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Solebury Trout Virtual Global Healthcare Conference

April 2, 2020

NYSE American: LCTX

Forward-Looking Statements

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Lineage is a clinical-stage cell therapy company which manufactures and transplants various cell types to treat injuries and disease

Dry AMD

AMD is the **leading cause** of irreversible vision loss in the US

Source: aao.org

Spinal Cord Injury

Lifetime care for an SCI patient can cost nearly **\$5 million**

Source: christopherreeve.org

Cancer

Immunotherapy is "poised to **revolutionize treatment** for all types of cancer"

Source: cancerresearch.org

Lineage is well-positioned for near-term growth and long-term value



3 clinical-stage programs with billion dollar potential



World class in-house GMP manufacturing



One of the largest patent portfolios in cell therapy



Funded well into 2021* with cost-efficient business model



Leader in the emerging field of regenerative medicine

Our Cell Therapy Programs

Three Allogeneic (“Off-the-Shelf”) Treatments for Three Serious Conditions



OpRegen®

RPE cells for Dry Age-Related Macular Degeneration with GA (dry AMD)

Phase 1/2a
Enrolling



OPC1

Oligodendrocytes for Spinal Cord Injury (SCI)

Phase 1/2a
Completed



VAC2

Dendritic cells for Oncology (Non-Small Cell Lung Cancer, NSCLC)

Phase 1
Enrolling

Backed by hundreds of cell therapy-related patents and patent applications, including both ES & iPS technologies

Validating Partnerships and Funding

Programs	Phase I	Phase II	Partnerships & External Funding
OpRegen® Dry Age-Related Macular Degeneration with GA (Dry AMD)			 רשות החדשנות Israel Innovation Authority \$16M
OPC1 Spinal Cord Injury (SCI)			 CIRM CALIFORNIA / STEM CELL AGENCY >\$14M
VAC2 Non-Small Cell Lung Cancer (NSCLC)			 CANCER RESEARCH UK >\$10M in-kind

Technology Partners & Collaborators

ThermoFisher
SCIENTIFIC

AJINOMOTO

STEMCELL
TECHNOLOGIES

GE Healthcare

M
EMD MILLIPORE

AGEX
THERAPEUTICS

**Advanced
BioMatrix**

Hadasit
Bio-Holdings Ltd.

IMMUNOMIC
THERAPEUTICS

GO LIVER
Therapeutics

GYROSCOPE
Therapeutics

CJ HealthCare

EyeGate
pharma

**THE UNIVERSITY
OF UTAH**

WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

UCI IRVINE

**MICHIGAN STATE
UNIVERSITY**

רשות החדשנות
Israel Innovation
Authority

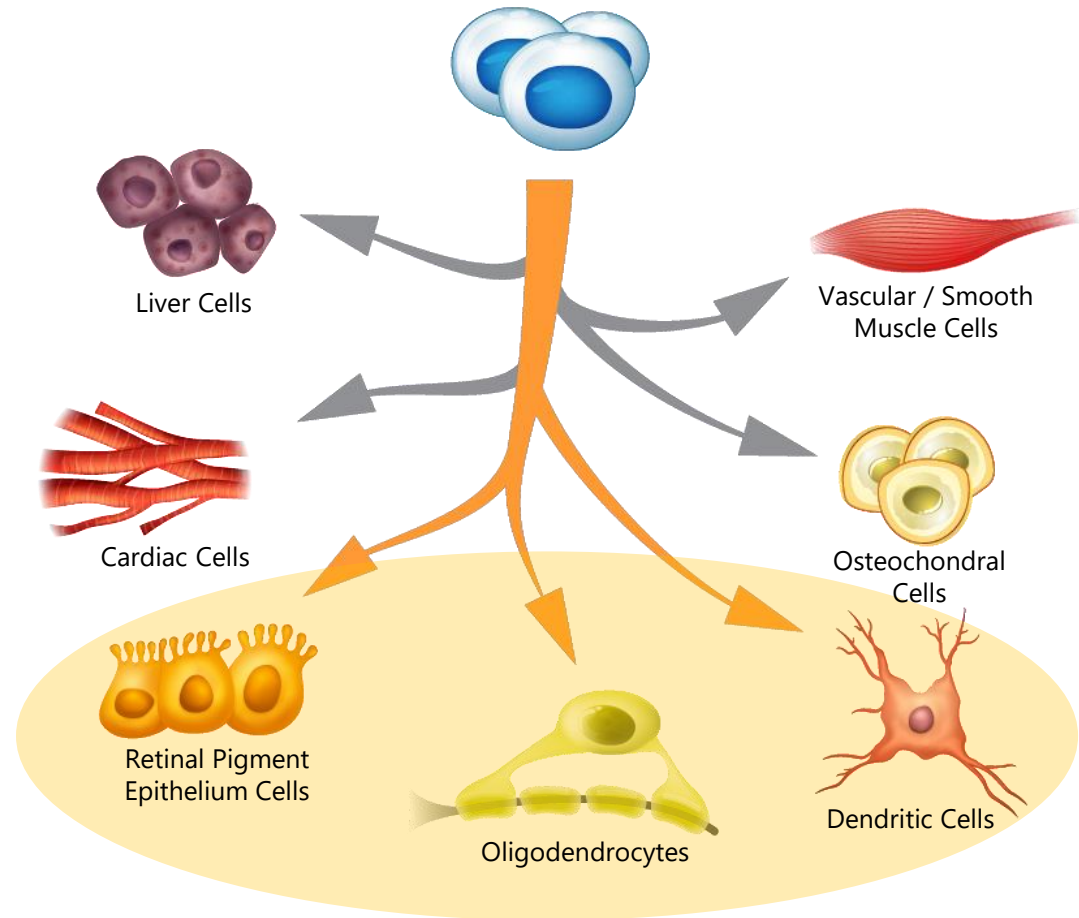
CIRM
CALIFORNIA'S STEM CELL AGENCY

NIH

**CANCER
RESEARCH
UK**

Lineage Technology Platform

- The Lineage Platform starts with *normal pluripotent cell lines*
- Pluripotent cells have the capacity to become *any* human cell type
- A highly controlled process generates *only* the desired cell type
- No genomic manipulation or epigenetic memory risks
- Frozen cell banks enable commercial-scale production and are not limited by donor availability



CURRENT CLINICAL PROGRAMS

In-House cGMP Production Capabilities

Extensive experience directing the lineage of pluripotent cells into terminally differentiated, specialized cell types

