SymbioCellTech
The promise of a cure

SymbioCellTech (SCT)

A Regenerative Medicine Company

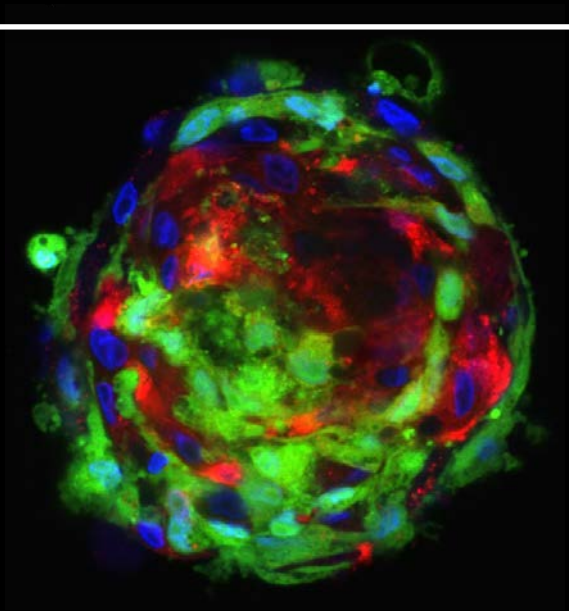
February 2020

SCT was founded in Utah in 2012
The TEAM:

Christof Westenfelder, MD, FACP Co-Founder and CEO	Serial Life Science entrepreneur, extensive experience in Cell Therapy and Regenerative Medicine, Professor of Medicine and Physiology
Axel Zander, MD Co-Founder and VP	Emeritus Professor of Medicine and Former Chief of the Bone Marrow Transplantation Center at the University of Hamburg in Germany
Anna Gooch, PhD Chief Scientific Officer	Fifteen years experience in Cell Therapy research and commercialization. Doctorate in cellular, viral and molecular biology with special expertise in adult stem cell therapies, early phase clinical trials and operations.
G. Russell Reiss, MD Chief Operating Officer	Twenty years experience in stem cell research and commercialization, founder Utah Center of Excellence for Cell Therapy and Regenerative Medicine, former Medical Director University of Utah Cell Therapy Facility & Cord Blood Bank, board certified Cardiothoracic Surgeon.
William P. Tew, PhD Previous Director of Business Development	Forty years experience developing and commercializing Life Science research products, medical devices, and biopharmaceuticals. Former research faculty at Johns Hopkins University School of Medicine where he served as Associate Provost and Assistant Dean of Technology Licensing.

EI Life Sciences Summit: ***BioUtah*:** Feb. 28-29, 2020

"*Stem Cell-enabled functional Cure of Type 1 Diabetes mellitus:* from *Bench* to *Dogs* to the *Clinic*"



"Neo-Islet" Therapy

Christof Westenfelder, MD, FACP
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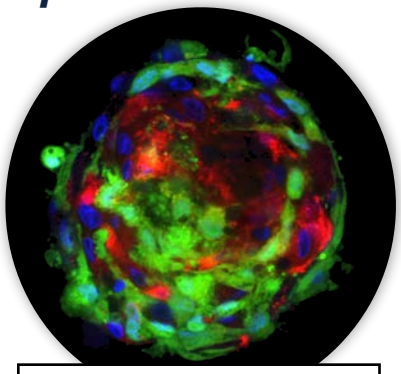
SymbioCellTech's (SCT) MISSION in Regenerative Medicine

1° FOCUS: Provision of a Durable, Stem Cell-Enabled, Biologic Therapy for Diabetes in *Humans* and *Companion Animals*

- Delivered in a ***simple, safe*** and ***cost-effective out-patient procedure***
- ***Free from significant Adverse Effects***
- Capable of halting serious diabetes-associated
  - Complications (***blindness, amputations, kidney failure, strokes, abortions, early death***) &
  - the negative Lifestyle Impact of diabetes
- Scalable Technology for world-wide distribution



"Neo-Islets"

Type 2 Diabetes in Patients and in Companion Animals

NEXT: Treatment of Chronic Disorders: ***Microvascular Disorders***

NEXT: Prevention and Treatment of ***Acute and Chronic Renal Failure***.

