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Functional Genomics, Pharmacogenomics and Proteomics of the Immune Response in Health and Immune Related Disorders

Status	Past
Competition	Competition II
Sector	Health
Genome Centre	Genome Quebec
Project Leaders	Rafick-Pierre Sékaly, David Kelvin & Katherine Siminovitch

Project Description

The immune system is responsible for protecting us against disease. However, researchers are far from understanding how it operates at the molecular level. This project will focus on the contribution of genetic factors to immune-based diseases, such as: 1) endemic and incurable diseases with an emphasis on human immunodeficiency virus (HIV) and hepatitis C virus (HCV); 2) inflammatory diseases, e.g., rheumatoid arthritis; and 3) graft rejection of both solid organs and bone marrow.

The researchers will analyze the genes involved in regulating the immune system, investigate the role of the recipient (or “host”) in explaining why immune-based treatments work in some people and not in others, and develop a computer simulation of the molecular mechanisms involved in immune-based diseases.

Armed with this information, scientists would be in a much better position to develop appropriate therapies that will control or enhance the immune system.

This project involves a consortium of scientists and private sector companies from both Canada and the United States, including researchers from Université de Montréal; the J.P. Robarts Institute, Mount Sinai Hospital, Hôpital Maisonneuve-Rosemont, McGill University, Jewish General Hospital, Biosystemix, Ellipsis, MDS Proteomics and Becton Dickinson.

A SUMMARY OF THE OUTCOMES FROM THIS COMPLETED PROJECT IS CURRENTLY BEING CONSTRUCTED. PLEASE CHECK THIS SITE AGAIN FOR AN UPDATE ON PROJECT RESULTS.