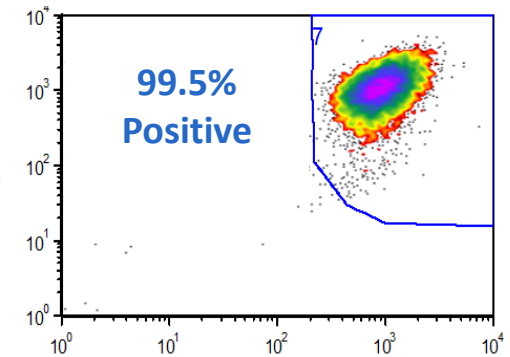
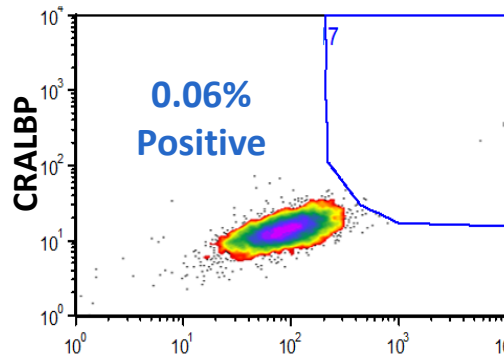
- Cell banking and handling
- Process development
- Manufacture of clinical material
- Scale-up in multi-liter bioreactors
- Multiple clean rooms for parallel GMP production runs



In-House cGMP Manufacturing

The lineage of an established line of pluripotent cells can be controlled to create a population of substantially pure and differentiated cells (e.g. RPE cells)

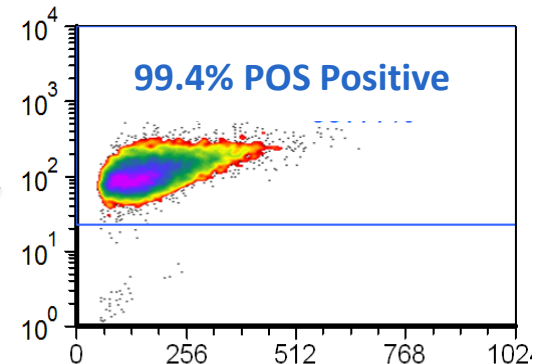
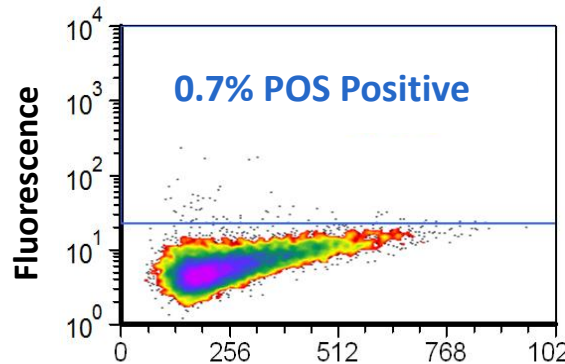
Identity (purity)



Undifferentiated cells

OpRegen RPE cells

Function (activity)



Undifferentiated cells

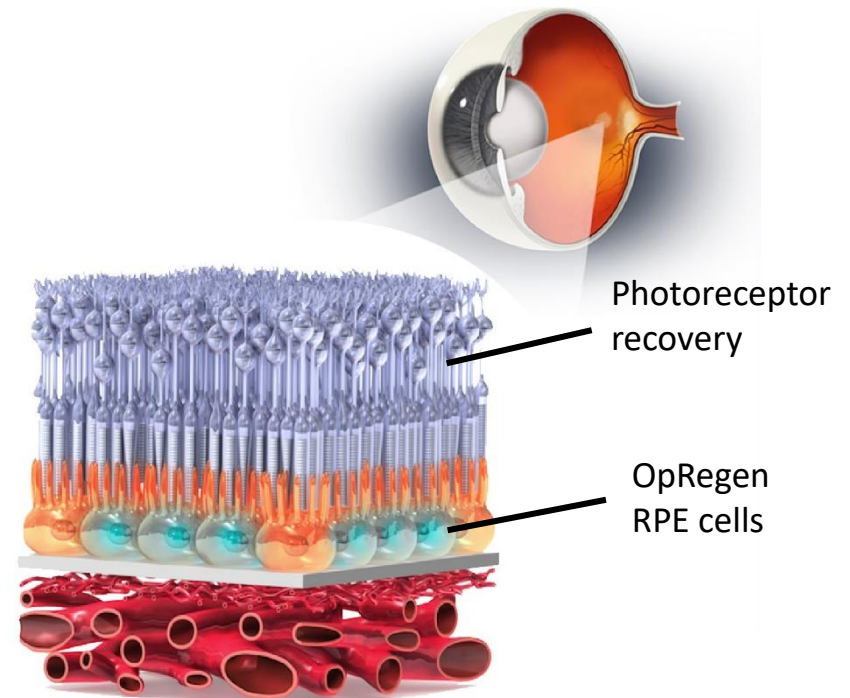
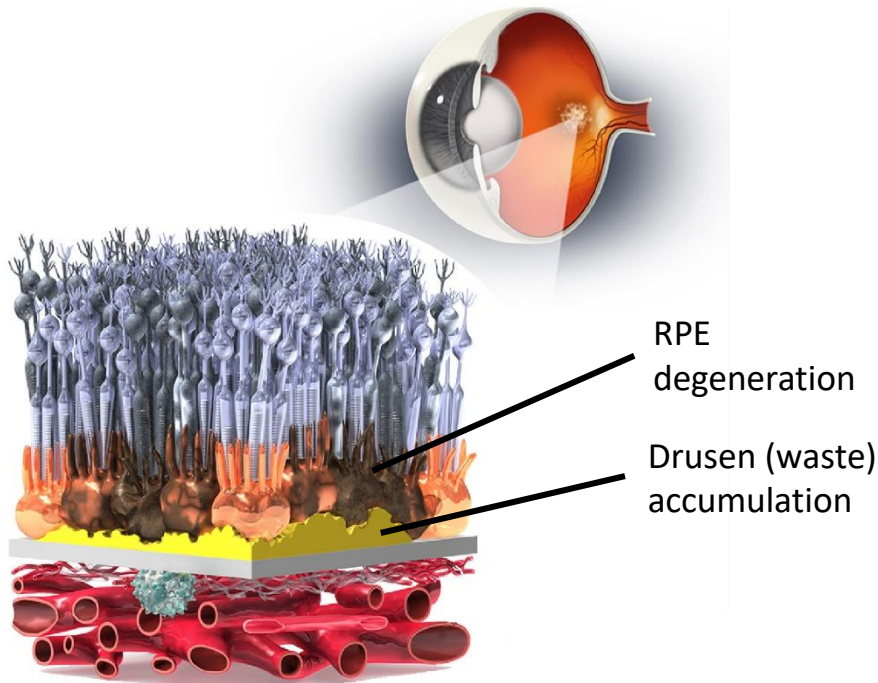
OpRegen RPE cells



