



## Biotech Showcase

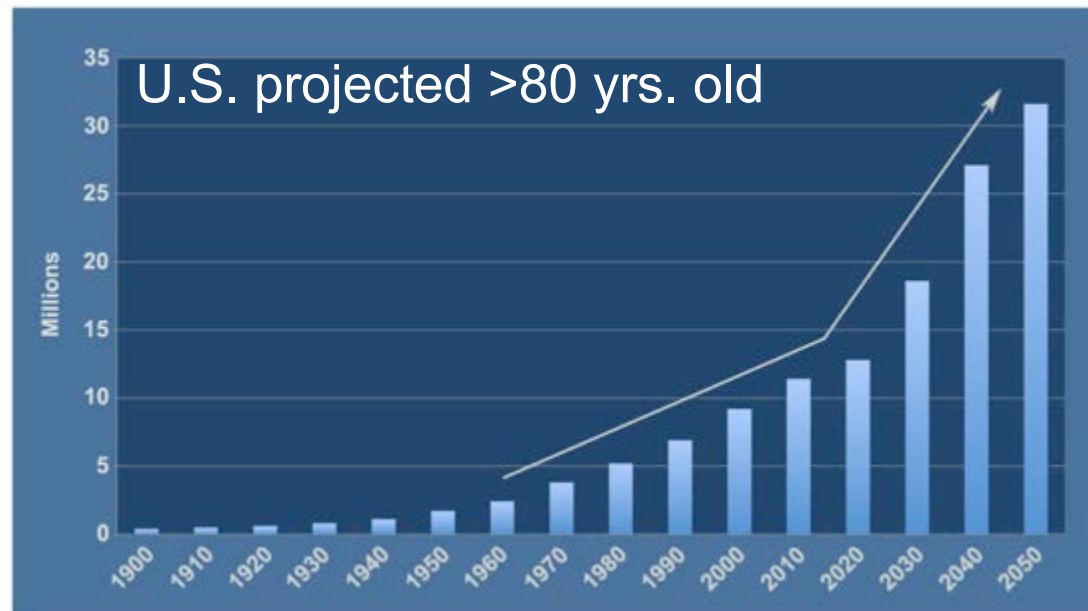
January 9, 2018

# Safe Harbor Statement

The matters discussed in this presentation include forward looking statements which are subject to various risks, uncertainties, and other factors that could cause actual results to differ materially from the results anticipated. Such risks and uncertainties include but are not limited to the success of AgeX Therapeutics and its affiliates including its parent company BioTime, Inc. in developing new stem cell products and technologies; results of clinical trials of such products; the ability of Agex and BioTime and its licensees to obtain additional FDA and foreign regulatory approval to market products; competition from products manufactured and sold or being developed by other companies; the price of and demand for such products; and the ability of Agex to raise the capital needed to finance its current and planned operations. Any statements that are not historical fact (including, but not limited to statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") should also be considered to be forward-looking statements. Forward-looking statements involve risks and uncertainties, including, without limitation, risks inherent in the development and/or commercialization of potential products, uncertainty in the results of clinical trials or regulatory approvals, need and ability to obtain future capital, and maintenance of intellectual property rights. As actual results may differ materially from the results anticipated in these forward-looking statements they should be evaluated together with the many uncertainties that affect the business of Agex and BioTime and its other subsidiaries, particularly those mentioned in the cautionary statements found in BioTime's Securities and Exchange Commission filings. BioTime disclaims any intent or obligation to update these forward-looking statements.

