



COMPLICATIONS | BIOMEDICAL RESEARCH

Project: Is the protein GRP78 important to diabetic kidney disease?

Through donor support, Dr. Joan Krepinsky, Professor of Medicine with the Faculty of Health Sciences at McMaster University, is helping develop new treatments to prevent kidney failure in people with diabetes.

In healthy individuals, blood sugars are controlled by a hormone called insulin, which lowers blood sugar levels. For people with diabetes, they can no longer produce or use enough insulin to control their blood sugars, which can lead to health complications such as liver disease, kidney damage, and even death.

Diabetes is a very common cause of kidney failure. High blood sugars cause kidney cells to make scar proteins; when scar proteins build up over time, they cause kidney failure.

In people with diabetes, a protein called GRP78 interacts with other proteins, called α 2M and integrin beta 1, to make scar proteins.

Dr. Krepinsky and her team are now examining if blocking the interaction between GRP78 and α 2M can help slow or improve diabetic kidney disease. They are also learning how GRP78 and integrin beta 1 work together.

This research will help develop new treatments for people with diabetes impacted by kidney disease.