OpRegen[®]: A Cell Therapy Product Candidate for Dry AMD

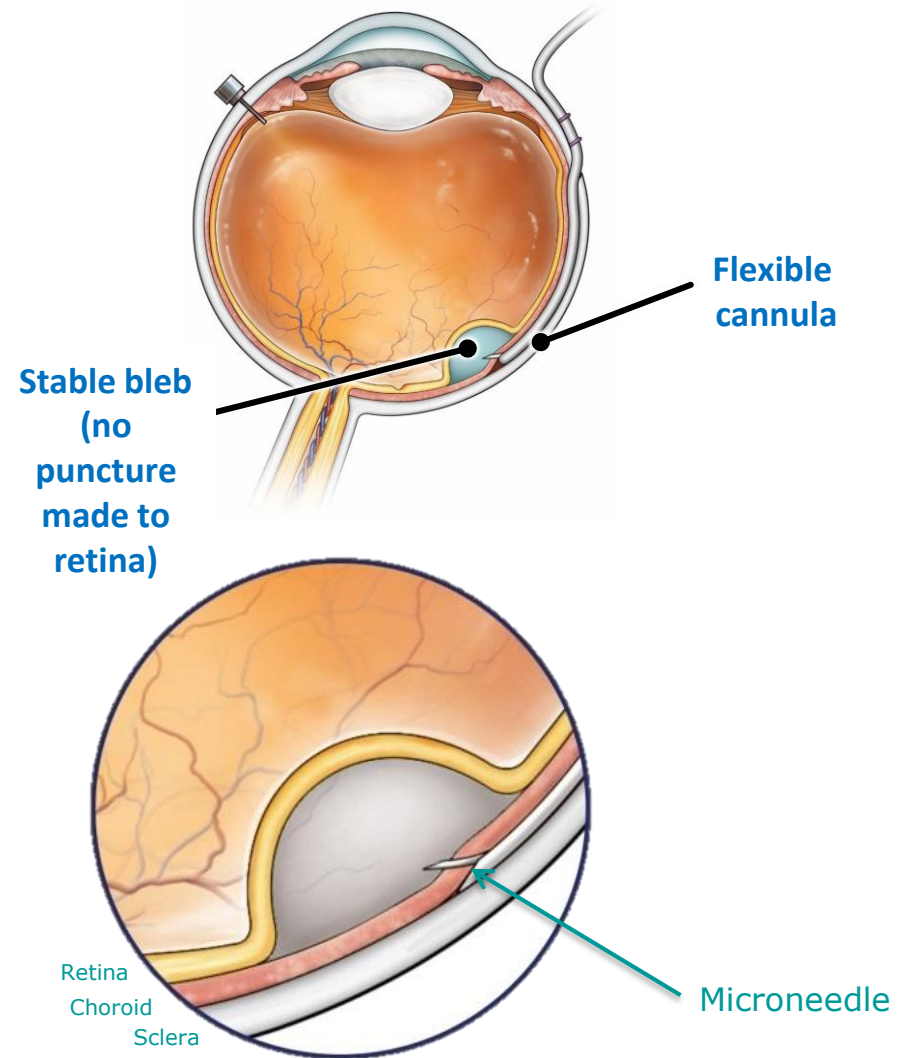
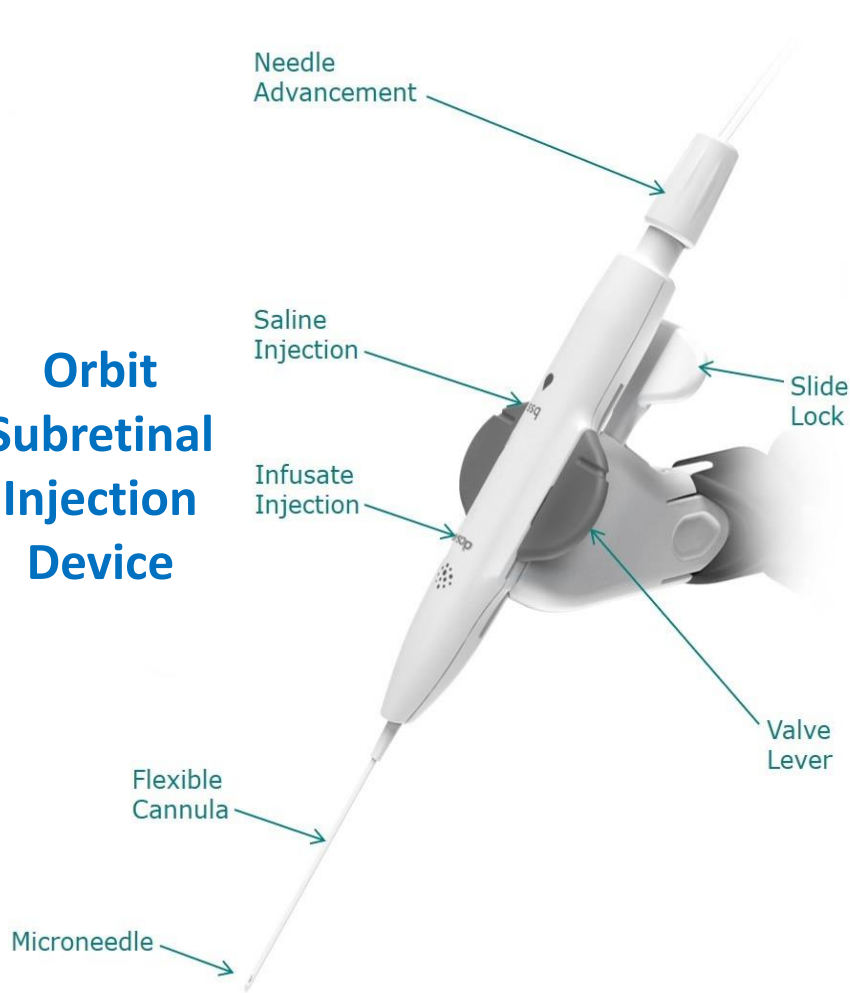
Dry Age-Related Macular Degeneration (AMD)

- Dry AMD involves the loss of specialized retina cells (RPE), causing impaired vision and blindness
- OpRegen is formulated as a ready-to-inject suspension of RPE cells delivered to the sub-retinal space

