Developing a Scalable Cell Therapy for Type 1 Diabetes

**T1D Market**
- > 50 million people suffer from Type 1 diabetes worldwide,
- 10 million in USA and EU
- Market size: $7 B (2013); $14 B (2023)

**Value Proposition**
- PANINSULA™ is a stem cell derived cell therapy for type 1 diabetes
  - Allogenic
  - Scalable
  - Curative
  - Safe

**Strong IP Position**
- Founders of PANCYROS have developed technologies to ensure the highest safety for an insulin cell therapy product and the ability to cost-effectively supply cells to millions of patients

**Streamlined Manufacturing**
- PANCYROS process is streamlined compared to other published methods, with fewer steps & reagents, and can be initiated from a purified bank of pancreatic progenitor cells

**Scale-Up through Automation**
- For the first time the manufacturing of insulin cells from stem cells has been shown to be amenable to automation. This is expected to dramatically reduce the cost of GMP production bringing us closer to the reality of an allogenic cell therapy for T1D

**Unique Selling Points**
- 100% safety and cost-effective manufacturability for scale up and commercialization

**Business Opportunity/Objective/commercial perspectives**
- PANCYROS is a prospective spin out company arising from University of Copenhagen, aiming to develop a curative stem cell-derived insulin cell therapy for T1D. Total market for T1D in North America and Europe in 2025 is expected to be 10 million patients. The market for PanCryos® PANINSULA™ cell therapy is estimated to be initially a minimum of 50 billion USD for Europe and USA and after market launch increasing to 250 billion USD, if the therapy is widely adopted in developed countries. We are seeking both partners and investors that could support our efforts in GMP adapting our protocol and manufacturing of PANINSULA™ to be tested in a small phase I trial.

**Technology description/technology summary**
- A curative and therapeutic solution for Type 1 diabetes (T1D)
  - Glucose responsive insulin producing cells derived from human pluripotent stem cells (PANINSULA™).
  - Alleviates the problem of islet shortage from donor organs.
  - A cost-effective manufacturing process for scaling up production of insulin cells for therapy.
  - The ability to truly purify pancreatic progenitor cells for a safer and more effective insulin cell therapy.

**Development phase/current state**
- The intention is to develop a robust scalable differentiation process to cost-effectively deliver therapy to millions of T1D patients with the highest level of safety and therapeutic efficacy. Currently, in vivo POC studies with small animals are under way to show the efficacy of PANINSULA™. Furthermore potential automation of the protocol is being explored.

**The inventors**
- Ass. Prof. Jacqueline Ameri, Founder and CEO of PANCYROS
- Prof. Henrik Semb, Founder of PANCYROS

**Contact Information**
- Peter Stein Nielsen
  - Commercial Officer
  - peter.nielsen@adm.ku.dk
  - +45 2164 7447

**Intellectual property rights**
- PCT application filed on April 21, 2016.