The Problem: DIABETES

422,000,000

Individuals living with Diabetes worldwide

8.4% of the adult population

COSTS: $ 1.31 TRILLION

1.8% of global GDP spent/year on DM

World Health Organization

THE LANCET Diabetes & Endocrinology 5(6): 423-430. 2017

Market Opportunity: T1DM and T2DM

USA

$105 billion
spent yearly on diabetes in USA

22.4 million
people have diabetes in USA (8.4% population)

1.9 million
new diabetics per year diagnosed in USA

30%
of US adults are pre-diabetic

World

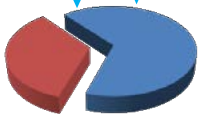
$825 billion
spent yearly on diabetes

422 million
people have diabetes

10 million
New diabetics diagnosed/yr

26%
of Type-2 diabetics require insulin

10%
of diabetics are Type-1



34%
of all diabetics require insulin

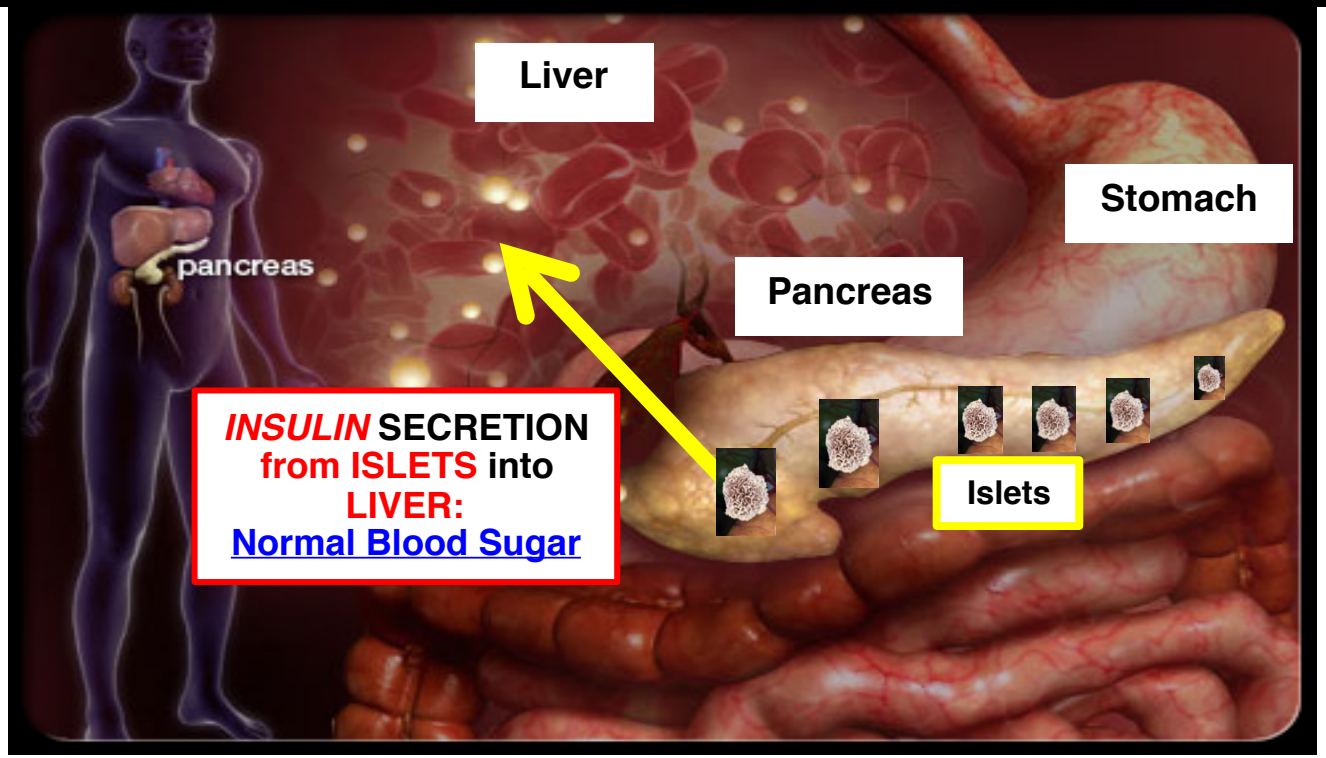
SCT's EXPECTED MARKET SHARE
Initially

USA: ~30% Clinical
~15% Veterinary

WORLD: ~15% Clinical
~10% Veterinary

The Lancet, Volume 387 (10027): 1513
The WHO Global Report on Diabetes 2

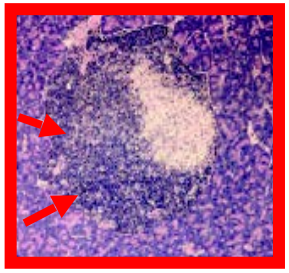
Type 1 DM = The Problem: Insulin Deficiency causes *"Juvenile" Diabetes mellitus*