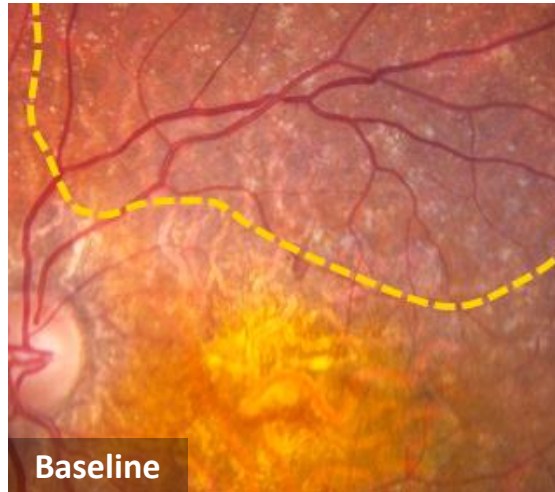


OpRegen Delivery: Orbit SDS (Suprachoroidal Approach)

Orbit Subretinal Injection Device



OpRegen Long-Term Cell Engraftment



----- Bleb border (boundary of transplanted OpRegen cells)



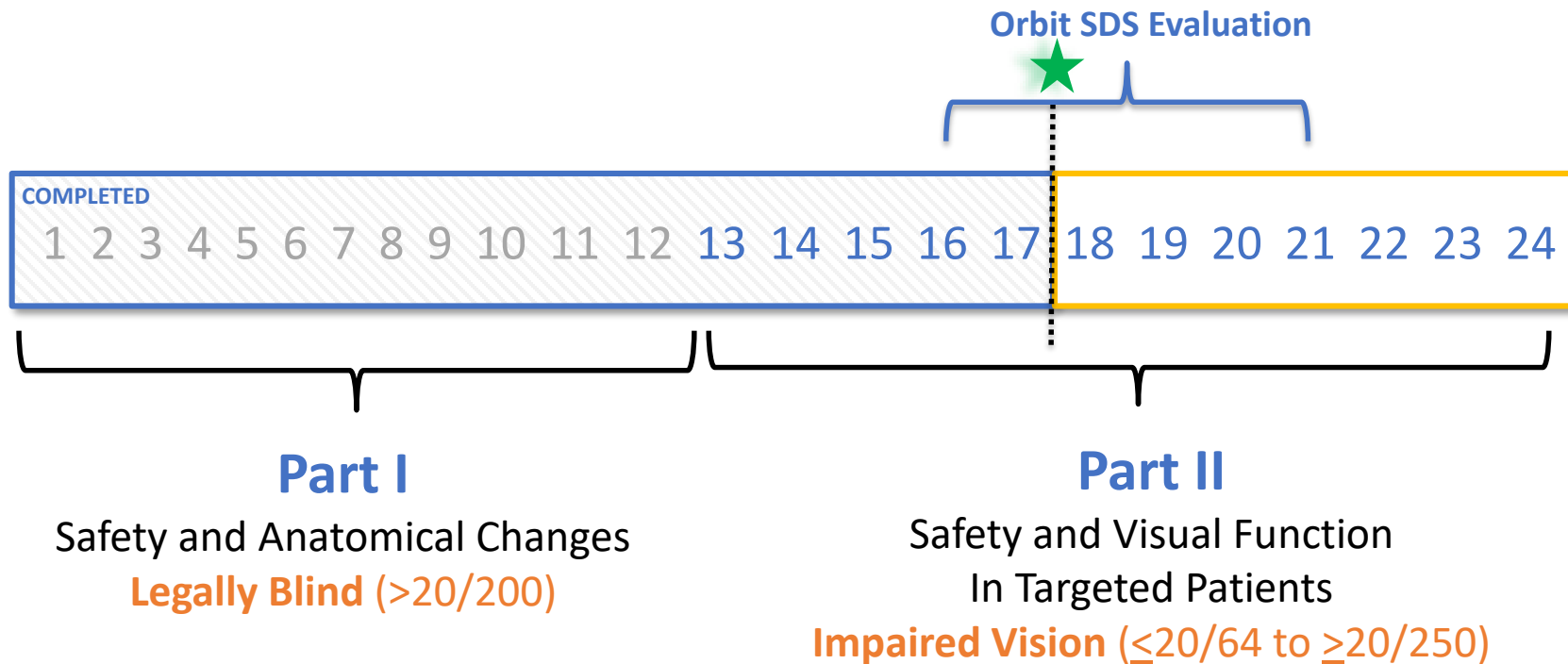
Punctate shaded areas are indicative of stable engraftment of pigmented cells for more than 24 months

Ongoing Phase I/IIa OpRegen Clinical Study

Purpose: To evaluate the safety and efficacy of subretinally transplanted RPE cells in patients with advanced dry AMD with geographic atrophy (GA)

Design: Open label, single-arm, and multi-center (5 sites)

Enrollment:



Clinical Considerations: Part 2 Patients at 12 Months (Data as last reported December 2019)

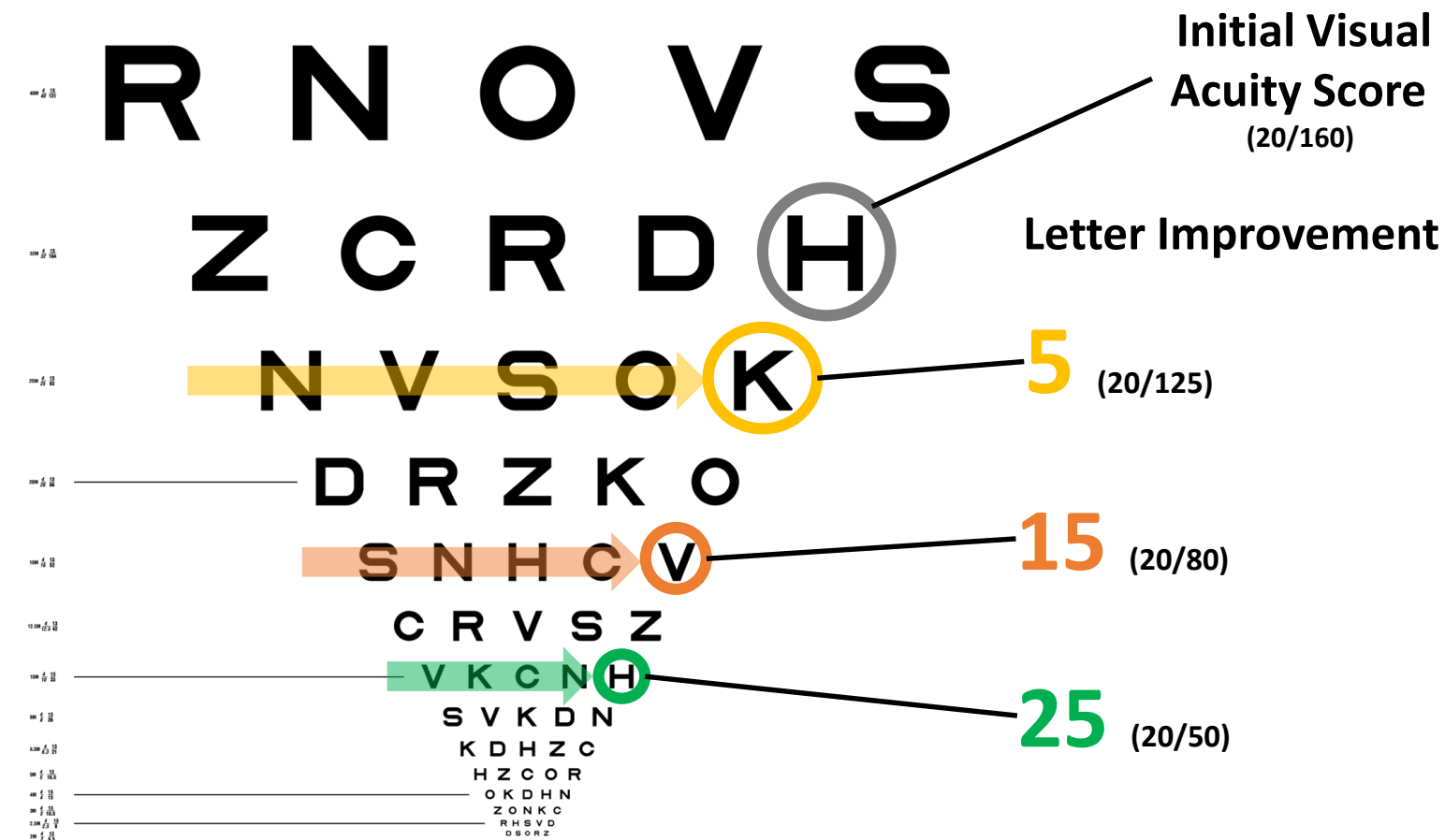
Phase I/IIa Study: Absolute Changes in Best Corrected Visual Acuity at 12-Month Timepoint*

