

# Non-confidential Project Synopsis

Title/Description:	<b><i>Enhancement of <math>\beta</math>-cell survival and differentiation/maturation for the treatment of Diabetes (Type 1 and Type 2)</i></b>
Investigator (Institution):	<b>James Johnson</b> (University of British Columbia)
Target:	Under investigation; PI is currently examining the role of Nav1.7 in $\beta$ -cell death and insulin production
Translational Assay/Data:	Dr. Johnson has developed a six-parameter live-cell imaging approach that enables single-cell analysis of multiple cell death mechanisms and has applied this approach to study primary and transformed pancreatic $\beta$ -cells exposed to multiple distinct stresses. In particular, Dr. Johnson has used this assay to screen the Prestwick Chemical Library of small molecules to identify drugs that block cell death resulting from exposure to a cocktail of cytotoxic cytokines. Data analysis with self-organizing maps revealed a number of compounds with profiles similar to that of the no cytokine condition, indicating protection. Dr. Johnson has further employed a dual-reporter lentivirus construct in a multi-parameter high content screen to identify small molecules capable of regulating $\beta$ -cell maturity and insulin gene expression.
Technology:	Screening assay(s)
Stage of Discovery:	Screening/Target Identification