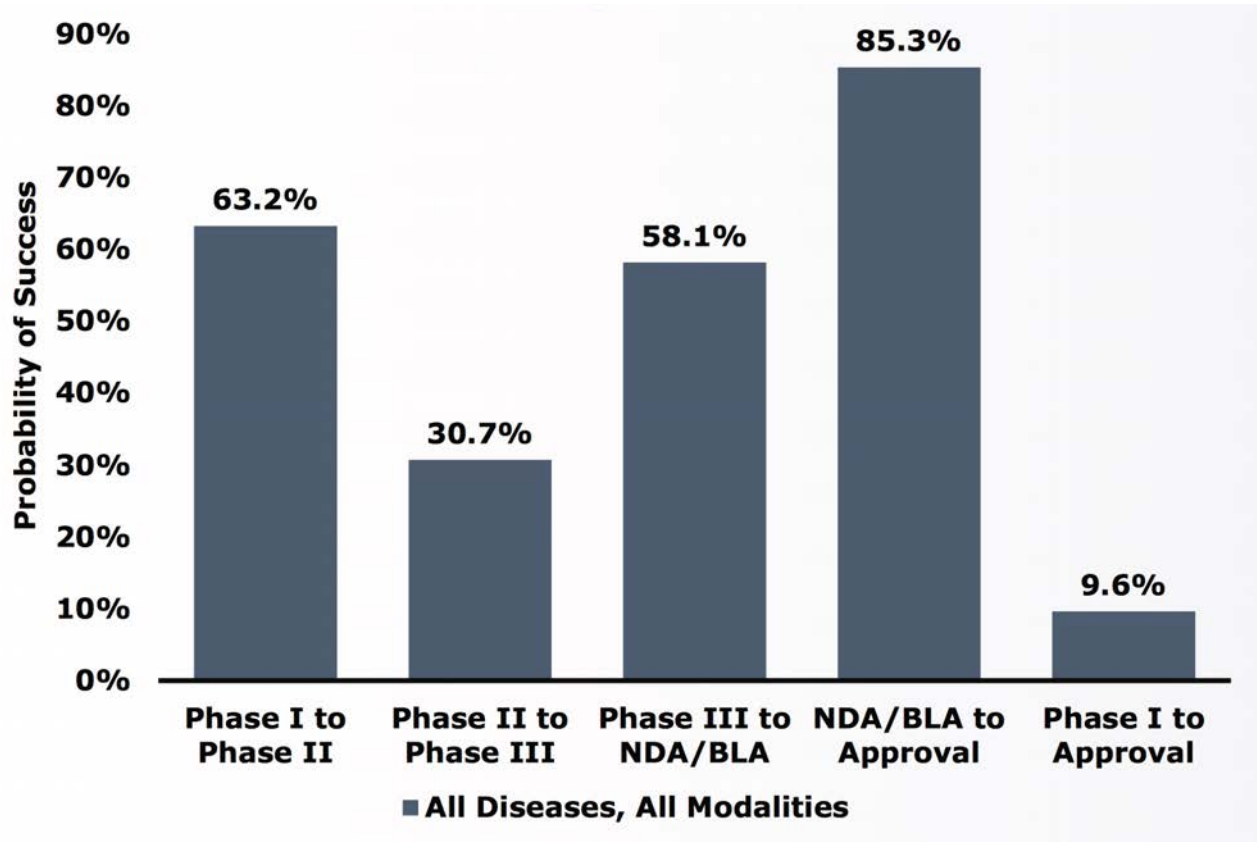
# The Market

*Aging: The demographic trend of our time*



- 80% of \$2.5T health care costs associated with chronic disease.
- Age-related chronic degenerative diseases typically have few effective drug targets.

# Drug Development Success Rates



Biotechnology Industry Organization

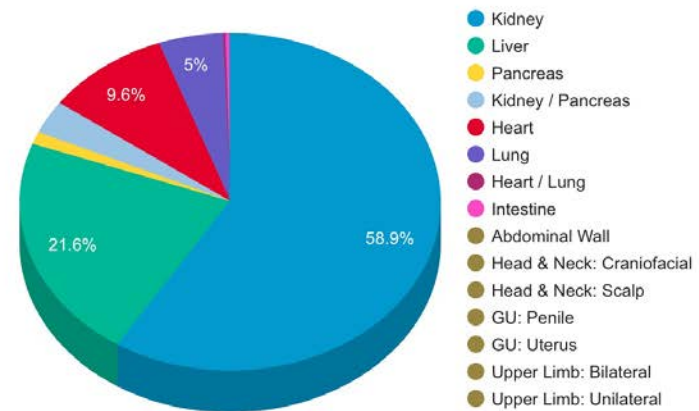
# Tissue Transplantation Risk Profile

## National data

Transplants By Organ Type January 1, 1988 - November 30, 2017  
Based on OPTN data as of January 4, 2018

- **1yr Survival**
- Kidney >95%
- Liver >90%
- Pancreas >95%
- Kidney/Pancreas >95%
- Heart >85%

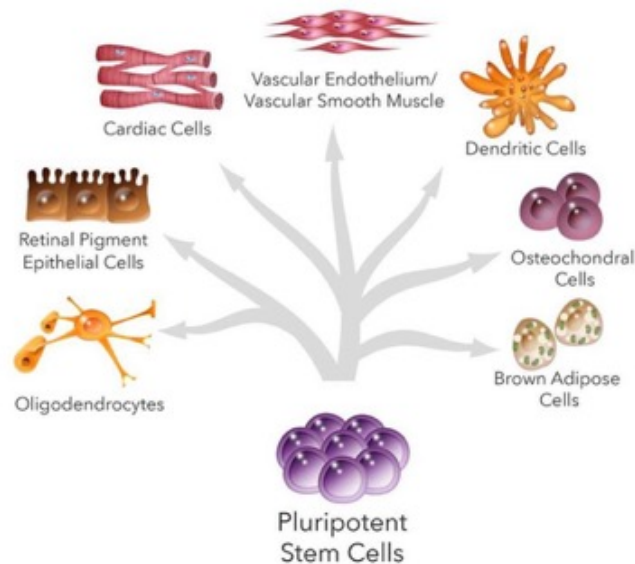
Organ	Transplants
Kidney	423,480
Liver	155,252
Pancreas	8,544
Kidney / Pancreas	22,852
Heart	68,677
Lung	35,606
Heart / Lung	1,227
Intestine	2,906
Abdominal Wall	1
Head & Neck: Craniofacial	5
Head & Neck: Scalp	1
GU: Penile	1
GU: Uterus	10
Upper Limb: Bilateral	6
Upper Limb: Unilateral	4
<b>Total</b>	<b>718,572</b>



