Health Research Caucus
Diabetes Research and Innovation in Canada

PRESENTER SUMMARY

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Novel targets to treat Type I and Type II Diabetes

Robert Screaton
PhD

Dr. Screaton joined the Children's Hospital of Eastern Ontario Research Institute and the University of Ottawa in July 2005 where he is now Senior Scientist and Associate Professor. He is also the co-director of the CHEO-RI robotic cell based screening facility.

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Dr. Screaton's research focuses on identifying novel targets to treat Type I and Type II Diabetes. His focus is to use high-throughput robotics to screen the human genome for novel genes required for the normal function and survival of pancreatic beta cells, the cells that secrete the hormone insulin which is required to maintain normal blood sugar levels.

Current treatments for Type I and II diabetes consist of daily injections of insulin, transplanting islets into patients, as well as administration of drugs designed to lower sugar production in the liver and increase insulin secretion from the beta cell. Interestingly, all of these have strong Canadian influence.

Dr. Screaton's research focuses on better understanding how insulin secretion is increased, particularly in patients with prediabetes. His idea is that the beta cell increases insulin output to meet increased demand in patients with prediabetes, and that this increase depends critically on a new molecular pathway he has discovered, called the SIK2-p35-PJA2 pathway. Patients whose beta cells fail to continue to increase their output through this pathway are thought to transition into Type II diabetes. Dr. Screaton is currently evaluating the potential for developing drugs to activate this pathway and to prevent Type 2 diabetes. Dr. Screaton is the recipient of the Canada Research Chair in Apoptotic Signaling, Tier II (2006-2016). He is supported in this work by the CIHR, CDA, and JDRF.

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