



Longevity Leaders Conference

February 4, 2019

Forward Looking Statements

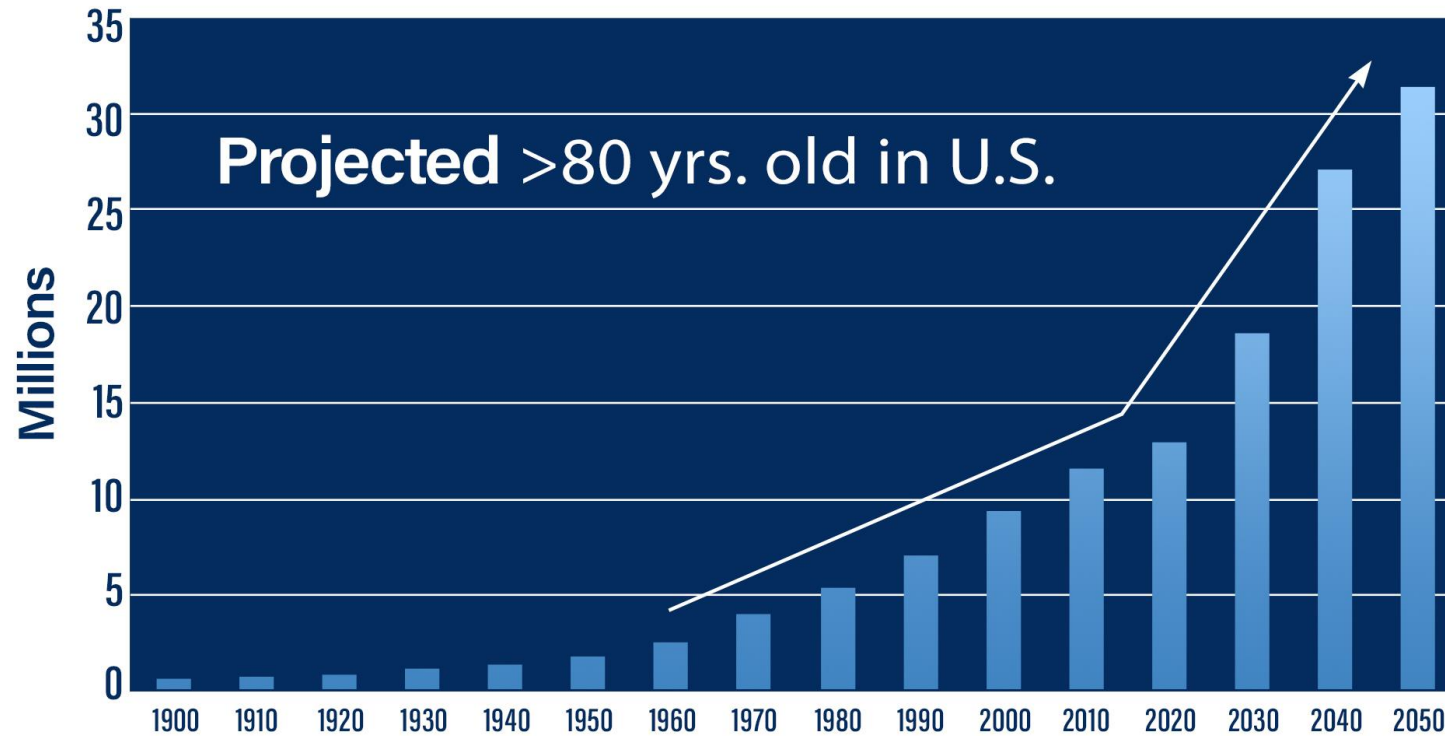
The matters discussed in this presentation include forward looking statements which are subject to various risks, uncertainties, and other factors that could cause actual results to differ materially from the results anticipated. Such risks and uncertainties include but are not limited to the success of AgeX Therapeutics and its affiliates in developing new stem cell-based products and technologies; results of clinical trials of such products; the ability of AgeX 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; the ability of AgeX and its subsidiaries to maintain patent and other intellectual property rights; 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. 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 its other subsidiaries, particularly those mentioned in the cautionary statements found in AgeX's Securities and Exchange Commission filings. AgeX disclaims any intent or obligation to update these forward-looking statements.

Mission

AgeX Therapeutics is focused on the development of young cell-based regenerative therapies for the treatment of human aging.

The Target Market

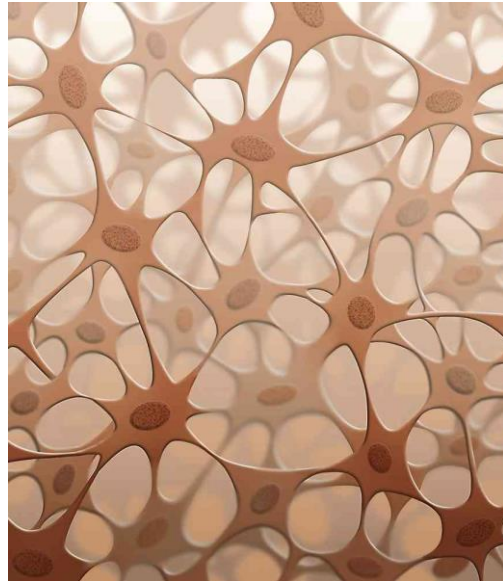
Aging and chronic degenerative disease



- 80% of \$2.5T health care costs associated with chronic disease.
- 80% of elderly have at least one chronic disease, 68% have two or more.

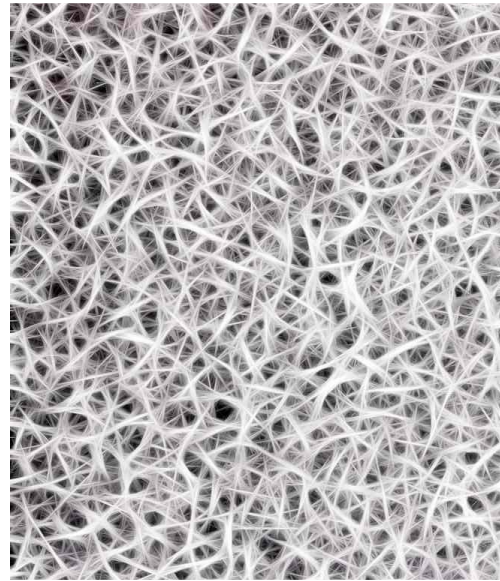
The Ideal Technology Platform

- Young replacement cells of all kinds
- Cells capable of regeneration
- A path to an off-the-shelf product
- An injectable mix of cells/matrix to regenerate 3-D tissue



