

Dr. Vernon Dolinsky



TREATMENT | BIOMEDICAL RESEARCH

Project: Beta Cell SIRT3 and Gestational Diabetes

Thank you. Through donor support, Dr. Vernon Dolinsky, Professor with the Department of Pharmacology & Therapeutics at the University of Manitoba and Co-lead of the Diabetes Research Envisioned and Accomplished in Manitoba (DREAM) Theme of the Children's Hospital Research Institute of Manitoba, is bringing us one step closer to protecting mothers and babies from gestational diabetes.

In healthy individuals, blood sugars are controlled by a hormone called insulin, which lowers blood sugar levels. Insulin is produced by cells in the pancreas called beta cells. For people with diabetes, their beta cells do not function properly. As a result, they can no longer produce enough insulin to control their blood sugars, which can lead to health complications such as nerve damage, blindness, heart disease, kidney failure, anxiety, amputations, and even death.

Gestational diabetes is a type of diabetes that develops during pregnancy, affecting about one in 10 expectant mothers. It is the most common pregnancy complication and can lead to serious health risks for both the mother and baby. A diagnosis of gestational diabetes greatly increases a woman's risk to develop type 2 diabetes later in life, and it increases their child's likelihood of being diagnosed with diabetes and a younger age at diagnosis. Despite its growing impact, we still do not fully understand what causes gestational diabetes or how to best prevent it.

Dr. Dolinsky is researching what goes wrong in the body during gestational diabetes. They have found that a critical protein called SIRT3 plays a key role in maintaining beta cell health. In women with gestational diabetes, SIRT3 levels are often low. Dr. Dolinsky and his team will study how low levels of SIRT3 affect blood sugar levels and insulin production, and test a natural supplement which boosts SIRT3 activity to determine whether it can improve blood sugar levels during pregnancy.

This research could lead to new, safer treatments for gestational diabetes, and better ways to protect the health of mothers and babies.

Thank you for your generosity. Diabetes Canada is grateful to our donors for supporting critical research that will improve the lives of people with diabetes.