United Network for Organ Sharing

# Pluripotency – A Powerful Platform

## Pluripotent [Cell-Based Therapies]



- Pluripotent Stem Cells (PSCs) allow the manufacture of all human cell types on an industrial-scale
- Our clinical grade master cell banks of PSCs propagate indefinitely as a source of product
- Our cells are government (NIH) approved

## HyStem® [Cell Delivery Matrix]



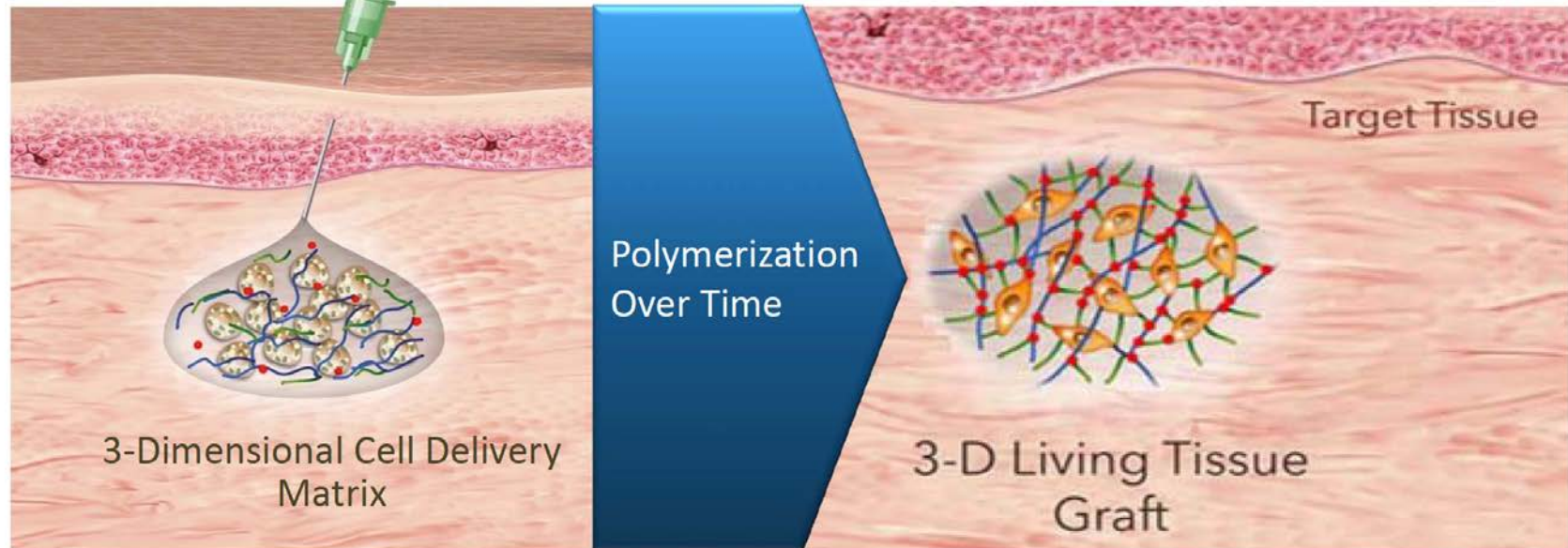


# Building a Minimal ECM (*HyStem*)



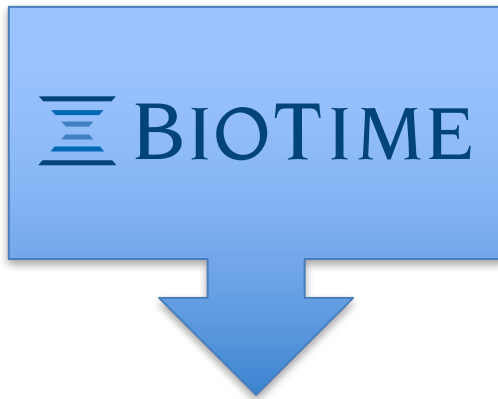
## Key Advantages:

- Localizes transplanted cells at the intended site
- Support structure needed for successful cell engraftment & survival
- Could work as a fat extender or a natural volumizer to enhance fat transfer



# Formation of AgeX

- BioTime (NYSE MKT: BTX) became two companies (BTX & AgeX)