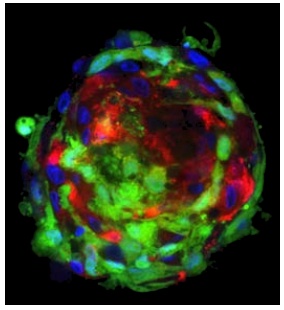


Islets in Pancreas make *Insulin* & other *Hormones*

Normal Islet → ***Insulitis:*** **T1DM** ← **Neo-Islets CURE T1DM**

Auto-immune Attack on Insulin-Producing β-Cells: DIABETES Type I

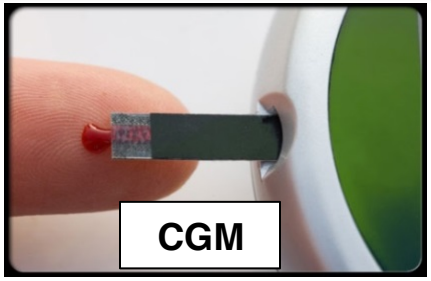


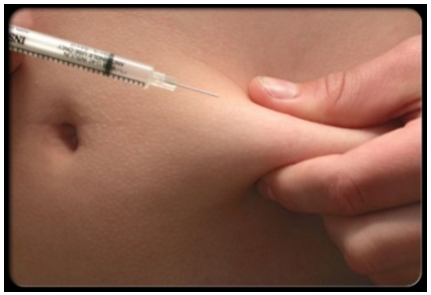


ENABELED by ADULT STEM CELLS

Type 1DM: Current Therapies vs. SCT's Neo-Islets (NIs)

Standard Current
Insulin-*Dependent*





Optimal Current
Insulin-*Independence*

- **Pancreas transplants** (>60,000 to date) (1) donor scarcity, (2) need for anti-rejection drugs: **damage kidneys, cause infections, cancers**

COST*:* up to $ 300,000.-

- **Islet transplants** (~2,000 to date); up to **5 donors needed**, often repeatedly, lifelong anti-rejection drugs

COST: ~ $ 270,000.- UCSF

- Both Therapies and other Cell-based Technologies still face **Major Techn. Hurdles**

"NEO-ISLET" Technology
Insulin-*Independence*

- Provides physiological Insulin secretion and delivery, but **without the need for Anti-rejection Drugs**
- Provides adequate culture expansion of functional beta/islet cells, **effectively addressing the scarcity of pancreas donors**

COSTS projected: ~ 1/3rd of Optimal Current Therapies

"NEO-ISLET" Technology overcomes Major Hurdles

Type 1 DM: *Technical Hurdles* to achieving *Insulin Independence*

I. Immune Attack

The use of *Anti-Rejection Drugs* has severe side-effects and should ideally be avoided

II. Donor Scarcity

***Scarcity of donors* limits the ability to produce sufficient numbers of islets for worldwide Pancreas and Islet transplant therapy**

III. New Blood Vessel Formation

***Without New Blood Vessel Formation* transplanted islet cells die from inadequate blood supply, nutrients, oxygen, energy stores.**

