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Bruno Doiron et al., J Stem Cell Res Ther 2016, 6:4(Suppl)
http://dx.doi.org/10.4172/2157-7633.C1.017

5th International Conference and Exhibition on
Cell and Gene Therapy
May 19-21, 2016 San Antonio, USA

Cellular networking, integration and processing *in vivo* method to induce pancreatic beta cell formation in the adult pancreas for the purpose to be used as a preventative or therapeutic treatment or cure for both type 1 and type 2 diabetes

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Cellular Networking, Integration and Processing (CNIP) offer a new treatment paradigm compared to current approaches to treat diabetes. The CNIP approach preferentially increases the number of beta (insulin-producing) cells in the adult pancreas without increasing the number of non-insulin-producing cells. CNIP provides for *in vivo* exposure of pancreatic cells to three compounds that work synergistically at the cellular level in the pancreas to stimulate formation of insulin-producing beta cells. The method acts on post-developmental mechanisms to induce beta cell formation without stem cells and without activating the embryonic pathway; thus, undesired cells are not induced.

Impact:

- A new therapy for diabetes Type 1 and Type 2 is a significant and compelling unmet medical need
- High impact on society; will "make lives better", potentially impacting tens of millions of people worldwide
- CNIP approach represents a new paradigm in diabetes treatment (restoring insulin production vs. insulin and insulin-stimulating drugs); potentially a "game-changer" technology
- Solid proof-of-concept established in small animal studies; method has been shown to "cure" diabetes in a mouse model

Biography

Bruno Doiron, PhD is a faculty member at the University of Texas Health Science Center at San Antonio and University of Texas at San Antonio. He received his undergraduate degree from University of Moncton, Canada and graduate degrees from University of Montreal, Canada and University of Paris Descartes, Paris, France. As project leader, he has made major discoveries in the field of gene regulation by nutrients and has 4 patents on the modulation of glucose metabolism as it relates to the treatment diabetes and cancer. He has extensive experience in basic research at the physiologic and molecular levels and in respective applications to the biotechnology field.

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