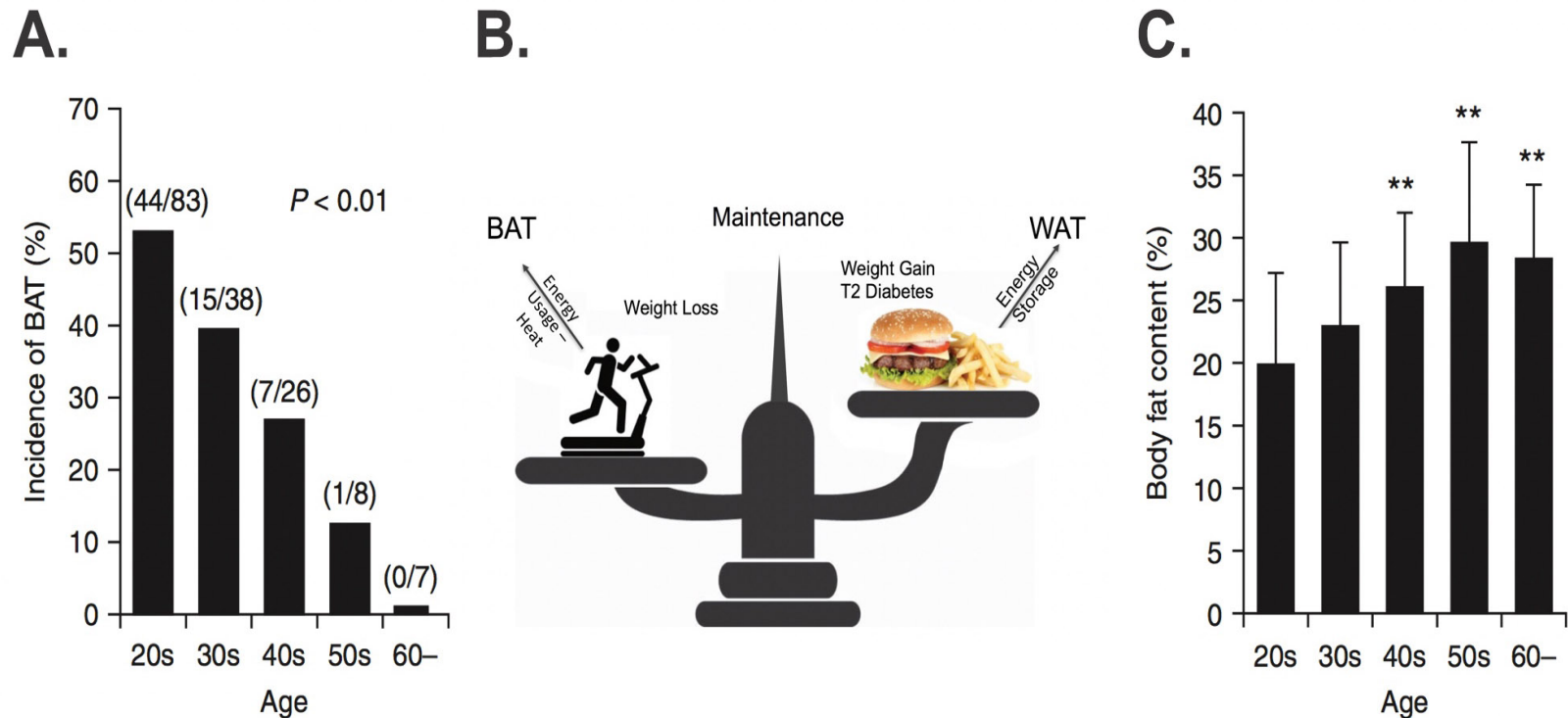
- Regenerative Ophthalmology
- Medical Aesthetics
- Orthopedics
- Drug Delivery
- Shares in Asterias, OncoCyte, AgeX, HBL



- *iTR™*
- *PureStem®* outside of BioTime fields
- *HyStem®* matrix for AgeX fields
- Initial product focus:
  - Obesity/Diabetes
  - Ischemic Disease/Stroke
  - Scarless Tissue Regeneration
- Shares in LifeMap Sciences, ReCyte, & Ascendance