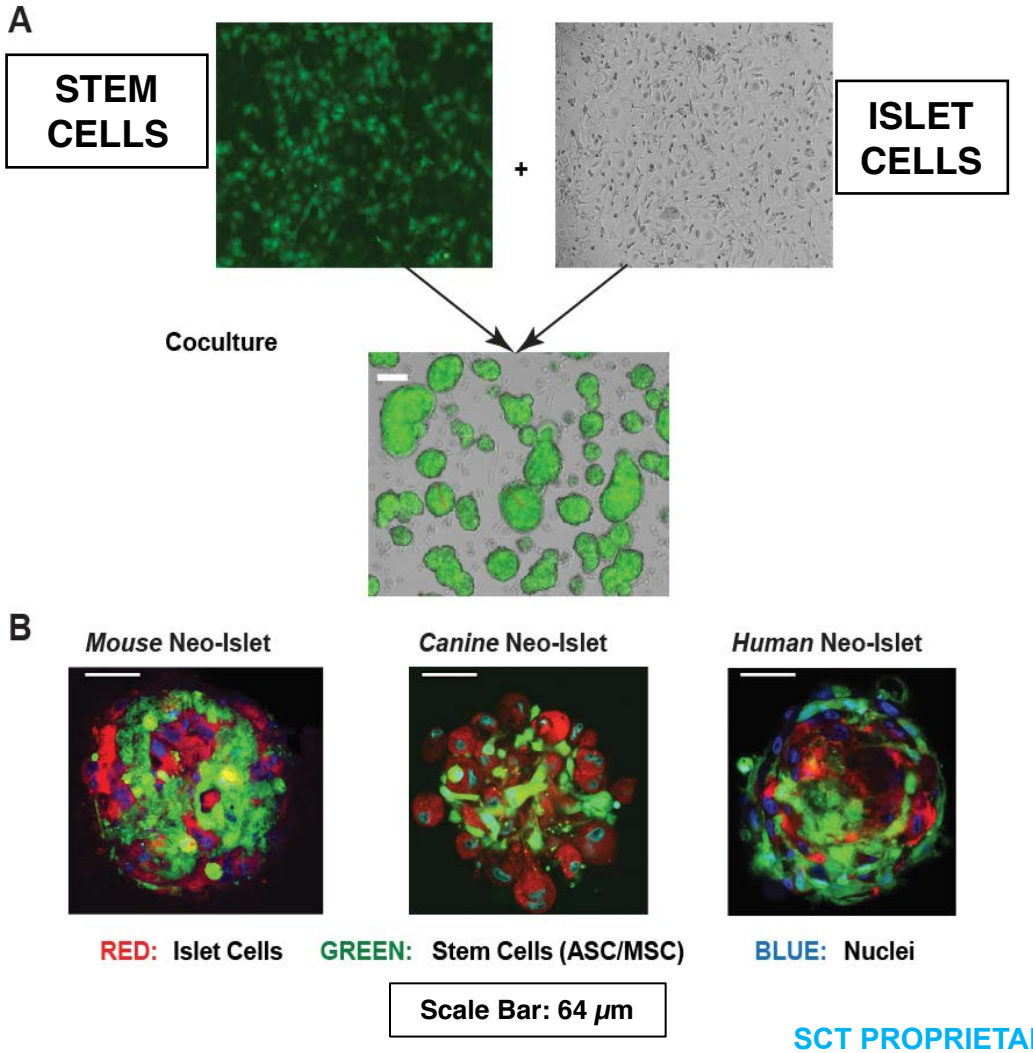
IV. Physiologic Insulin Delivery

Suboptimal insulin delivery, dosing, and timing leads to organ failure and premature death (regularly seen with current injected Insulin)

NOVEL NEO-ISLET TECHNOLOGY overcomes these technical Hurdles and thereby successfully addresses this MAJOR MEDICAL NEED for Diabetic Patients

SCT's Technology and Current Status

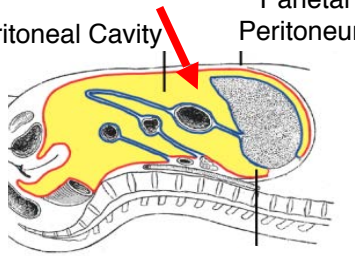
Neo-Islets: Stem Cell-Enabled Therapy for Type I Diabetes



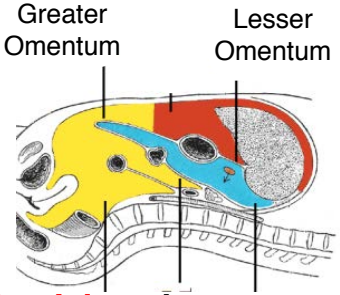
- **Diabetic Mice** treated with Neo-Islets were **cured of Type I diabetes.**
- **Diabetic Pet Dogs** treated with Neo-Islets under an FDA INAD have **better blood sugars and need much less insulin**. SCT is in talks to **License** this successful application.
- SCT had **successful Pre-IND meeting** with the **FDA** and is **preparing for first Clinical Trial.**

Clinical Trial: Outpatient Procedure

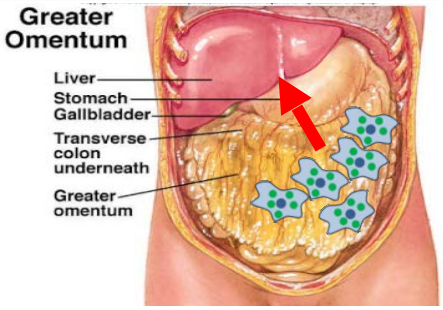
Under local anesthesia and Ultrasound guidance



