Less Waste, More Doses, No Anti-Rejection Drugs: SymbioCellTech NEO-ISLETS(TM) Utilization of Donor Organs, Tissue

SymbioCellTech Shares Breakthrough Data on Impact of Novel Human NEO-ISLETS(TM) in the Efficient Utilization of Currently Discarded Tissues

SALT LAKE CITY, UT, USA, August 24, 2023 /EINPresswire.com/ -- BACKGROUND: DIABETES TREATMENT BEYOND INSULIN

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> *Anna Gooch, PhD*

Insulin is a hormone that allows the body to deliver sugar to the cells which they use for energy. Type 1 Diabetes Mellitus (T1DM) is a disorder in which the insulin producing cells in the pancreas are attacked and killed by the patient's own immune system.. Without this ability, even though the person eats sugar, it cannot get to the cells, but remains in the blood, and the cells starve and die. For T1DM patients, insulin injections are life-saving, but cannot prevent the development of serious diabetic complications such as blindness, kidney failure, strokes, heart attacks, amputations, premature births and deaths.

For decades, researchers have been trying to find a way to naturally replace the destroyed insulin producing cells found within islets in the pancreas. The treatment of T1DM with transplanted organs (pancreases) or cells from those organs dates to the mid-1960s, but donor organs are scarce, and frequently, organs or cells are unsuitable for transplant due to suboptimal conditions of the tissues, and the donated organs are discarded. Another significant limitation to many cell replacement strategies is that they require the lifelong use of potentially harmful anti-rejection drugs. Both these drawbacks severely limit the availability of these therapies to patients.
The Regenerative Medicine company SymbioCellTech may have found a highly effective solution to overcoming those challenges.

In an article for the August 24 issue of PLOS ONE, SymbioCellTech (SCT) reports significant success using human Neo-Islets created from suboptimal donors and donor tissues in the treatment of T1DM.
The paper, published today in PLOS ONE, is "Significant Expansion of the Donor Pool Achieved by

Utilizing Islets of Variable Quality in the Production of Allogenic “Neo-Islets,” 3-D Organoids of Mesenchymal Stromal and Islet Cells, A Novel Immune-Isolating Biotherapy for Type 1 Diabetes” authored by Anna M. Gooch, PhD, Sabiha S. Chowdhury, PhD, Ping M. Zhang, MD, Zhuma M. Hu, MS, and Christof Westenfelder, MD, FACP.
Dr. Westenfelder, Founder and CEO of SymbioCellTech, said “In our research, we wanted to demonstrate that donor islets judged unsuitable for clinical islet transplantation - applying the rigorous NAIDS scoring system - could be used to manufacture NEO-ISLETS(TM) and restore euglycemia and insulin-independence. Our report clearly demonstrates that this has been successfully achieved.”

Neo-Islets(™) are a cellular replacement therapy that work, in part, by culture expanding islet from donated pancreases. This culture expansion results in more or less uniform quality of cells at the end, and allows for the use of tissue and cells that, while not suitable for transplant as they are, work and are suitable for this application. Combination of these cells into Neo-Islets ™ with another cell type that normally modulates the immune system makes it possible to use the therapy without immunosuppressive drugs or encapsulation devices.
Indeed, earlier published studies from SCT demonstrate that NEO-ISLETS™ provide durable normalization or reduction in blood sugar levels and insulin-independence or a significant reduction in the use of insulin, and that the impact of NEO-ISLETS(TM) has been achieved without the lifelong use of potentially toxic and expensive anti-rejection drugs. This was demonstrated in mice, and in an extensive, 3 year study, in pet dogs with diabetes.

This latest research demonstrates that successful production of NEO-ISLETS(TM) is accomplished regardless of demographic and quality differences in donor tissues.

Dr. Gooch, SCT’s Chief Science Officer and the lead author of the PLOS ONE paper, emphasized the implications of the findings: “We have conducted three proof-of-concept studies in two species, and the positive results mean that this therapy can be refined for the treatment of human T1DM. Like islet and pancreas transplants, NEO- ISLET(TM) therapy relies on islet donors, but to a much smaller extent due to the use of culture expanded islet cells rather than the islets themselves.”

SCT is actively pursuing the next stage of NEO-ISLET(TM) development with the conduct of an IND-enabling Proof of Concept study that will move the therapy to human trials.
FULL ARTICLE HERE: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0290460

ABOUT SYMBIOCELLTECH:
SymbioCellTech (SCT) is a late preclinical stage Regenerative Medicine Company based in Salt Lake City, UT. The company has created a novel NEO-ISLETS(TM) technology that is readily scalable and that will reduce, and potentially eliminate, the daily insulin injection needs of people with Type I Diabetes mellitus. The NEO-ISLET(TM) technology has demonstrated its safety and

efficacy in an Investigational New Animal Drug study in diabetic dogs and offers the potential to significantly increase available doses, eliminate the need for anti-rejection drugs and is a permanent solution for diabetics.

DISCLAIMER: FORWARD-LOOKING STATEMENTS
This press release contains forward-looking statements including (a) statements by Anna Gooch, Ph.D., and Christof Westenfelder, M.D., in this press release, (b) our plans, expectations for, and the potential benefits of NEO-ISLETS(™), and (c) our plans for additional research. While SymbioCellTech believes the forward-looking statements contained in this press release are accurate, these forward-looking statements represent the company's beliefs as of this press release. Risks and uncertainties could cause actual events or results to differ materially from those expressed or implied by such forward-looking statements. Those risks and uncertainties include, among other things, that these data may not be indicative of final clinical trial results, that data from the company's research and development programs may not support further development of its products due to safety, efficacy, and other risks.

Travis Manning
SymbioCellTech
+1 801 - 503-3990
t.manning@symbiocelltech.com
Visit us on social media:
LinkedIn

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