Subject #	Change to Treated Eye	12-Month Timepoint	Treatment Route
13	+ 18 letters	Month 12	PPV/retinotomy
14	+ 8 letters	Month 12	PPV/retinotomy
15	+ 13 letters	Month 12	PPV/retinotomy
16	+ 25 letters	Month 6	Orbit SDS
17	+ 2 letters	Month 1	Orbit SDS

Patients are assessed at 15 months and at years 2-5, but 6- and 12- month data are more relevant clinical trial observation periods

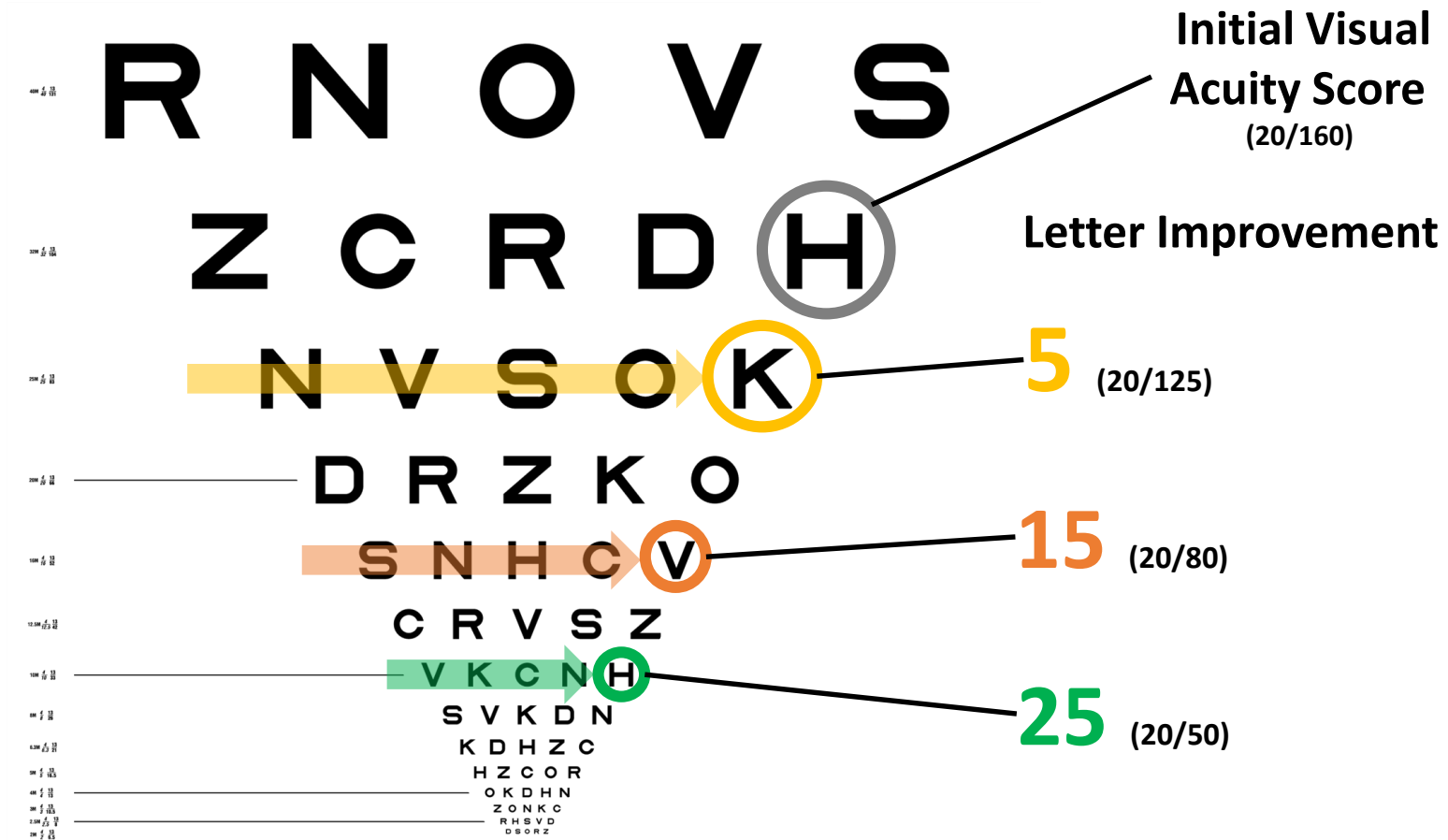
Data as last reported December 2019

Visual Acuity Test “Letter Improvement”