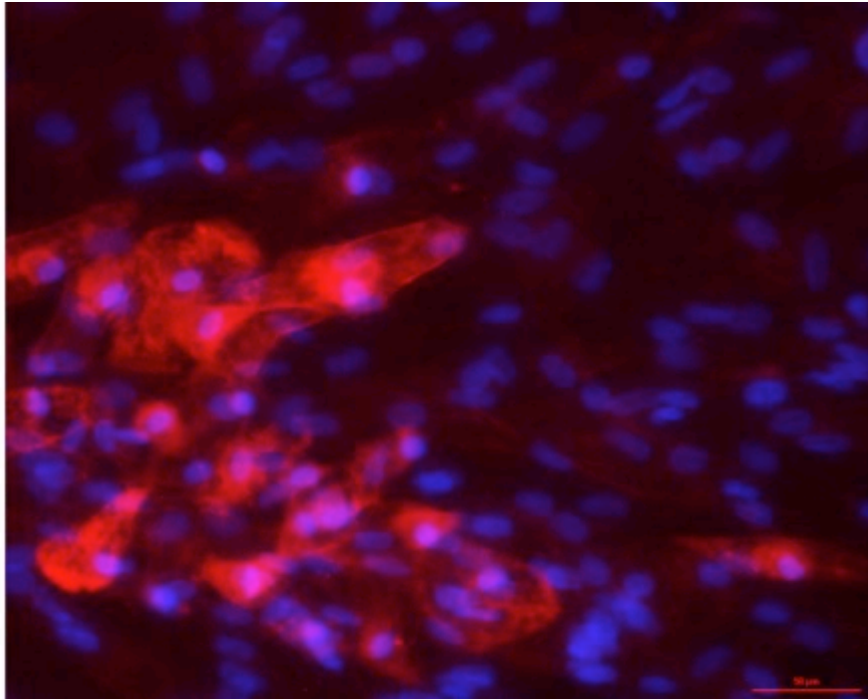
# Brown Adipose Cells Regulate Metabolism



*Obesity* (2011) **19**, 1755–1760. doi:10.1038/oby.2011.125

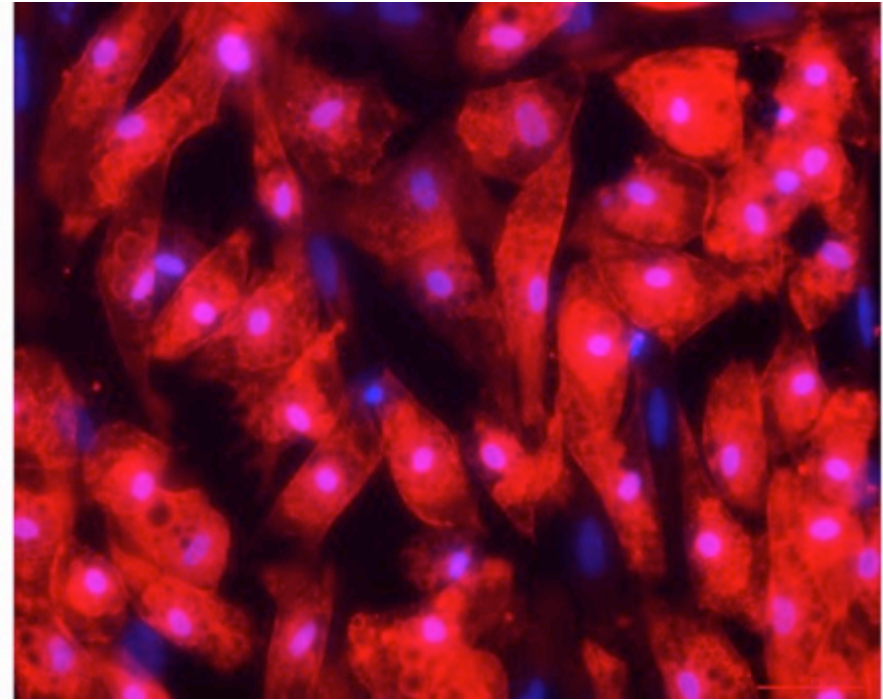
# Industrially-Scalable *AgeX-BAT1*

*Stained for Brown Adipocyte Marker **UCP1***



Tissue-Sourced Brown Adipocytes

Data from AgeX publication in preparation



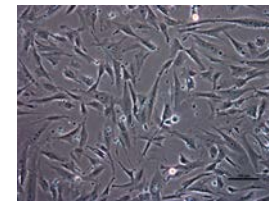
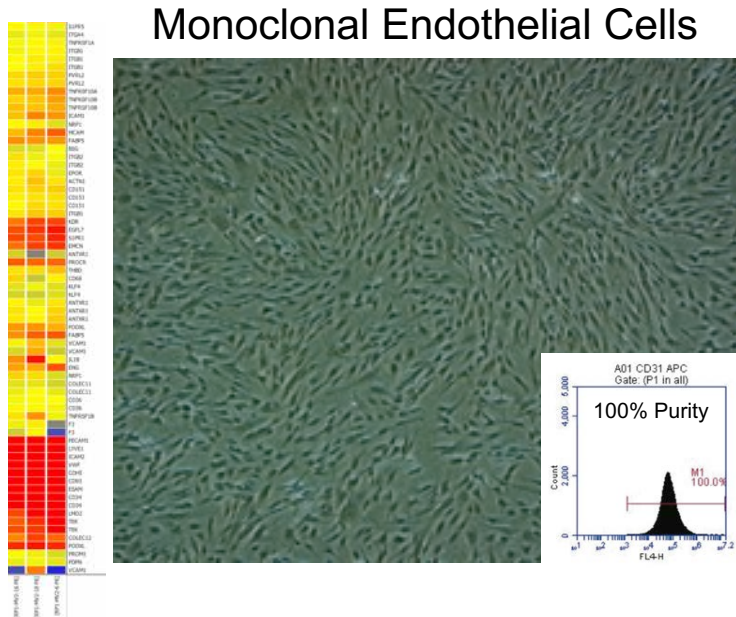
*PureStem* Brown Adipocytes

