



## OUR RESEARCHERS | DR. PATRICK MACDONALD

**Thank you for your generosity. Diabetes Canada is grateful to our donors for supporting critical research that will end diabetes.**

**Through your support, Dr. Patrick MacDonald, professor with the University of Alberta and Canada Research Chair in Islet Biology, is bringing us one step closer to better health outcomes for people living with 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, they can no longer produce or use 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.

Dr. Patrick MacDonald is building our understanding of insulin production, which will help us determine the causes of diabetes, the potential to reverse diabetes, and ultimately how to prevent diabetes.

Using the Alberta Diabetes Institute IsletCore, one of the world's top pancreas tissue biobanks, Dr. MacDonald and his team are building an encyclopedia of beta cell function, insulin production, and molecular differences across a number of pancreas organ donors, both with and without diabetes. This encyclopedia will link genetics, the environment, metabolism, and cell function with insulin production, answering key questions around genetic and environmental risks for diabetes, and how insulin production differs from person to person. Dr. MacDonald will also make this encyclopedia available to researchers around the world, to support research into more diabetic treatments, therapies, and potentially cures.

**Your support will help Diabetes Canada fund this project and many more, leading to a healthier future for people with diabetes.**