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Total pancreas regeneration with bioelectric controlled protein expression and micro infusion pump stem cell composition delivery**Howard J Leonhardt**

PancreaCell- Leonhardt Ventures Co., USA

Our team has developed a pancreas regeneration system with three major components. (1) A micro bioelectric regeneration stimulator that controls release of 10 regeneration promoting proteins including SDF-1 a stem cell homing signal, IGF-1, HGF, EGF, activin A+B, eNOS, VEGF, follistatin and tropoelastin. (2) A programmable, re-fillable micro infusion pump. (3) A proprietary fifteen component stem cell based regeneration composition comprised of a variety of cell types, growth factors, BMP-7, PDLI-1, HGH, selected alkaloids, micro RNAs, nutrient hydrogel, NADA and pancreatic matrix. The stimulator+pump is implanted just below the skin with a re-fillable silicone septum port with pacing infusion lead directed to the pancreas with a total conductive infusion wrap tip that is gentle on the pancreatic tissue. One portion of the lead is directed to the interior portion of the pancreas. Initial pilot translational study data will be presented as well as the anticipated upcoming clinical trial design.

Biography

Howard J Leonhardt is a Biomedical Engineer Inventor with over 100 issued patent claims. In the 1980's, he developed the leading predictably compliant cardiovascular balloon catheters and in 1990's the leading stent graft system for repair of aortic aneurysms, the first percutaneous heart valve, stem cell and micro energy delivery catheters and the first intravascular lung and biological pacemaker. Since 1999, his research focus has been on Organ Regeneration. In early 2001, he led a team that completed the first-in-man non-surgical stem cell repair of a human heart. He has an honorary PhD in Biomedical Engineering from the University of Northern California. He graduated from the International Trade Program in 1982 from Anoka Technical College in Minneapolis, Minnesota and has attended certificate courses at the University of Minnesota and UCLA. He operates research labs in Northern and Southern California as well as in Utah and incubator/accelerators with over 30 startups in the current portfolio; 24 of those are organ regeneration focused bases on his own inventions.

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