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THE LUDWIG INSTITUTE AND PRO-PHARMACEUTICALS DISCOVER THAT DAVANAT® ENHANCES THE ABILITY OF ANTITUMOR T LYMPHOCYTES TO KILL TUMOR CELLS

Pro-Pharmaceuticals' DAVANAT® Targets Galectin Proteins Secreted by Cancer Cells and Eliminates The Cancer's Ability to Evade the Immune System

Newton, Mass. (April 20, 2011) -- Pro-Pharmaceuticals, Inc. (OTC:PRWP) today announced that the Brussels Branch of the Ludwig Institute for Cancer Research demonstrated the ability of GM-CT-01 (DAVANAT®) to enhance the ability of tumor-specific T-lymphocytes to kill tumor cells.

Dr. Pierre van der Bruggen's team at the Ludwig Institute in Brussels, Belgium, leaders in cancer immunology research, has shown that blocking the action of Galectin-3 improves the efficacy of T lymphocytes in killing tumor cells. (*Immunity*, volume 28, pages 414-424, 2008; *Cancer Research*, volume 70, pages 7476-7488, 2010).

DAVANAT®, the Company's lead compound, is a carbohydrate polymer that targets Galectin proteins that are over-expressed by cancer cells. Current research indicates that Galectins play important roles in cancer, including tumor cell survival, invasion, metastasis, angiogenesis, and the ability of the cancer cell to evade the immune system.

Dr. van der Bruggen reported at the Keystone Symposium on "New Frontiers at the Interface of Immunity and Glycobiology," held March 6-11, 2011 at Lake Louise, Alberta Canada, that when DAVANAT® was incubated with tumor infiltrating CD8+ lymphocytes the secretion of cytokines was markedly boosted and the ability to kill tumor cells was greatly augmented (poster on web site: www.pro-pharmaceuticals.com).

"Our experimental observations on cultured cells suggest that the treatment of cancer patients with DAVANAT® could correct T cell function and we hope that combining DAVANAT® with an anti-cancer vaccine will induce a more efficient and long-lasting antitumoral immune response," said Dr. Pierre van der Bruggen. A Phase I/II trial has been designed using a vaccine developed at the Ludwig Institute to treat malignant melanoma with DAVANAT®. The trial is expected to begin in Belgium this year.

"Collaborating with The Ludwig Institute represents an exciting opportunity to partner with a premier cancer research institution to further expand the use of DAVANAT® our novel, Galectin-targeting compound, to treat cancer in combination with vaccines," said Anatole Klyosov, Ph.D., Chief Scientist, Pro-Pharmaceuticals, Inc.

"We are excited about the prospects for combining DAVANAT® with tumor vaccines as a way to extend Galectin therapeutics in the therapy of cancer. Our pre-clinical, Phase I and Phase II clinical trials have demonstrated the ability of DAVANAT® to increase patient survival and reduce side effects of chemotherapy. These findings extend the mechanism of action of DAVANAT®, suggesting that enhancing the patient's immune function will help kill tumor cells," said Peter G. Traber, M.D., Chief Executive Officer, Pro-Pharmaceuticals, Inc. "We believe our expertise in developing compounds that target Galectin proteins offers opportunities for the advanced treatment of cancer, fibrosis and inflammatory diseases."

The Ludwig Institute The Ludwig Institute for Cancer Research Ltd (LICR) was established in 1971 by the American business magnate Mr. Daniel K. Ludwig, who bequeathed a substantial proportion of his estate for the endowment of the Institute.

LICR is the largest international non-profit institute dedicated to understanding and controlling cancer. It conducts long-term basic and clinical research programs with approximately 800 scientists, clinicians, and support staff; brings together recognized leaders in many areas of science and oncology, and one of twenty international organizations recognized as producing research articles of extremely high impact. LICR takes responsibility for identifying and characterizing the therapeutic utility of discoveries made in its laboratories by sponsoring and conducting its own clinical trials.

As an important supplement to the Institute's work, Mr. Ludwig also established a trust, known as the Virginia and D.K. Ludwig Fund for Cancer Research, which provides financial support for cancer research at six leading academic institutions in the USA: Pritzker School of Medicine (Chicago, IL), Harvard Medical School (Boston, MA), Johns Hopkins University (Baltimore, MD), Massachusetts Institute of Technology (Cambridge, MA), Memorial Sloan-Kettering Cancer Center (New York, NY), and Stanford University.

Dr. Pierre van der Bruggen is a leading researcher in the Brussels Branch of the Ludwig Institute for Cancer Research. He has published many papers in academic journals such as *Immunity*, *Science*, *Cancer Research*, *Journal of Experimental Medicine*, *The Journal of Immunology*, aiming at immunology of cancer, immunotherapy, and developing cancer vaccines.

About GM-CT-01 (DAVANAT®) DAVANAT®, the Company's lead product candidate, is a polysaccharide polymer that targets Galectin proteins that are over expressed by cancer cells and interferes with their activity. Peer-reviewed studies have demonstrated that Galectins affect cell development and play important roles in cancer, including tumor cell survival, invasion, metastasis, and angiogenesis and give the tumor the ability to evade the immune system. To date, DAVANAT® has been administered to approximately 100 cancer patients. Data from a Phase II trial for end-stage colorectal cancer patients showed that DAVANAT® in combination with 5-FU extended median survival by 46% compared with the best standard of care as determined by the patients' physicians. Clinical trial results also showed that patients experienced fewer serious adverse side effects of the chemotherapy.

About GM and GR Series of Anti-Fibrosis Compounds The GM and GR series of compounds are first-in-class, novel carbohydrate compounds that significantly reduced collagen expression and reversed fibrosis in animal models. Uncontrolled collagen expression is a pathological process that occurs during the fibrotic process, affecting various organs leading to scar tissue. Chemical toxicity, microbial infection or physical injury cause hepatic, renal and other types of fibrosis. Carbohydrate polymers were developed and screened to inhibit collagen production in in-vivo and in-vitro fibrosis models.

Pro-Pharmaceuticals, Inc. Pro-Pharmaceuticals, OTC: PRWP, the leader in the field of Galectin therapeutics, is engaged in the discovery, development and commercialization of therapeutics that target Galectin receptors for advanced treatment of cancer and fibrosis. Initially, the product pipeline is focused on increasing the efficacy and decreasing the toxicity of chemotherapy drugs and the treatment of liver fibrosis. The Company is headquartered in Newton, Mass. Additional information is available at www.pro-pharmaceuticals.com.

FORWARD LOOKING STATEMENTS: Any statements in this news release about future expectations, plans and prospects for the Company constitute forward-looking statements as defined in the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements, including statements about clinical trials and core operations funding, are based on management's current expectations and are subject to a number of factors and uncertainties, which could cause actual results to differ materially from those described in such statements. We caution investors that actual results or business conditions may differ materially from those projected or suggested in forwardlooking statements as a result of various factors and not place undue reliance on forwardlooking statements.

More information about those risks and uncertainties is contained and discussed in the Company's most recent quarterly or annual report and in the Company's other reports filed with the Securities and Exchange Commission. The forward-looking statements represent the Company's views as of the date of this news release and should not be relied upon to represent the Company's views as of a subsequent date. While the Company anticipates that subsequent events may cause the Company's views to change, the Company disclaims any obligation to update such forward-looking statements.

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DAVANAT is a registered trademark of Pro-Pharmaceuticals.