

Major breakthrough in the treatment of cancers and infectious diseases
Montreal researchers identify new anti-cancer, anti-infection response control mechanism

Montreal, August 24, 2005 – Dr. André Veillette, a researcher at the Institut de recherches cliniques de Montréal (IRCM), and his team will publish in the upcoming issue of the prestigious journal *Nature Immunology* of Nature Publishing Group, a discovery that could significantly advance the treatment of cancers and infectious diseases. Current treatments frequently achieve only limited results with these types of diseases, which affect hundreds of thousands of Canadians.

Dr. Veillette’s team identified one of the basic mechanisms controlling NK (“natural killer”) cell activity. Produced by the immune system, NK cells are responsible for recognizing and killing cancer cells and cells infected by viruses such as the viruses causing hepatitis and herpes. NK cell deficiency is associated with a higher frequency of cancers and serious infections. Dr. Veillette’s breakthrough demonstrates that a molecule known as EAT-2, present in NK cells, suppresses its killer function. Inhibiting EAT-2 with medications could boost NK cell activity, helping to combat cancers and infections.

This publication constitutes a significant milestone for Dr. Veillette, an internationally renowned expert in the identification of the molecular mechanisms controlling the immune system. The article, which is slated for publication online on August 28 in *Nature Immunology*, gives genetic evidence for the inhibiting role of EAT-2 in NK cells. It is the product of over five years of intensive research by Dr. Veillette’s team.

More specifically, by studying mice in which the EAT-2 protein is eliminated through genetic manipulations, Dr. Veillette’s team has established that suppressing EAT-2 results in the production of NK cells that are much more effective at killing cancer cells. Inhibiting the function of EAT-2 with

medications could therefore stimulate the killer function of NK cells, and increase their capacity to destroy cancer and virus-infected cells. These medications could be used in combination with chemotherapy and radiotherapy to improve the effectiveness of anti-cancer treatments. Teams around the world have been trying without success for many years to develop methods to increase NK cell activity. In this light, the discovery of Dr. Veillette's team opens new avenues for the treatment of cancers and communicable diseases.

References for this article are available at: <http://dx.doi.org/10.10.38/ni1242> or www.nature.com/ni/journal/vaop/ncurrent/index.html

Dr. André Veillette is the Director of the Molecular Oncology Research Unit at IRCM. He holds the Canada Research Chair in Signalling in the Immune System. His work is supported by grants from the Canadian Institutes of Health Research, the Canadian Cancer Society, and the CANVAC National Centre of Excellence. Dr. Veillette is also professor at the Université de Montréal.

The IRCM (www.ircm.qc.ca) is recognized as one of the country's top-performing research centres. It has a mandate to establish links between research and patients, promote the prevention of illness, and train a new generation of high-level scientists. The IRCM has 35 research units and a staff of more than 450.

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