



## OUR RESEARCHERS | DR. DAN LUCIANI

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

**Through your support, Dr. Dan Luciani, investigator with BC Children's Hospital and associate professor at the Department of Surgery, Faculty of Medicine, University of British Columbia, is bringing us one step closer to ending type 1 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 at risk of developing diabetes, their beta cells cannot produce enough insulin, which puts the beta cells under stress. The beta cells try to adapt, but if this fails, a vicious cycle begins – even less insulin production, more stress, higher blood sugars, and eventually a diabetes diagnosis.

Dr. Dan Luciani is discovering new ways to preserve beta cell insulin production and combat diabetes.

Through Diabetes Canada's funding, Dr. Luciani is building our understanding of the mechanisms of beta cell adaptation and why they fail.

Stressed cells often activate a self-destructive process called autophagy, which breaks down and recycles the cell. Dr. Luciani is testing whether two proteins which help control this process can be used to prevent beta cell self-destruction.

This study will show if these proteins can be used to protect beta cells and potentially prevent and treat diabetes.

**Thank you for giving hope for a healthier future to all people with diabetes.**