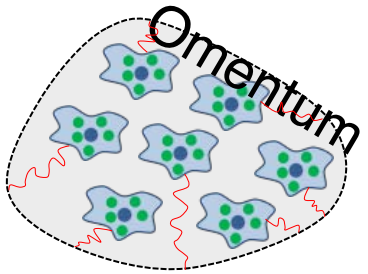
Suspended Neo-Islets are administered intraperitoneally



Neo-Islets home to and engraft in the omentum



Insulin is physiologically delivered into the liver



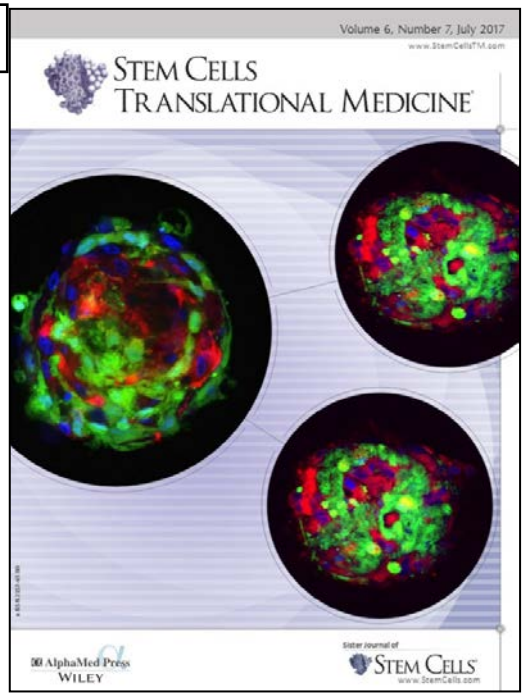
Omentum becomes site of new Endocrine Pancreas

Ongoing Clinical Trial: FDA Approved & Guided
Short and simple Outpatient Procedure

NI Infusion to sedated Dog	15 min. post Infusion

Two SCT Landmark Publications

1



The details of SCT's Neo-Islet technology were first published in ***Stem Cells Translational Medicine*** and featured on the cover of the July 2017 issue. **It was the "most downloaded/ read paper in 2017-2018."**

"An absolutely superb paper in every way. Outstanding hypothesis, thoroughly convincing data to validate it, and tremendous potential to provide a dramatic new treatment for millions of patients."

~ Darwin Prockop, MD, PhD - Professor of Molecular and Cellular Medicine, Stearman Chair in Genomic Medicine, and Director of the Texas A&M University College of Medicine Institute for Regenerative Medicine. **Key Opinion Leader (KOL) in Cell Therapy**

2

Details on **SCT's proof of principle**, **FDA guided study in dogs with T1DM** were published Sept. 2019 in the journal ***PlosONE*** :

"Interim report on the effective intraperitoneal therapy of insulin-dependent diabetes mellitus in pet dogs using 'Neo-Islets,' aggregates of adipose stem and pancreatic islet cells (INAD 012-776)." (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0218688).

SCT Intellectual Property

SCT Patents: filed in US, Canada & Europe

(1) Filed Dec 2014: - "NEO-ISLETS COMPRISING STEM AND ISLET CELLS AND TREATMENT OF DIABETES MELLITUS THEREWITH" *# US 3285-P12723.4US; 62/264,238*

(2) Other patents based on stem cell derived exosomes and microvascular diseases have been filed

(3) SCT has a robust pipeline of stem cell based technologies and therapeutics.

Inventors: Christof Westenfelder, Anna M. Gooch, et al.

IP Strategy:

- SCT's trade secrets include technologies relating to the preparation, culture, storage, and expansion of "Neo-Islets" that are being evaluated for patentability as part of SCT's overall IP strategy.
- New SCT technologies are evaluated for strategic value and patentability on an ongoing basis.