Young Cells

+



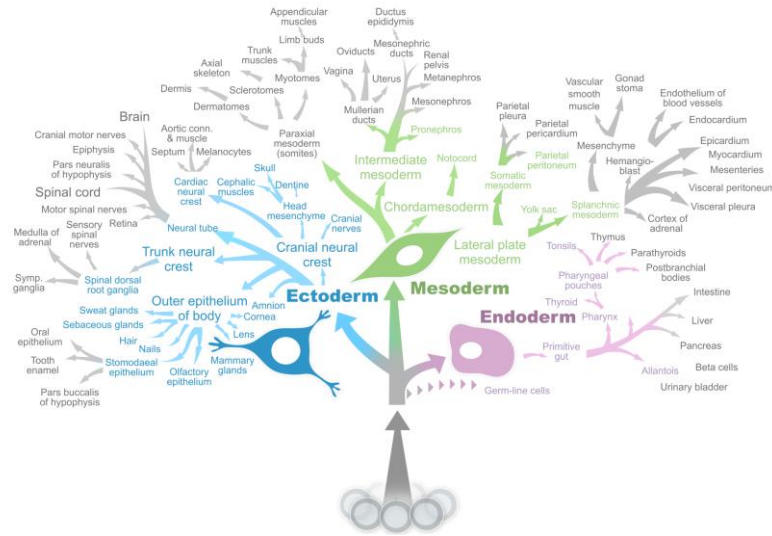
Matrix

= Regenerative
Medicine
For Age-Related
Degenerative
Disease

The Ideal Technology Platform

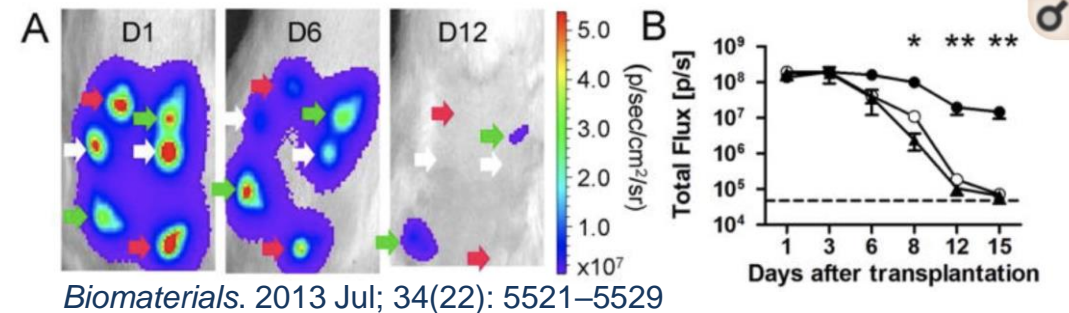
Twin Technologies: Cells & Matrix

Pluripotent Cell- Based Therapeutics



- Pluripotent Stem Cells (PSCs) allow the manufacture of all young human cell types on an industrial scale
- Engineered for allogeneic use
- Our cells are government (NIH) approved

HyStem® Matrix Delivery



Biomaterials. 2013 Jul; 34(22): 5521–5529

History of the Biotechnology Revolutions

Recombinant DNA Technology



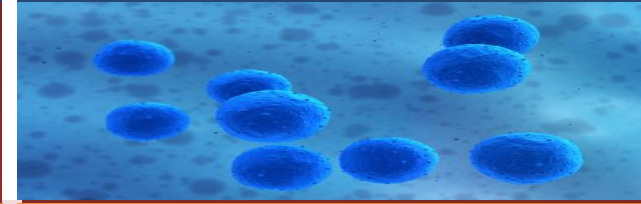
- 1974 – Gene cloning technology developed
- 1976 - Moratorium on rDNA research initiated led to established guidelines on rDNA research
- 1989 – First \$B product EPO
- Today, products from the use of rDNA technology are ubiquitous
- >140 clinical trials
- Current Global Market \$75 B

Monoclonal Antibodies



- 1975 - Hybridoma technology developed
- 1997- First \$B Product Rituximab
- Advances in Mab Engineering
- Today, eight of the 20 best-selling biotechnology drugs in therapeutic monoclonal antibodies
- > 200 clinical trials
- Current Global Market \$44 B

Regenerative Medicine



- 1998 – First Pluripotent Stem Cells isolated
- 2001 – U.S. Federal funding restriction (reversed in 2009)
- 2010 – 1st hES Clinical trial
- Future – 1st \$B product

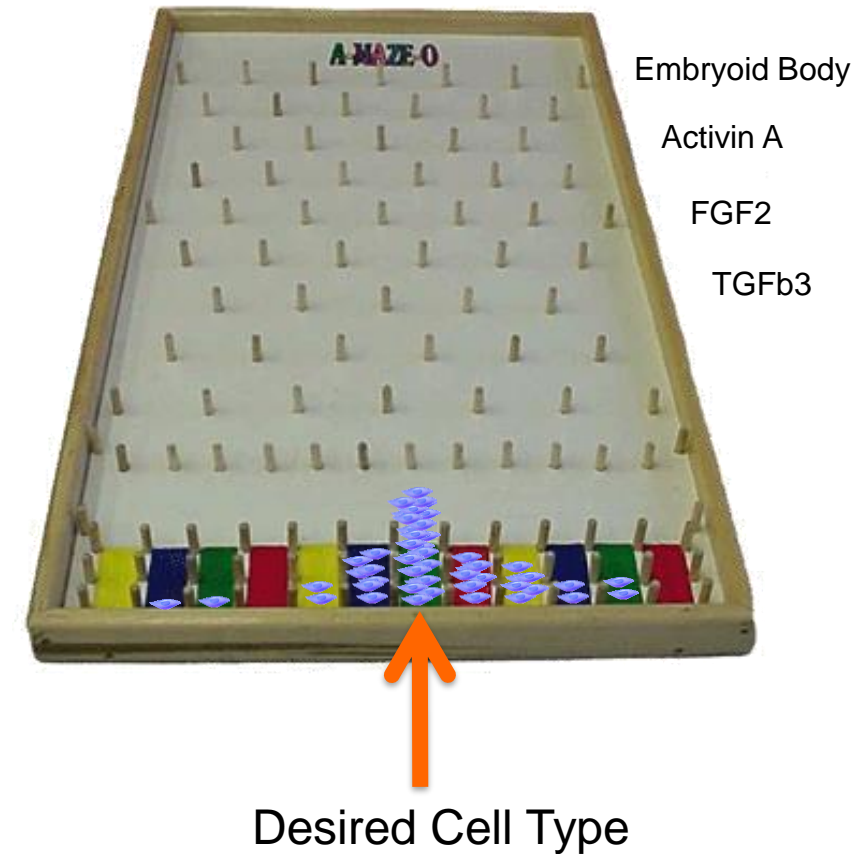
Numerous Products Performing Well in Trials

- Retinal Pigment Epithelial cells (OpRegen) – Age-related macular degeneration (BioTime Phase II)
- Oligodendrocyte Progenitor Cells (OPC1) – Spinal cord injury (Asterias Phase II)
- Dendritic cells (VAC2) – Cancer immunotherapy (Asterias/CRUK Phase I)

Pluripotency – The Competitive Edge

The >1000-fold complexity of cell types derived from hPS cells leads to unique challenges:

- How manufacture with cGMP?
- How produce allogeneic product?
- Identity - Lot-to-lot variability in composition
- Purity – Contamination with unknown cell types





The Generation of Six Clinical-Grade Human Embryonic Stem Cell Lines

Jeremy Micah Crook,^{1,3,*} Teija Tuulikki Peura,² Lucy Kravets,¹ Alexis Gina Bosman,² Jeremy James Buzzard,¹ Rachel Horne,¹ Hannes Hentze,¹ Norris Ray Dunn,^{1,3} Robert Zweigerdt,^{1,3} Florence Chua,¹ Alan Upshall,¹ and Alan Colman^{1,3}

