looking statements. Important factors that could cause results to differ include risks associated with uncertainties of progress and timing of clinical trials, scientific research and product development activities, difficulties or delays in development, testing, obtaining regulatory approval, the need to obtain funding for pre-clinical and clinical trials and operations, the scope and validity of intellectual property protection for Aeolus' product candidates, proprietary technologies and their uses, and competition from other biopharmaceutical companies. Certain of these factors and others are more fully described in Aeolus' filings with the Securities and Exchange Commission, including, but not limited to, Aeolus' Quarterly Report on Form 10-Q for the quarter ended December 31, 2006. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof.

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