ETDRS Visual Acuity Chart #3

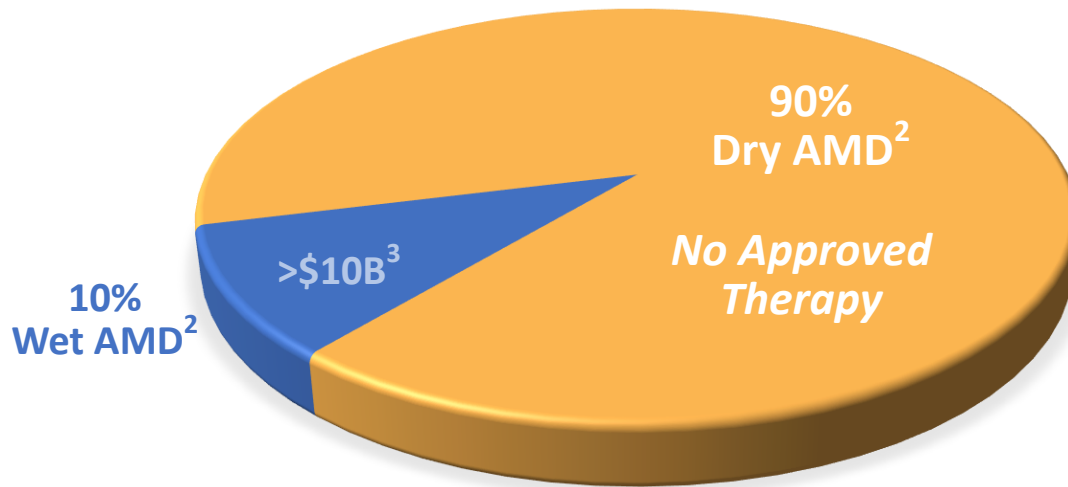
Visual Acuity Test “Letter Improvement”



ETDRS Visual Acuity Chart #3

Significant Unmet Medical Need

- AMD afflicts ~11 million people in the United States
 - ~\$10B in sales of approved wet AMD therapies: Lucentis® and Eylea®
 - But 90% of AMD patients have the dry form
 - Currently, there are no approved therapies for dry AMD aside from nutritional supplements¹



Sources: (1) Bright Focus Foundation. Macular Degeneration Facts & Statistics: Bright Focus Foundation. <http://www.brightfocus.org/macular/about/understanding/facts.html>; (2) JM Seddon, Epidemiology of age-related macular degeneration. (AP Schachar, S Ryan eds.) Retina, 3rd ed. St. Louis, MO: Mosby; 2001;1039-50; (3) 2018 product sales summary based on publicly reported revenue figures for Lucentis and Eylea.

2020 – OpRegen News and Events

- **Received DSMB clearance to enroll patients up to 20/65**
- **Opening additional sites in ongoing study**
- **Next data release expected in May**
- **Plan to complete enrollment in Orbit cohort**
- **Begin exploring partnership opportunities for the program**



OPC1: A Cell Therapy Product Candidate for Spinal Cord Injury

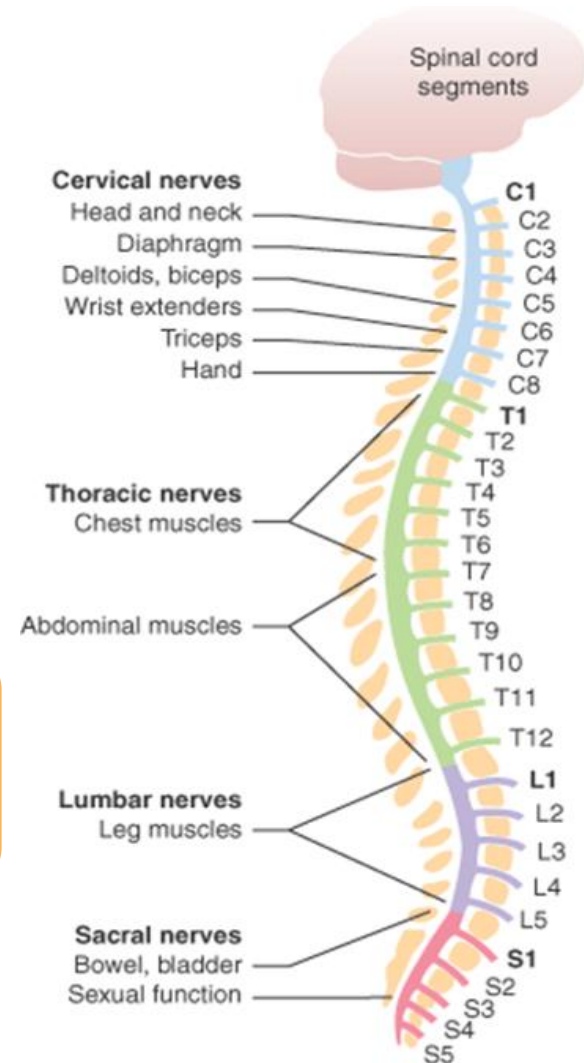
Lucas' Story



Lucas Linder, an OPC1 clinical trial participant, was paralyzed from the neck down. The next year, he threw out the first pitch at a Major League Baseball game.

Spinal Cord Injury (SCI) Unmet Need

- SCI creates a significant burden for patients and caregivers*
 - 67% of patients are unemployed 10 years post-injury
 - Lifetime healthcare costs can reach \$5 million
- Motor level improvements translate into clinically meaningful improvements in self-care and reductions in cost of care
- The therapeutic goal is to restore additional arm, hand, and finger function, increasing independence and quality of life



OPC1 Overview

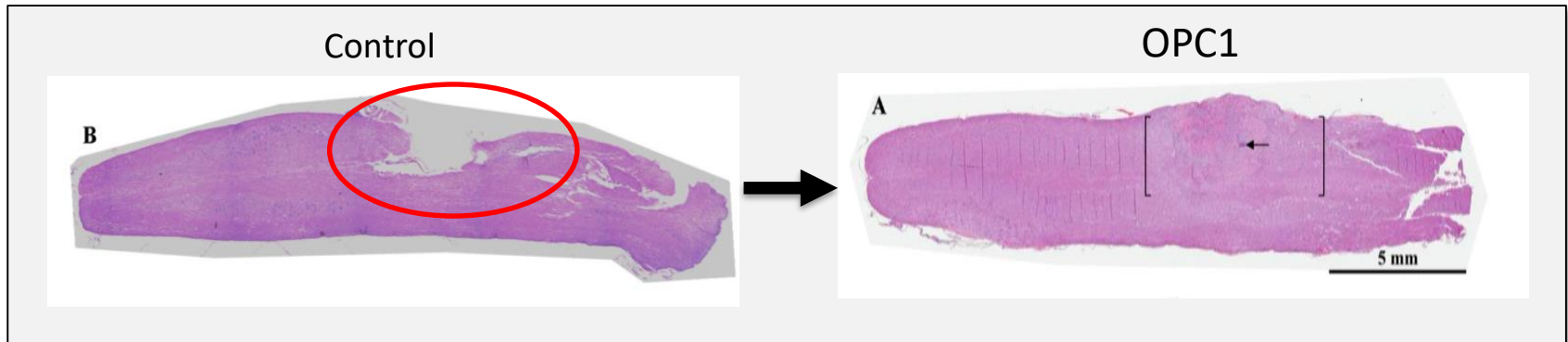
- OPC1 is a population of “off the shelf” oligodendrocyte progenitor cells (OPCs)
- OPCs are precursors to the cells which provide electrical insulation for nerve axons in the form of a myelin sheath
- OPC1 has RMAT and Orphan Drug Designations from the FDA
- Program has received >\$14M from CIRM