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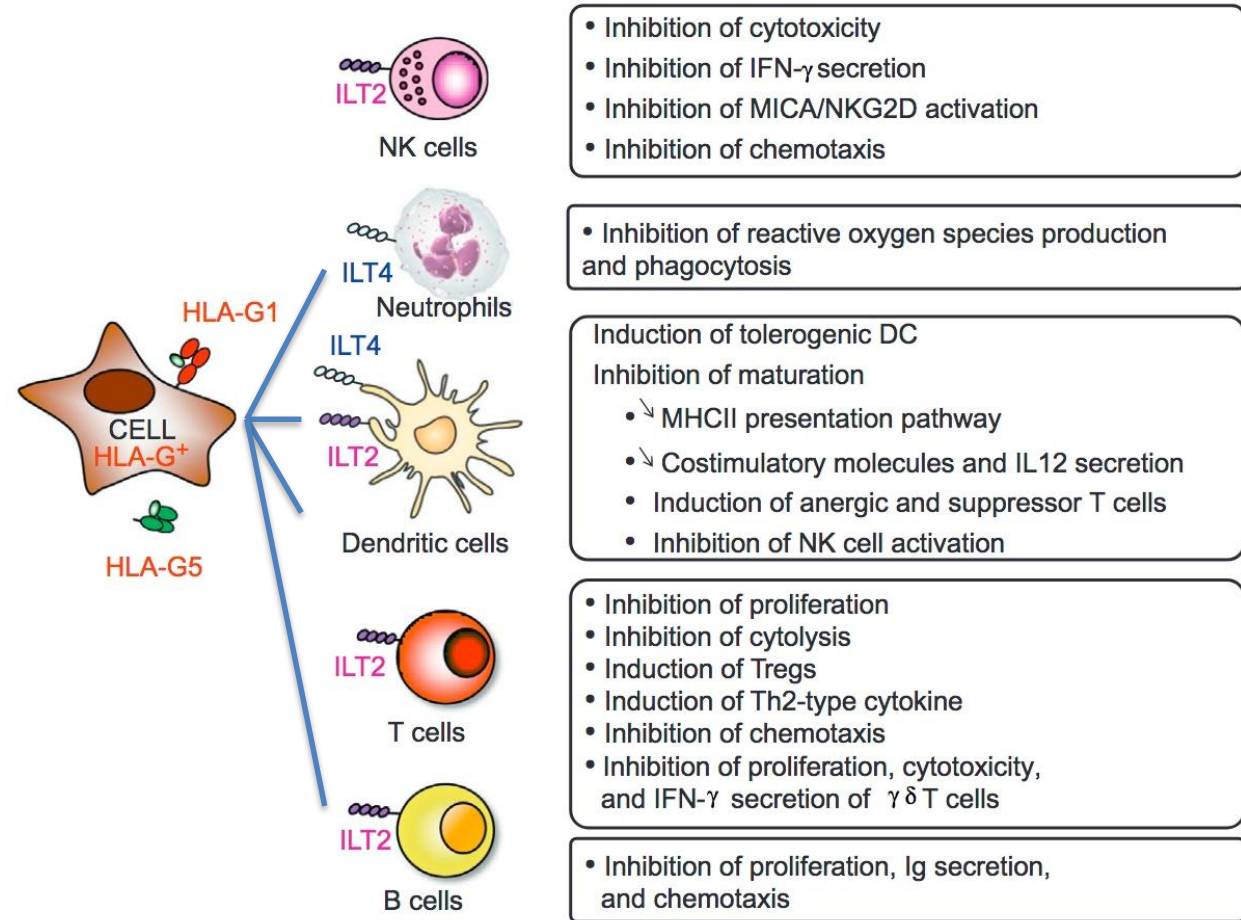
DOI 10.1016/j.stem.2007.10.004

First publication describing the derivation of clinical-grade GMP hES cell lines

- Comprehensive, multiple stage donor consent
- FDA approved, GMP human fibroblast feeder cell line
- Six karyotypically normal hES cell lines successfully derived
- Screened for panel of adventitious agents
- NIH Registered

UniverCyte™: HLA-G for Allogeneic Immunotolerance

- It appears that the primary role of HLA-G is to suppress maternal immune response to pregnancies.
- Appears to disarm multiple arms of immune system