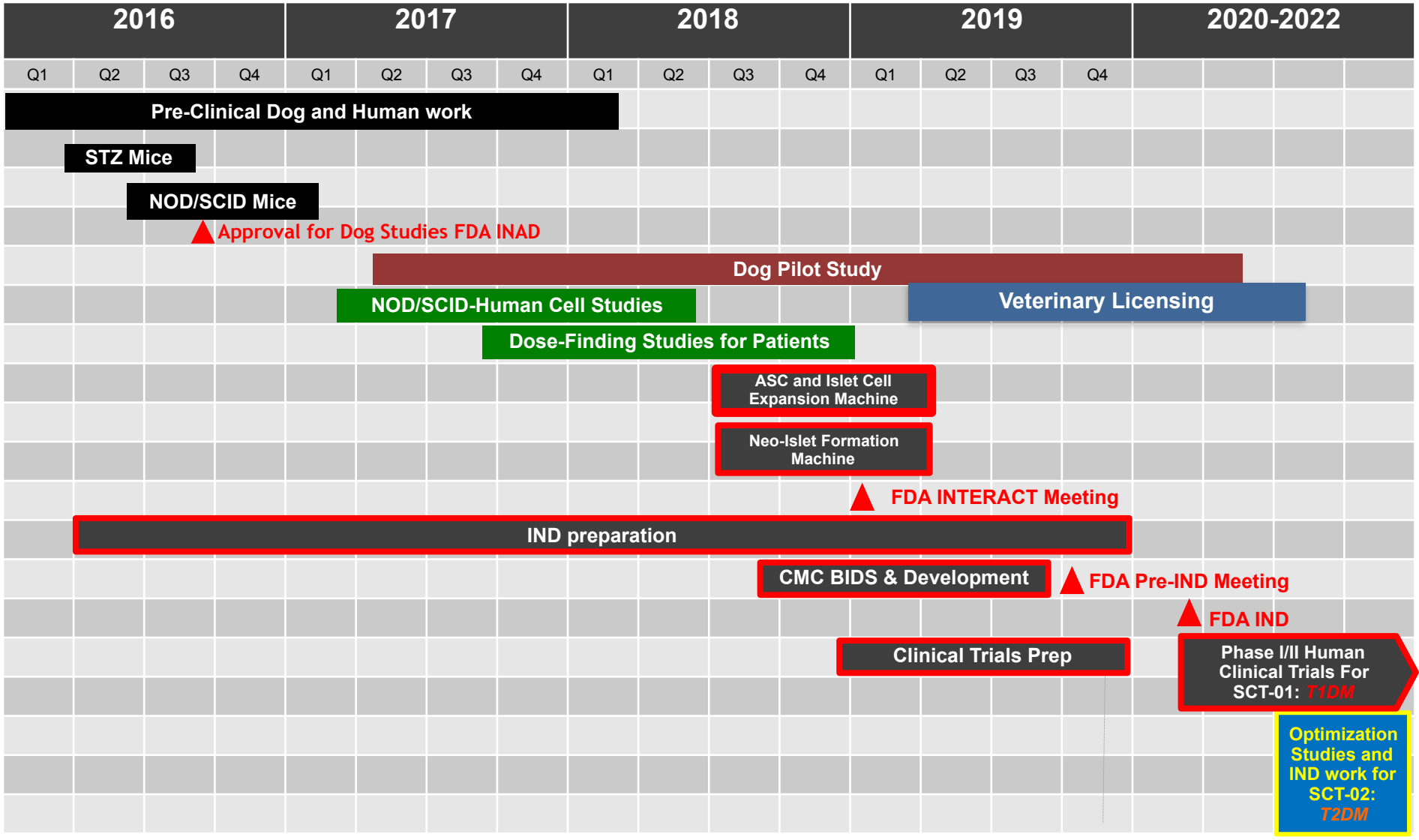
Funding Needs and Use of Capital

- **Series A:** $20-30M: Completion of a successful IND application and FDA approval **to begin human clinical trials**.
- **Bridge Round**: up to $3M is available as a **convertible note** to maintain operations through the Series A raise.
- **Series B:** Amount TBD (anticipated ~$50M) to complete Phase I/IIb human clinical trials.
- **Potential Exit:** M&A opportunities likely upon favorable Phase I/IIb clinical trial results.

Current Capital Structure

- **Last unit price $50/unit**
- **Total capital raised $10.5 M**
- **Current Capital Structure**
  Total units outstanding 810,304
  - Founders - 43%
  - Employees - 16%
  - Early investors – 33%
  - University of Utah – 50,000 units
- **Units not outstanding – 189,696**

Current Estimated Timeline



$10.5M
Seed & Early Investors

SCT PROPRIETARY

Bridge to Series A

Thank you! Questions?

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