# Obesity/T2D Market/Competition

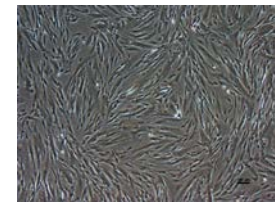
- 30M Americans have diabetes<sup>1</sup> 1:3 Americans will have diabetes by 2050
- The global market for diabetes mellitus and obesity is set to rise from \$70.8 billion in 2015 to \$163.2 billion by 2022, at a strong compound annual growth rate of 12.7%, according to business intelligence firm GBI Research.
- Invokana, which is marketed by Johnson & Johnson, is one of the key players in the disease cluster. It is expected to reach a huge \$3.23 billion by 2022, and is set to be approved across T1DM, T2DM and obesity.
- Invokana belongs to a newer class of Type 2 diabetes treatments called sodium-glucose co-transporter 2 (SGLT2) inhibitors, a class of medication that works by stopping glucose from being reabsorbed into the blood. The FDA warned Invokana can also cause ketoacidosis, a condition that requires hospitalization and can cause fatal swelling of the brain, severe dehydration and coma.

1) Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States. US Department of Health and Human Services; Atlanta, GA: 2014.

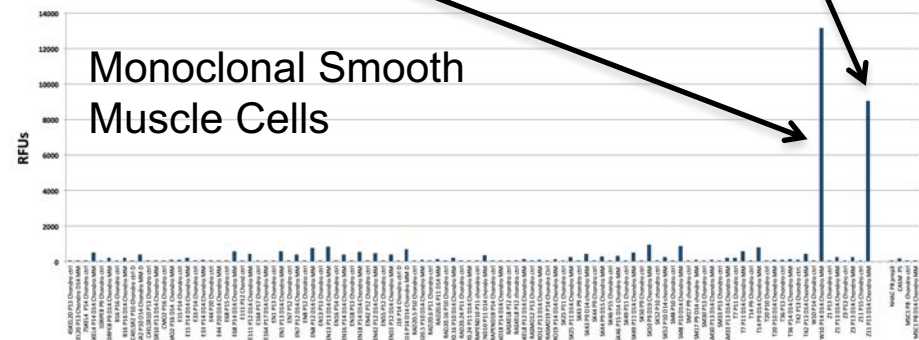
## Regenerative Vascular Progenitors



W10



Z11



- Highly scalable with high purity & potency
- Extensive IP estate
- Formulated in HyStem



# Cardiovascular Market

> *\$Trillion Market Worldwide*



	Current	2035
Medical costs up 135 percent	\$318 billion	\$749 billion
Indirect costs up 55 percent (Lost productivity)	\$237 billion	\$368 billion
<b>TOTAL COSTS</b>	<b>\$555 billion</b>	<b>\$1.1 trillion</b>

