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Genetics of Type 2 Diabetes Mellitus

Status	Current
Competition	Applied Genomics and Proteomics Research in Human Health
Sector	Health
Genome Centre	Genome Quebec
Project Leaders	Robert Sladek

Project Description

Identifying people's genetic predisposition to develop Type-2 diabetes

Diabetes occurs when the body's need for insulin exceeds the ability of the pancreas to produce it. Over 2.5 million Canadians are affected by this disorder, which is Canada's leading cause of blindness and kidney failure. Alarmingly, diabetes is becoming more common—even in children—largely as a result of increasing obesity.

The Genetics of Type 2 Diabetes Mellitus project will identify genes that predispose people to develop Type-2 diabetes. To achieve this goal, a team of researchers at both McGill and the University of Montreal will identify genes and proteins whose function is different in the cells of people with diabetes. These will include genes and proteins that prevent the pancreas from producing proper amounts of insulin as well as those that prevent insulin from working properly in other tissues in the body. Because obesity may lead to diabetes in some people, this project will also identify genes and proteins that may link increased body weight to Type-2 diabetes.

The Genetics of Type 2 Diabetes Mellitus project includes scientists who have studied insulin secretion from the normal and failing pancreas, obesity and insulin resistance. Many are members of a new Canadian Foundation for Innovation-based initiative to create a Montreal Diabetes Research Center as well as the Juvenile Diabetes Research Foundation in Canada-funded Center for β -cell replacement. These combined resources will accelerate Canada's understanding of Diabetes Mellitus in all its manifestations, and provide crucial tools for treating and eventually curing it.