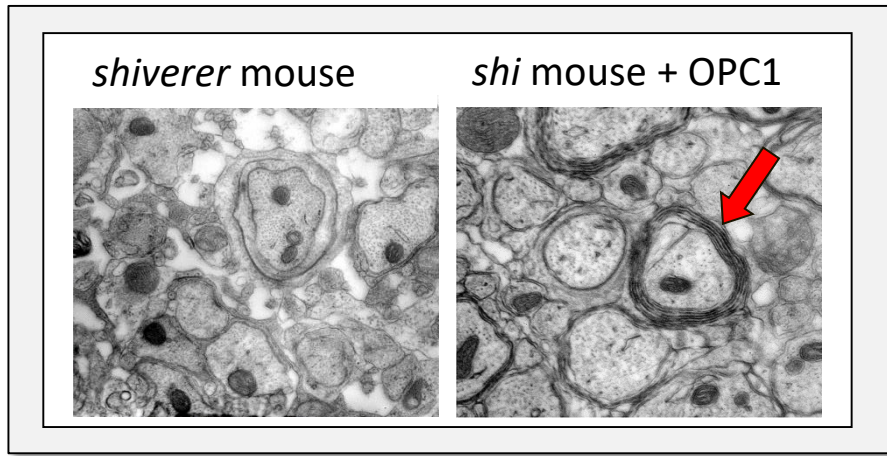
OPC1 Injection Procedure

OPC1 Potential Mechanisms of Action

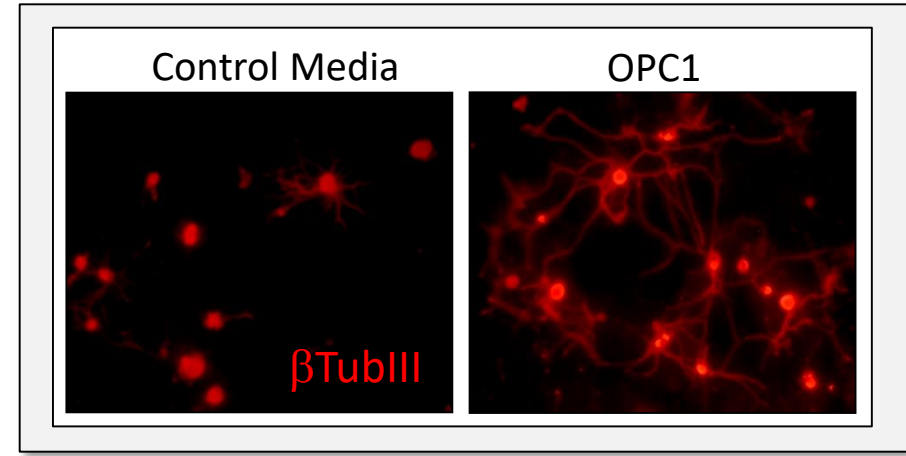
Prevention of Cavitation



Myelination of axons

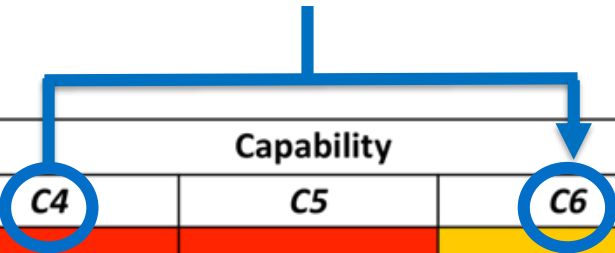


Secretion of neurotrophic factors



Activities of Daily Living Scale

Real-world Impact of a +2 Motor Level Improvement

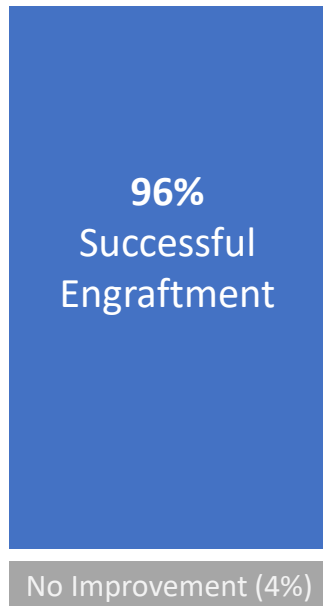


Function	Capability				
	C1-C3	C4	C5	C6	C7-C8
Bowel	Red	Red	Red	Yellow	Yellow
Bladder	Red	Red	Red	Yellow	Green
Bed Mobility	Red	Red	Yellow	Green	Green
Transfers	Red	Red	Red	Green	Green
Pressure Relief	Red	Red	Yellow	Green	Green
Eating	Red	Red	Yellow	Green	Green
Dressing	Red	Red	Yellow	Green	Green
Grooming	Red	Red	Yellow	Green	Green
Bathing	Red	Red	Red	Green	Green
Wheelchair	Red	Red	Red	Yellow	Green
Car transport	Red	Red	Red	Yellow	Green
Daily Home Care	24 hr attendant	18-24 hr attendant	6-12 hr assistance	4 hr housework	1 hr housework
	Red		Yellow		Green
	Total Assist		Partial Assist		Independent