Adv. Immunol. (2015) 127:33-144

Value of the UniverCyte Pluripotent Platform

Classical biologics off-the-shelf business model

Traditional
Biologics



*Centralized
Production
Facility*



*Distributed
Frozen
Inventory*



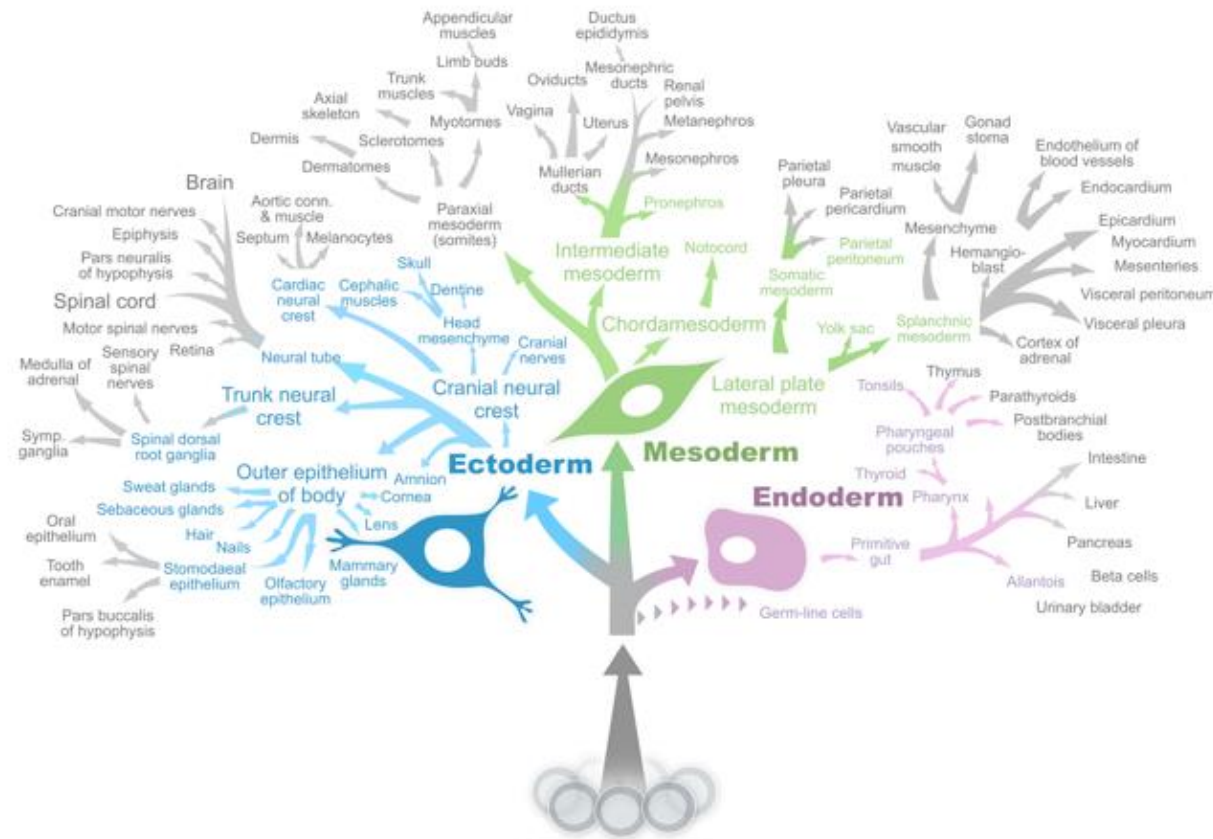
Point Of Care

UniverCyte-
Derived
Cell Therapy
Products

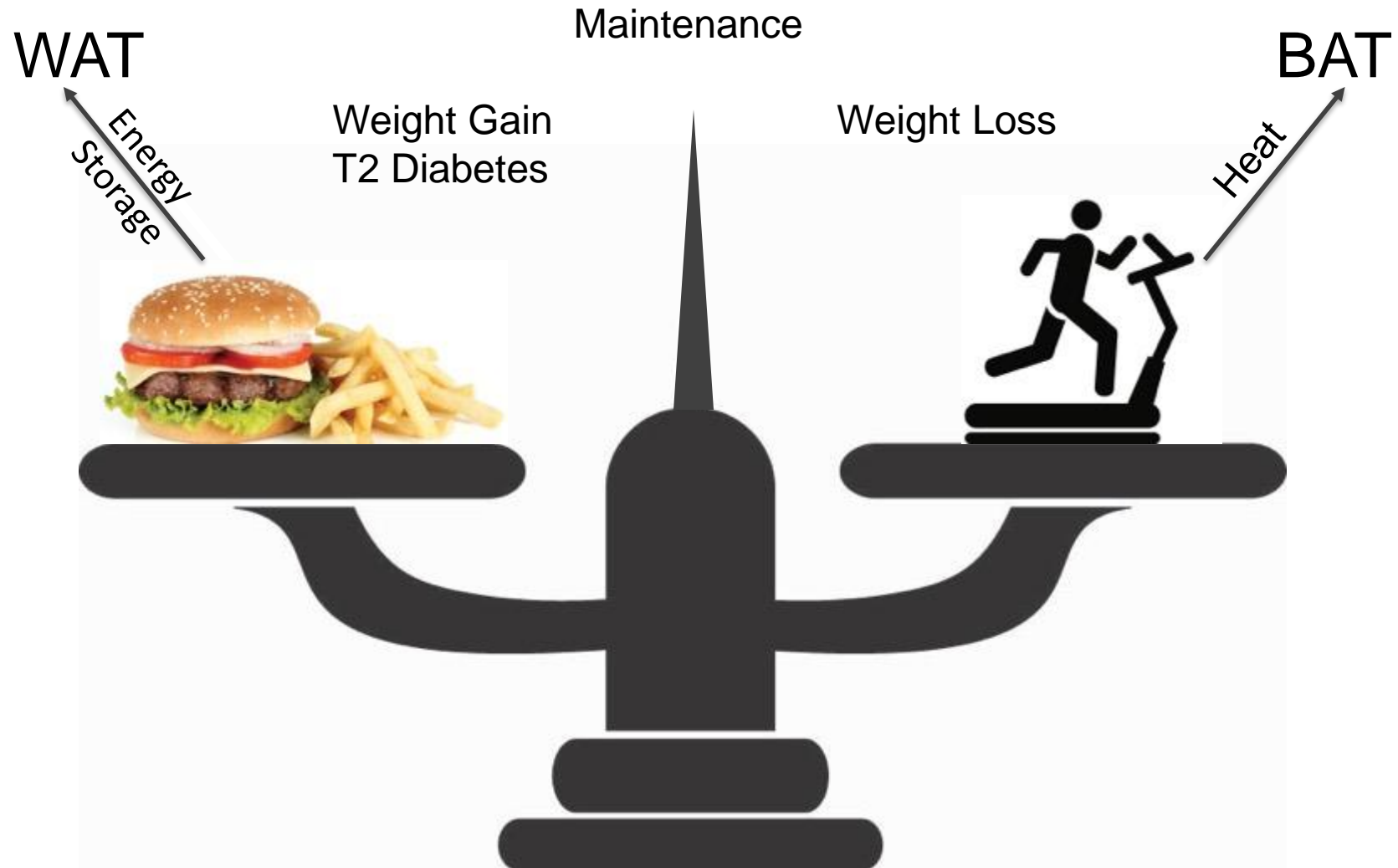


Identification of Low-Hanging Fruit

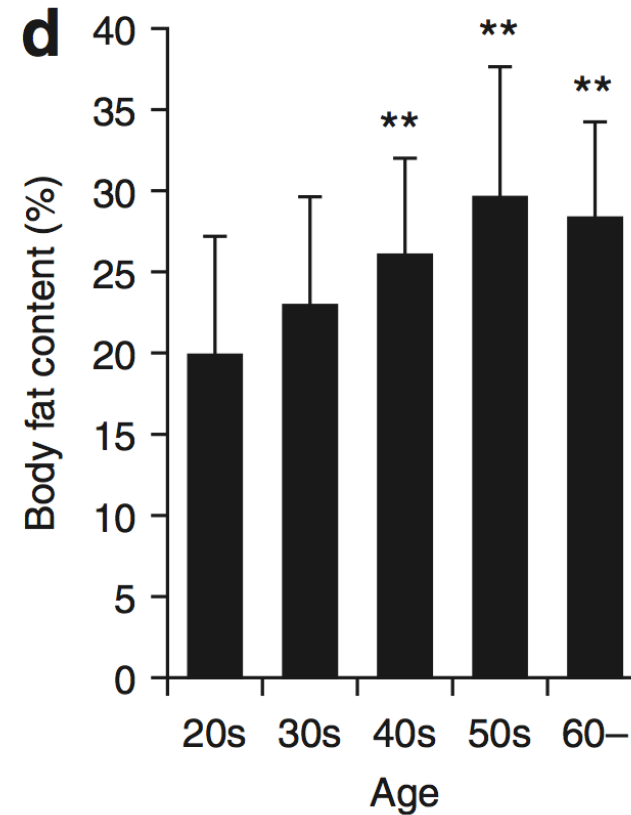
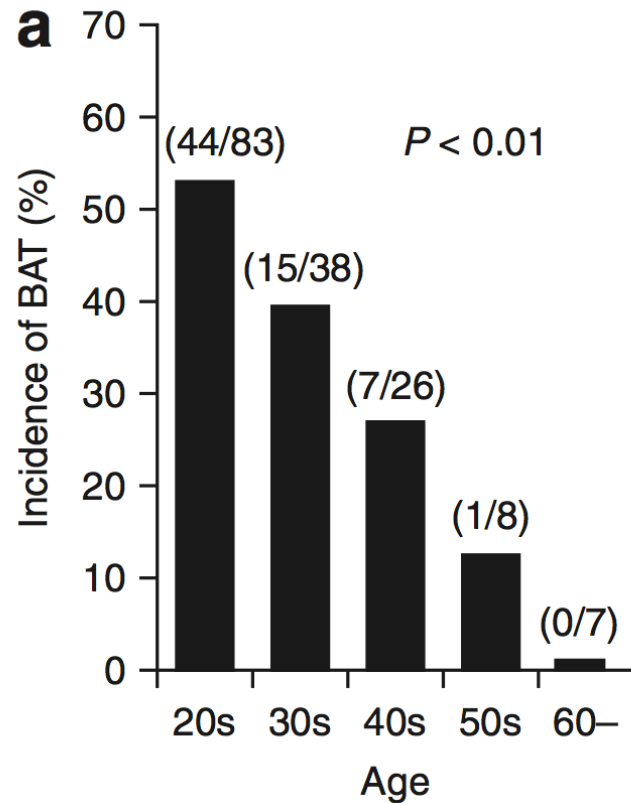
- Key applications in age-related degenerative disease
- Disease characterized by loss of cells
- Not addressable with current modalities