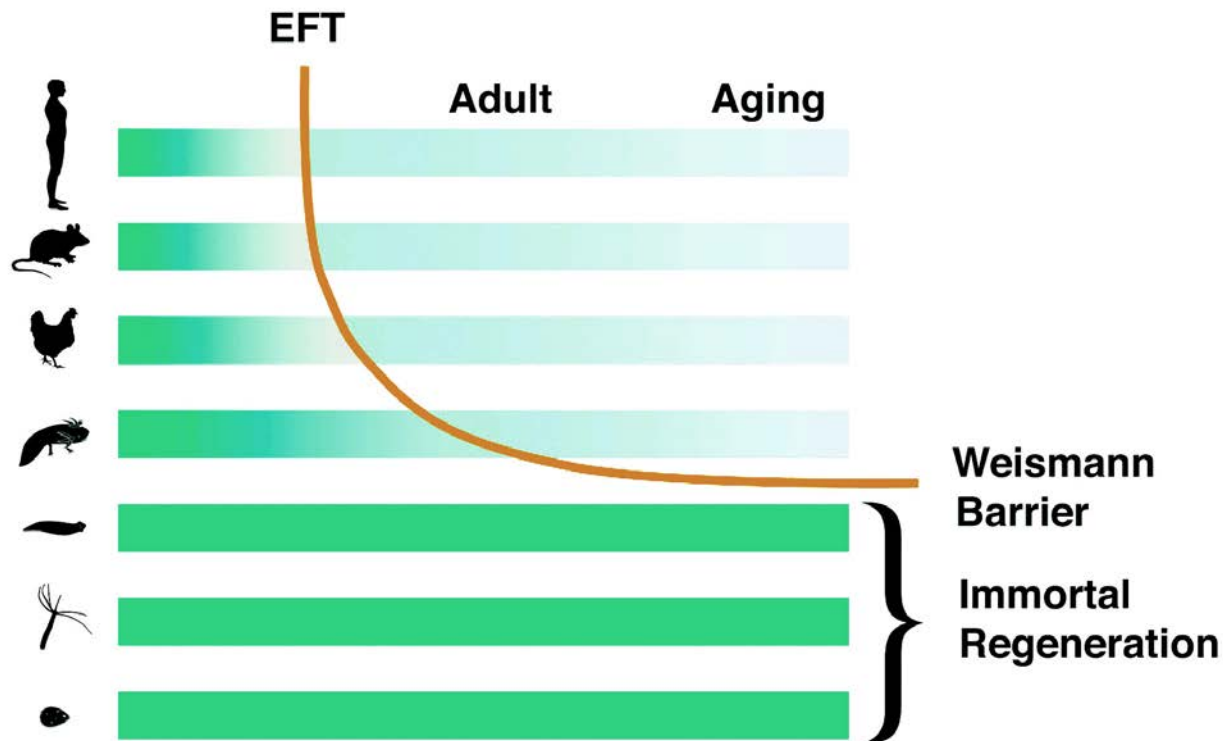
#### The Cost Generators: Aging Baby Boomers

As Baby Boomers age, costs for CVD will shift from middle-aged Americans to individuals ages 65 and over. By 2035, Boomers who are 80 and older will be the source of the largest cost increases for CVD.

[http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm\\_491543.pdf](http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_491543.pdf)

# Induced Tissue Regeneration- iTR

## *Innate Regeneration in Humans Restricted to Embryonic Development*





# Potential of Regeneration



# Induced Tissue Regeneration- iTR

## *Renelon™: Repurposed Drug Formulated in HyStem for Local Delivery*

Embryonic → Fetal - Adult → Aging Adult



Highly Regenerative

Construction



Limited Regeneration

Maintenance



Non-Regenerative

Destruction

iTR: induced Tissue Regeneration

*Renelon™*

# LifeMap

## LIFEMAP

CURRENT USER BASE, CLIENTS AND PARTNERS

**Current income & rapid growth potential**

**Platform for new product development & commercialization**

**BIOTIME**

**NOVARTIS**

**AMGEN**

**EMD MILLIPORE**

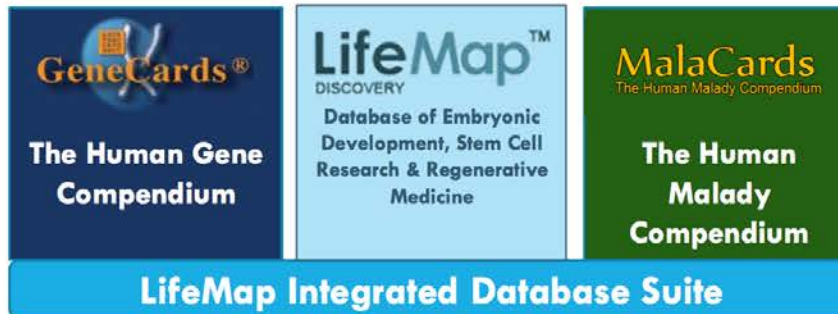
**Abbott**

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



**SA Biosciences**  
A QIAGEN Company

**AGE X**  
THERAPEUTICS



2 million highly specialized unique visitors world-wide  
40 who's who Biotech/Pharma customers, US Patent & Trademark Office, Japan Patent Office, European Patent Office

**WEIZMANN INSTITUTE OF SCIENCE**

**Lilly** **Daiichi-Sankyo**

**Takeda** **MILLENNIUM**  
THE TAKEDA ONCOLOGY COMPANY

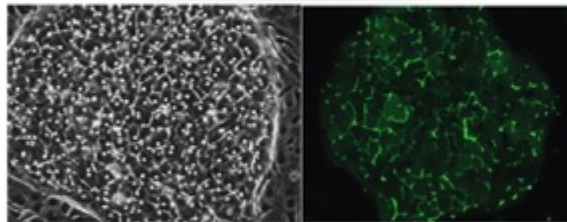
**Genentech**  
A Member of the Roche Group

**genzyme**

**Johnson & Johnson**

# Ascendance

- Markets cells for drug screening
- Manufactures *Cytiva* for GE Healthcare
- Revenues currently >\$2M annually

