

DIABETES CANADA



OUR RESEARCHERS | DR. MICHAËL SHUM

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

Through your support, Dr. Michaël Shum, associate professor with the Department of Molecular Medicine at Université Laval, is bringing us one step closer to preventing type 2 diabetes.

In healthy individuals, blood sugars are controlled by a hormone called insulin, which lowers blood sugar levels. For people with type 2 diabetes, their bodies 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.

Lipids are molecules that serve as the building blocks of all living cells. Lipids that are not safely stored within cells, however, can accumulate and become dangerous, resulting in lipid toxicity. Lipid toxicity in the liver can lead to the development of type 2 diabetes. Usually, mitochondria – the powerhouse of the cell which process lipids into energy – protect cells from lipid toxicity. But in people with diabetes, their mitochondria do not function properly.

Dr. Michaël Shum is working on restoring proper function to liver cell mitochondria, by examining the interaction between mitochondria and lipids. He and his team hope to identify new therapies to treat lipid toxicity and prevent type 2 diabetes.

Thank you for giving hope for a healthier future to people with type 2 diabetes.