Brown Adipose Cells Regulate Metabolism



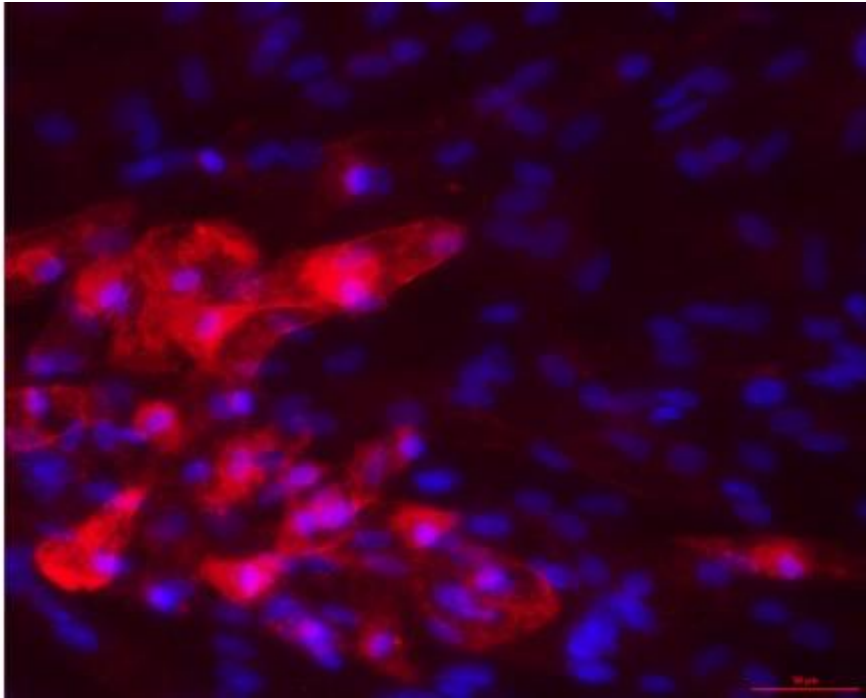
Brown Adipose Cells Regulate Metabolism



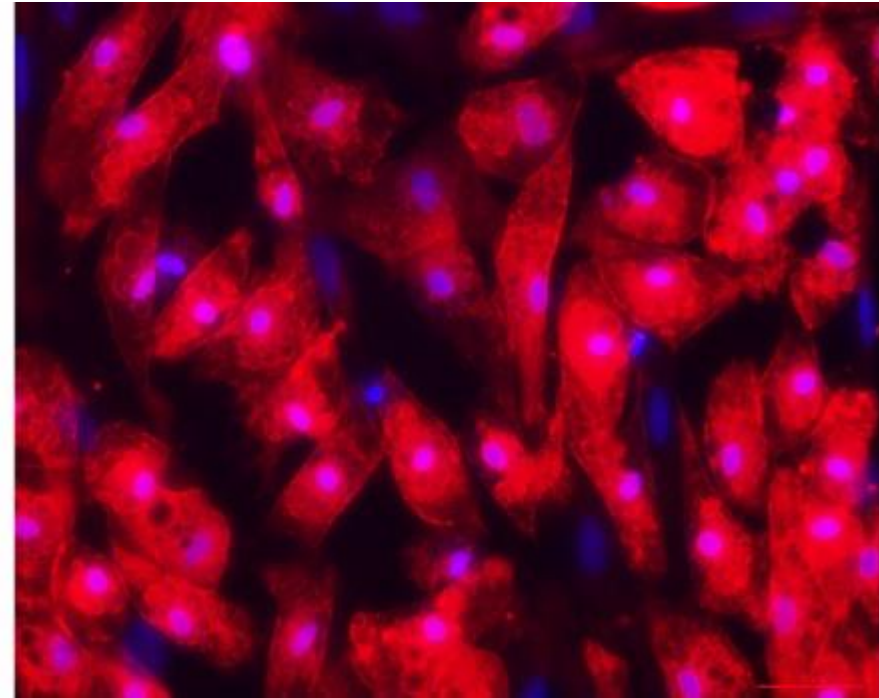
Obesity (2011) **19**, 1755–1760. doi:10.1038/oby.2011.125

AgeX-BAT1 Properties

Stained for Brown Adipocyte Marker UCP1



Tissue-Sourced Brown Adipocytes



PureStem Brown Adipocytes

West et al. *Stem Cell Research & Therapy* (2019) 10:7

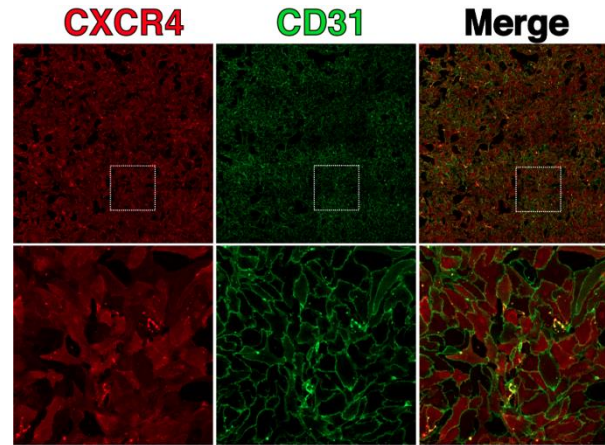
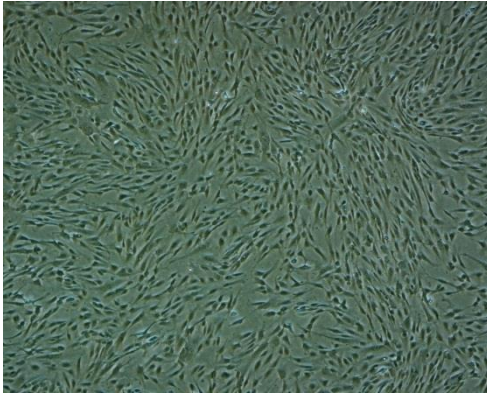
Obesity/T2D Market/Competition

- 30M Americans have diabetes¹ 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.
- Competing products commonly target insulin secretion, glucose excretion, incretins such as GLP-1, or attempt to activate existing BAT or cause browning of white fat.

