

Dr. Sergi Clotet-Freixas



COMPLICATIONS | BIOMEDICAL RESEARCH

Project: Can we protect the kidneys of people with diabetes by blocking the protein KDM6A?

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

Through your support, Dr. Sergi Clotet-Freixas, Assistant Professor in the Department of Medicine, Division of Nephrology at McMaster University is bringing us one step closer to preventing complications for people living with diabetes.

People with diabetes often suffer from a complication called diabetic kidney disease (DKD). DKD is caused by changes in the way kidney cells work and make energy, which injure the cells. Unfortunately, little is known about what injures or makes kidney cells work differently in people with diabetes.

Dr. Clotet-Freixas is looking for the molecular reasons responsible for these changes, which will enable him to design better therapies to prevent DKD.

Kidney cells use glucose and the amino acid glutamine to make energy. However, in higher amounts, these can also damage kidney cells. This can happen in diabetes when there are high amounts of glucose present.

Dr. Clotet-Freixas and his team have identified a protein called KDM6A, that may control the use of glucose and glutamine by kidney cells, and their predisposition to injury in diabetes. They will study what happens when they remove KDM6A from kidney cells, and determine whether the protein is potential therapeutic target to prevent DKD.

This project may lead to new treatments that maintain healthy kidney function and prevent DKD in people with diabetes.