

Cysteine-Rich Protein Prevents Weight Loss in Lung Cancer Patients: A Promising Intervention Study

MONTREAL, Jan. 17 /PRNewswire-FirstCall/ - Immunotec Inc. (TSX-V: IMM) announced today the successful completion of a multi-center randomized, double-blind clinical trial on cancer-related weight loss (cachexia) in lung cancer patients which was performed in collaboration with various Canadian clinical centers(x). The research concluded that patients treated with IMN 1207 showed significant increases in body weight (Tozer et al. *Antioxidants & Redox Signaling* (2008) 10:395-402). Immunotec also announced the initiation of a follow-up study to confirm the positive results.

The massive loss of body weight and muscle mass in advanced cancer patients is typically associated with psychological stress, financial burden and a decreased quality of life. Until now there have been no dietary interventions known to satisfactorily prevent this process.

Immunotec's new study included 66 patients with advanced lung cancer receiving state of the art chemotherapy or radiotherapy. The patients had already suffered significant involuntary weight-loss prior to treatment. During a six month treatment period the patients were given either casein, a protein supplement low in cysteine which is widely used in clinical nutrition ("placebo") or IMN 1207, a specially-prepared glutathione enhancing cysteine-rich whey protein isolate supplied by Immunotec Inc. The results showed that patients in the placebo group continued to lose weight whereas patients treated with IMN 1207 showed a significant increase in body weight. Incidentally, these patients also showed an increase in strength and quality of life parameters. This study showed for the first time that cancer-related weight loss (cachexia) can be prevented by a single source of protein. Dr. Gerald Batist, Chair, Department of Oncology, McGill University stated "Having been involved in the early mechanistic studies of the therapeutic use of whey proteins, I'm pleased to see this particular formulation being tested in the clinic. The data to date encourage additional and expanded clinical trials". Dr. Wulf Droge, Senior Vice-President Research & Development at Immunotec Inc. emphasized that the results of this first trial should be viewed with cautious optimism. A second trial has been initiated to confirm the results.

Among other questions, this clinical trial also addressed the controversy about antioxidant use in chemotherapy. Since radiotherapy and many types of chemotherapy work by raising levels of oxidative stress and free radical formation to destroy cancer cells, oncologists have voiced concern that treatment of the patient with antioxidants may "protect" the cancer from the toxic effects of the therapy. If this were the case, antioxidants could even be expected to shorten the life span of the patients. Immunotec's study now showed that this was clearly not the case

with IMN 1207. Based on his earlier work at his laboratory at the National Cancer Research Center of Germany (DKFZ) in Heidelberg, Dr. Droge was reasonably confident that supplementation with a critical precursor of the major cellular antioxidant glutathione, would actually improve the condition of the patients, most probably by ameliorating adverse effects of these therapies on the patients' healthy tissues. The results of this new study suggest that this is true. The antioxidant glutathione is distinct from other antioxidants including the popular antioxidant vitamins A, C, and E which are widely used as nutritional supplements. Glutathione is involved in the removal of reactive oxygen species and other potential toxic compounds through special biochemical processes and can reach relatively high and beneficial concentrations in cells and tissues depending on the availability of its biosynthetic precursor cysteine.

About IMN 1207

IMN 1207 is a cysteine-rich protein. It is the research formulation of the undenatured whey protein Immunocal(R)/HMS 90(R), a dietary natural health supplement, developed and marketed worldwide by Immunotec during the past 12 years. Immunocal(R)/HMS 90 is a precursor of the major cellular antioxidant glutathione, an element important in maintaining a strong immune system.

About Immunotec Inc.

Immunotec is engaged primarily in the development and marketing of natural health products, dietary supplements, food, vitamins and personal care products, many of which are manufactured on its behalf by third parties. Immunotec's products are distributed and sold in Canada and the United States through a network marketing system and in other countries through exclusive distributorship agreements. Immunotec's investment in this study is another manifestation of its ongoing commitment to research and development. <http://www.immunotec.com>.

- (x) Montreal General Hospital (McGill University teaching hospital)
Montreal, Quebec, Canada
- (x) Cross Cancer Institute, Alberta Cancer Board (University of Alberta affiliate) Edmonton, Alberta, Canada
- (x) Jewish General Hospital (McGill University teaching hospital)
Montreal, Quebec, Canada
- (x) Juravinski Cancer Centre (McMaster University and Hamilton Health Sciences affiliate) Hamilton, Ontario, Canada.
- (x) Allan Blair Cancer Centre (a division of Saskatchewan Cancer Foundation) Regina, Saskatchewan, Canada.

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