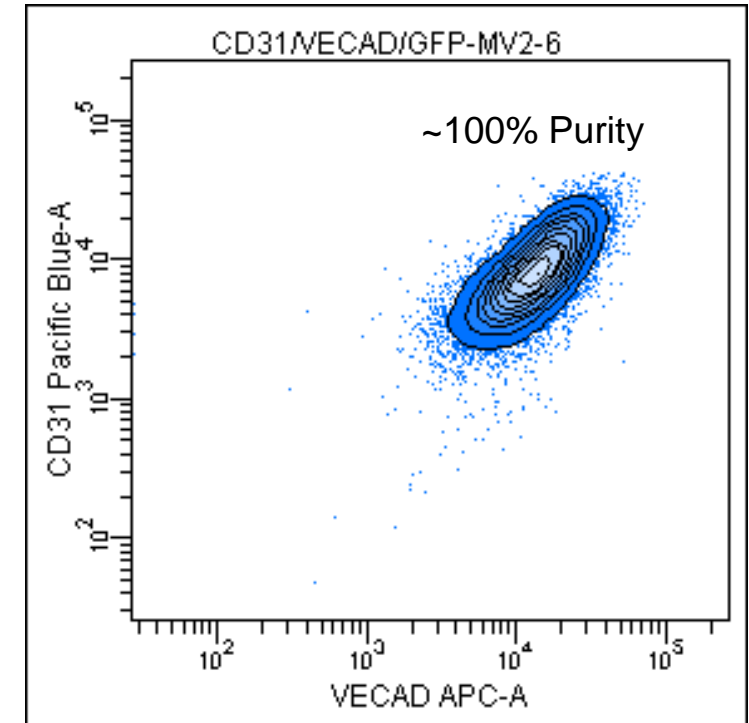
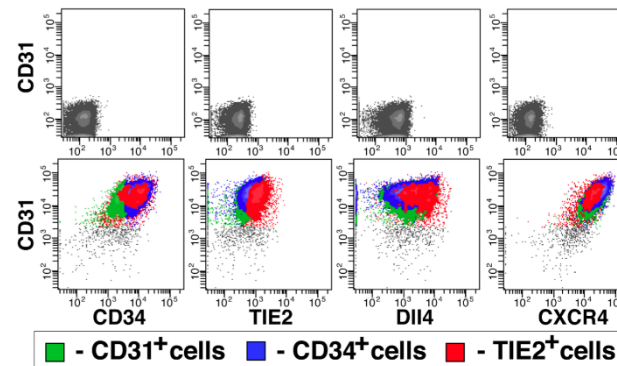
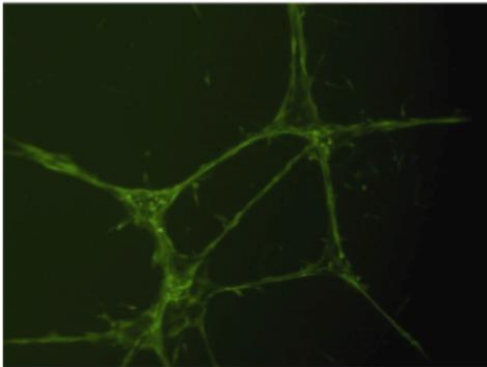
1) Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States. US Department of Health and Human Services; Atlanta, GA: 2014.

AgeX-VASC1 Purity

Monoclonal Endothelium



GFP Endothelium (168 hrs)



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 |
| TOTAL COSTS | \$555 billion | \$1.1 trillion |

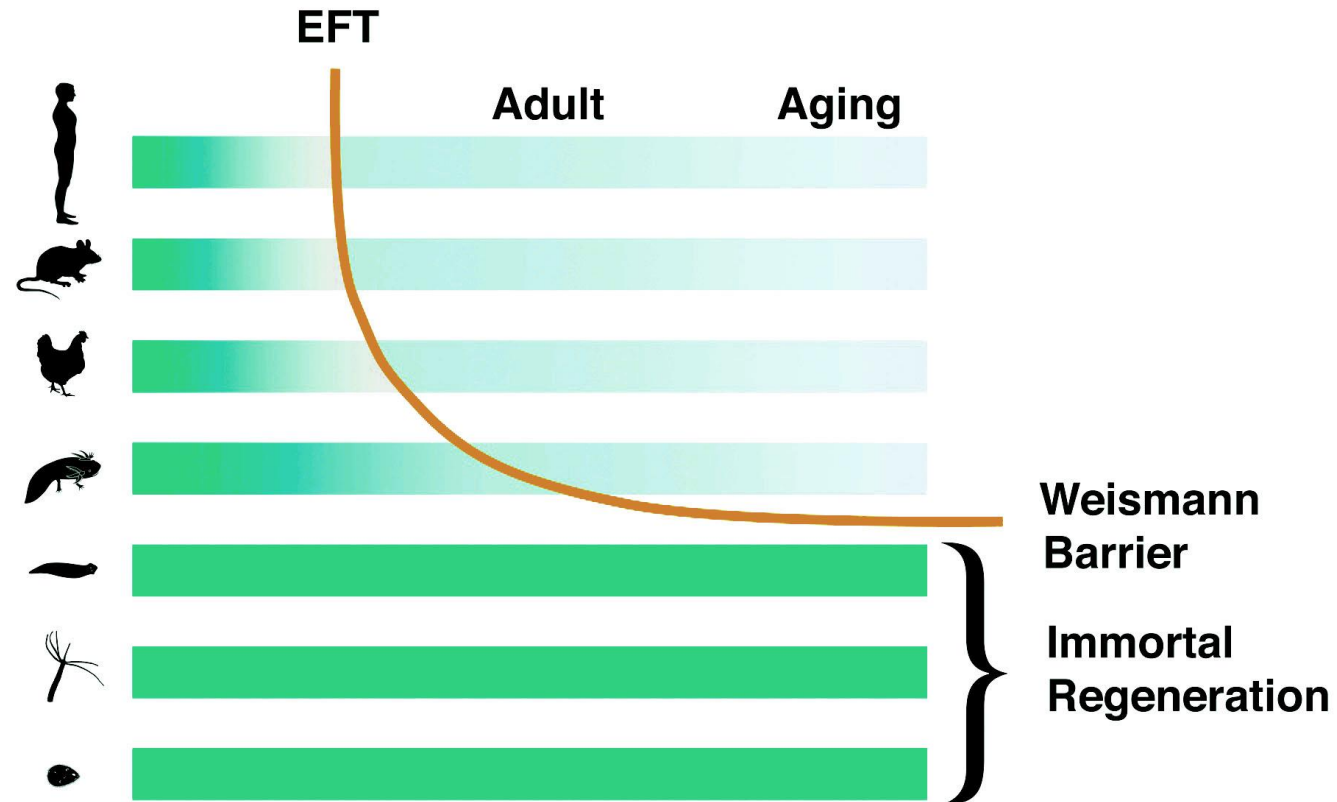
The Cost Generators: Aging Baby Boomers

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.