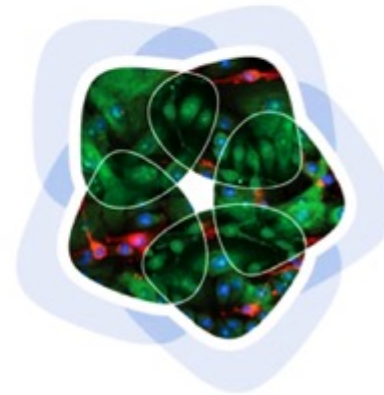


Liver  
HepatoPac®  
HepatoMune®  
HepatoStem™

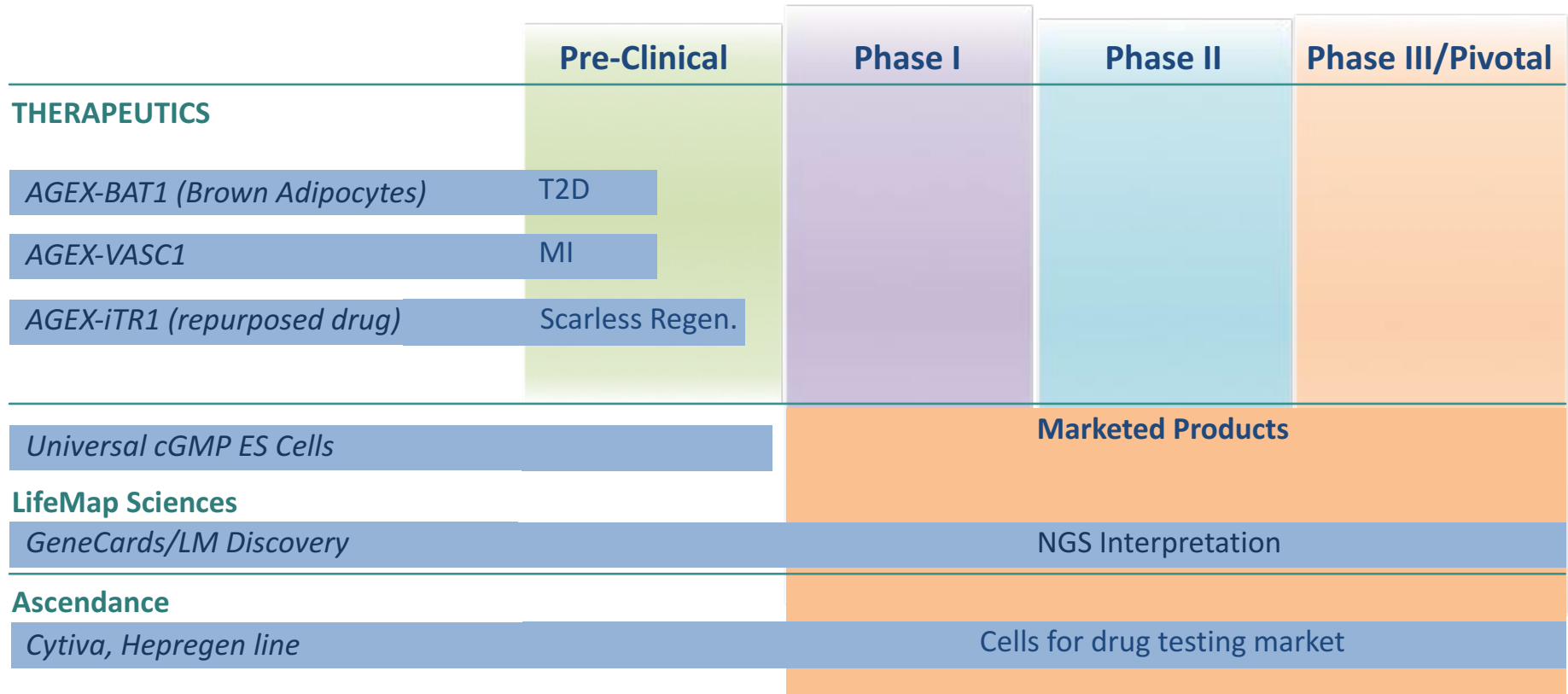


imagination at work

Heart  
Cytiva® cardiomyocytes  
CardioStem™



# Product Pipeline





# Summary

- Powerful technology to address aging: The demographic trend of our time
- Contributed assets of BioTime yield high value portfolio of cell therapy/iTR assets
- Highly qualified management team with deep credentials in cell therapy product development and aging research
- Three therapeutic programs with potential to address large age-related categories of degenerative disease
  - T2D/Obesity: One of the largest and fastest growing markets with *AGEX-BAT1* being highly novel
  - Cardiac/Cerebral Ischemia: The leading causes of mortality & disability in an aging population
  - iTR1: Repurposed drug targeting the scarless tissue regeneration
  - Strong intellectual property
- Significant potential milestones anticipated in next 12-24 months including planned distribution of shares and public listing