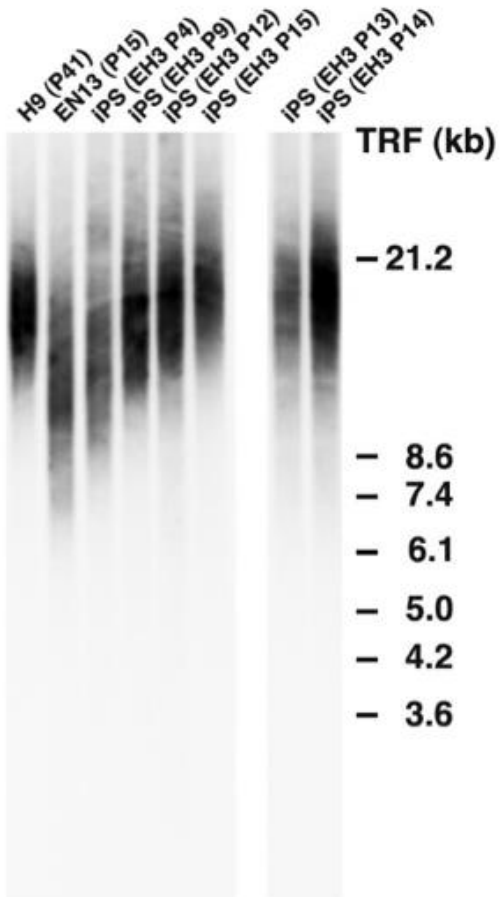
http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_491543.pdf

Induced Tissue Regeneration (iTR)

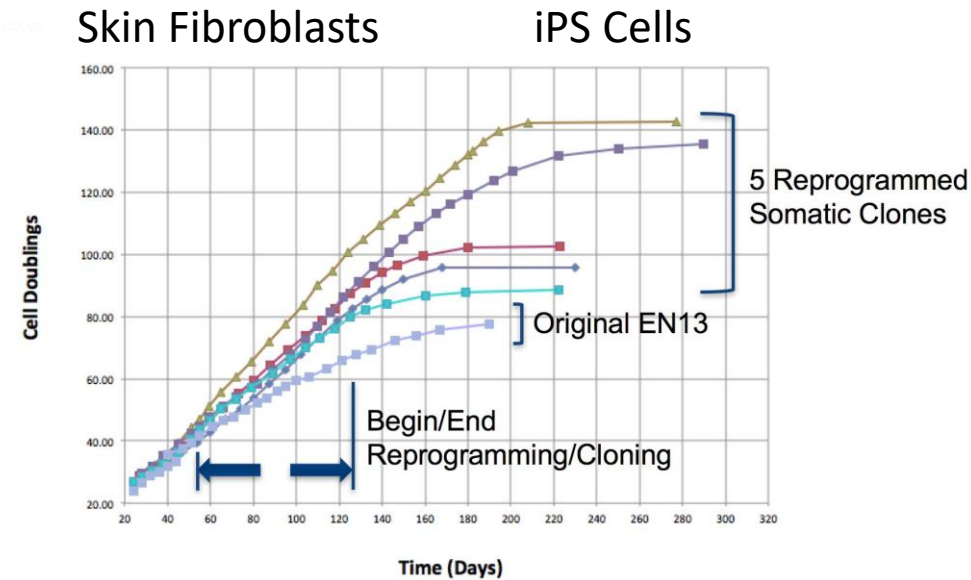
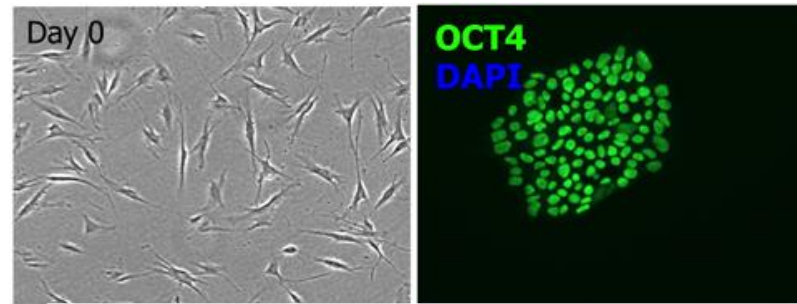
Innate regeneration in humans restricted to early development



Reversing the Aging of Human Cells Back to Pluripotency

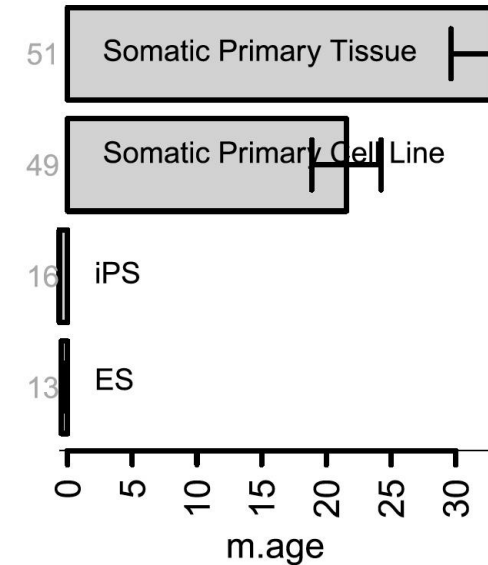


Regen Med 2010 May;5(3):345-63



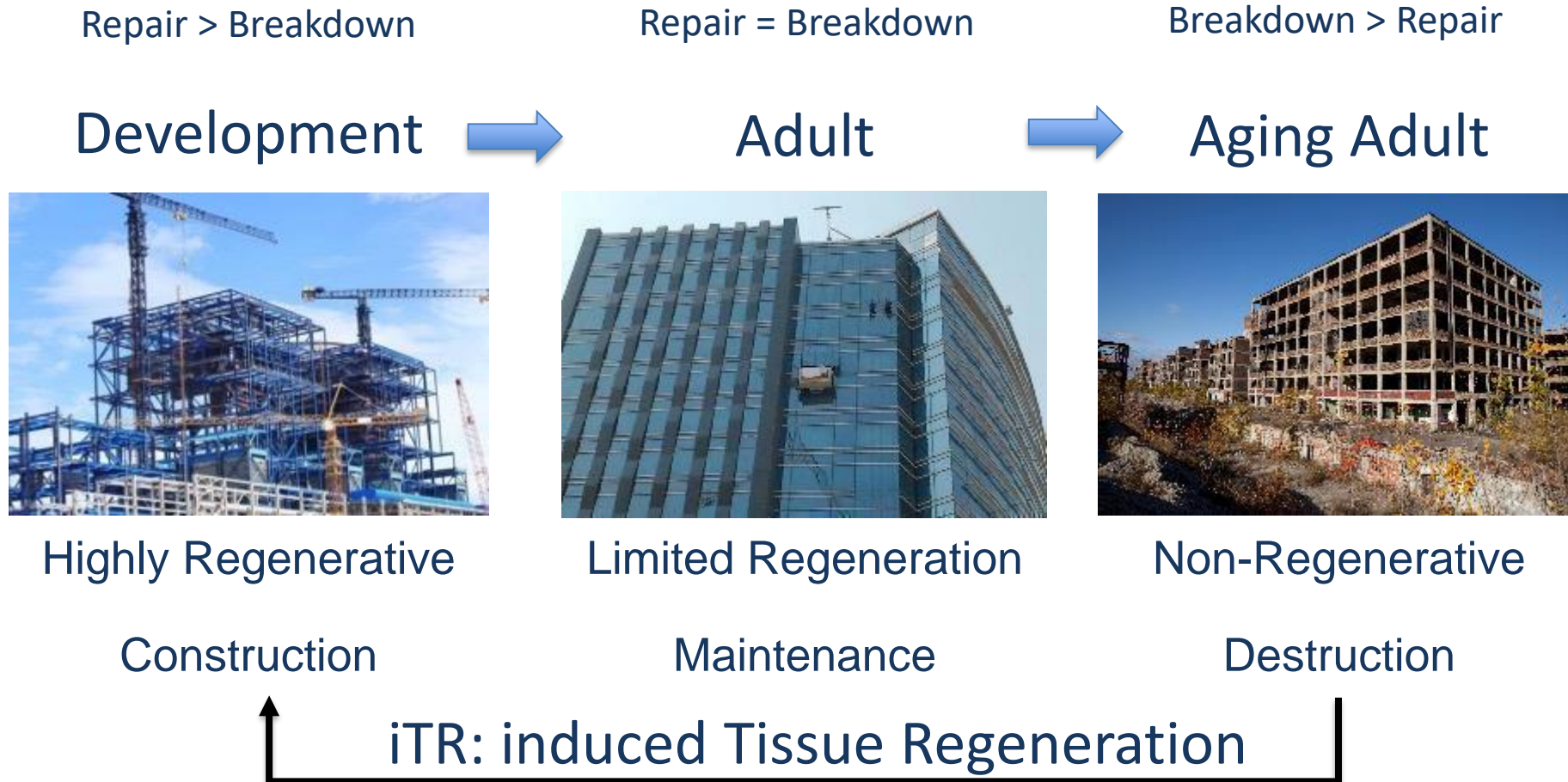
Reprogramming Methylation Age

A Data 77 $p = 1e-14$

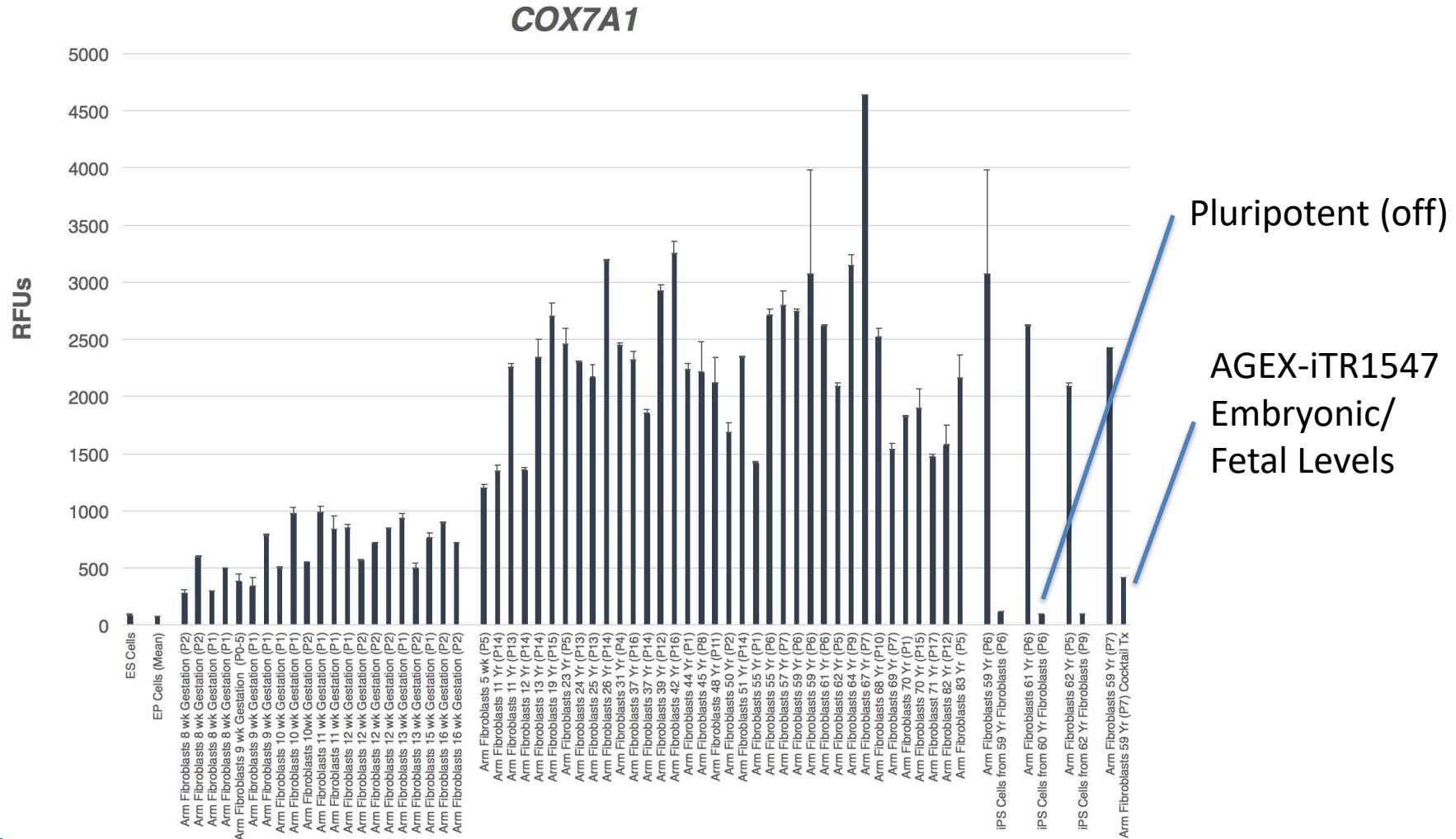


Genome Biol. 2013;14(10):R115

Reversing the Aging of Human Cells Back to Regeneration



An Example of an iTR Gene



Product Pipeline

| | Pre-Clinical | Phase I | Phase II | Phase III/Pivotal |
|-----------------------------------|--------------|-------------------------------|----------|-------------------|
| THERAPEUTICS | | | | |
| AGEX-BAT1 (Brown Adipocytes) | T2D | | | |
| AGEX-VASC1 (Vascular Progenitors) | MI | | | |
| AGEX-iTR1547 (NCE in HyStem) | CHF | | | |
| Renelon™ (Repurposed Drug) | 510(k) | 510(k) Clearance | | |
| RESEARCH PRODUCTS | | Marketed Research Products | | |
| Universal cGMP ES Cells, Cytiva | | | | |
| DATABASE PRODUCTS | | Marketed NGS Interpretation | | |
| GeneCards/LM Discovery | | | | |
| CANCER DIAGNOSTICS & THERAPY | | To be Partnered for Cancer Dx | | |
| Cancer Stem Cell EFT Dx & Tx | | | | |

Summary

- Largest challenge is chronic degenerative diseases of aging
- Straightforward therapeutic strategy: Young cells for aged tissues
- Proprietary manufacturing technology yielding highly scalable, purified, identified, and regenerative cells for applications in age-related degenerative disease
- A proprietary path to off-the-shelf allogeneic application
- A proprietary injectable matrix
- iTR has potential to induce not only regeneration in aged tissues but also induce senolysis