Safety and Efficacy from OPC1 Phase 1/2a Study

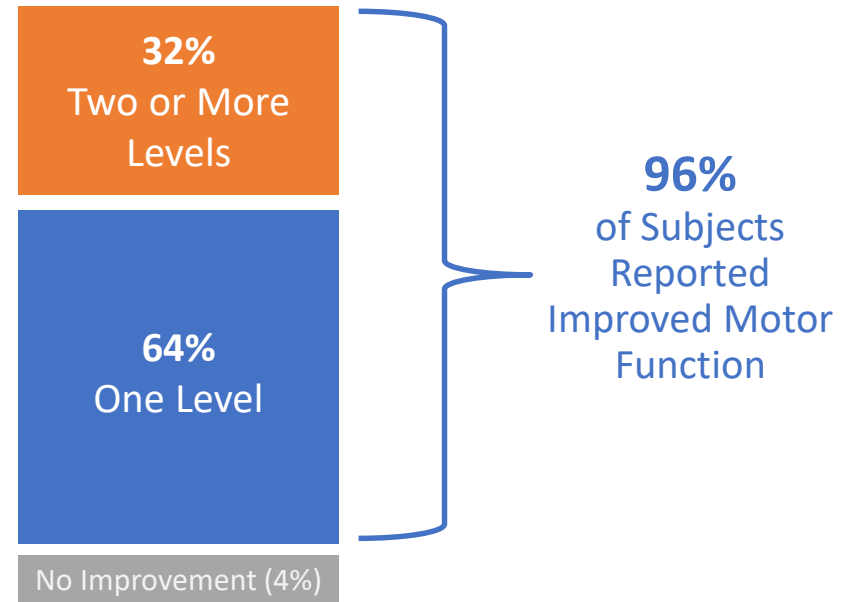
Cell Engraftment

(cohorts 2-5 at 12 months, n=22)



Motor Function Gain

(cohorts 2-5 at 12 months, n=22)



To date, there have been no serious adverse events related to the OPC1 cells

OPC1 - Overall Summary

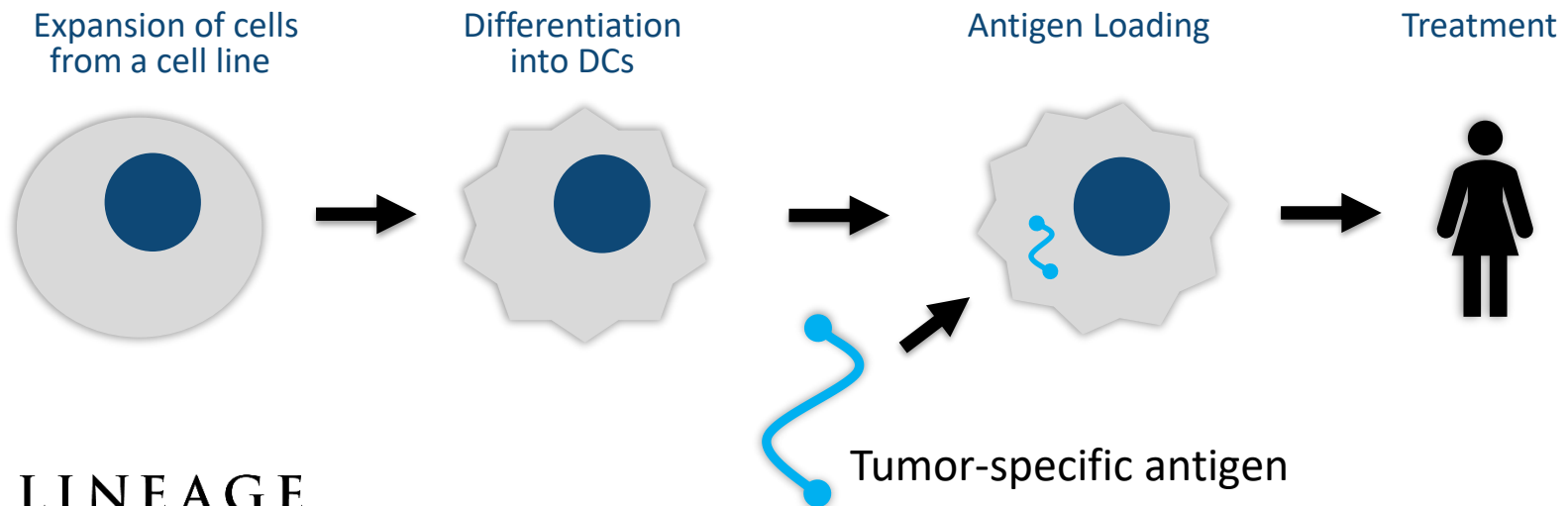
- **Excellent overall safety profile**
- **96% durable engraftment through 1 year**
- **No subjects had a decline in motor function from Year 1 to Year 2**
- **95% of patients exhibited motor recovery in the upper extremities at 1 year (at least 1 motor level on at least 1 side)**
- **Results support further evaluation in a randomized, controlled study**
- **Currently introducing manufacturing and delivery enhancements to improve commercial viability and allow for more sites in the next trial**



VAC2: A Cell Therapy Product Candidate for Cancer (Immuno-Oncology)

VAC Immuno-Oncology (I-O) Program

- The VAC platform uses mature dendritic cells to enhance a patient's immune system
- Mature dendritic cells are loaded with an antigen present in >85% of all cancers
- This “targeted education” of T cells increases the immune response and tumor cell destruction
- VAC is an allogeneic (“off the shelf”) vaccine; cells are manufactured from a pluripotent cell line and not derived from the patient (time and cost advantages)



VAC2 Clinical Program

- VAC2 is partnered with Cancer Research UK (CRUK)
- CRUK is responsible for manufacturing and running the clinical trial
- Immunogenicity data from the initial patients will guide whether to re-acquire majority rights and further develop VAC2
- CRUK controls timing and release of any data



Potential Advantages of the VAC2 Approach

Attribute	VAC2
Single master cell bank for scalability and consistency	✓
Available 'off-the-shelf', on demand	✓
No known significant off-target effects	✓
Low AE-related cost of treatment	✓
Lower anticipated COGS than CAR-T	✓
Use in combination with chemotherapy	✓
Use in combination with immune checkpoint inhibitors	✓

VAC2 was designed to overcome limitations of first-generation I-O combinations and autologous approaches, while providing cost and safety advantages in combination or competition with CAR-T, CTL4, or Immune Checkpoint Inhibitors (ICIs).

Financial Overview

- **Cash and cash equivalents and marketable securities**
 - \$30.7 million (as of 12/31/2019)
 - Sold \$5 million of OncoCyte (OCX) holdings on 1/2/2020
- **Value of Remaining Equity Holdings in OCX**
 - \$14.8 million (based on closing stock price on 3/31/2020)
- **Convertible promissory note due from Juvenescence**
 - \$24.6 million at maturity in August 2020
- **Market Capitalization**
 - \$124 million (as of 3/31/2020)
- **Employees**
 - 53
- **2020 Net Operational Budget**
 - \$16 million

Lineage 2020

Significant Events

PROGRAM	MILESTONE
OpRegen program	- Open additional clinical sites - Present new data from OpRegen program (May) - Complete patient enrollment in Orbit cohort - Evaluate partnership opportunities
OPC1 Program	- Introduce manufacturing improvements - Meet with the FDA to discuss CMC and clinical development plan - Provide updates from the SCiStar study - Continue partnership discussions with CIRM and others
VAC2 Program	- Review immunogenicity data from Phase I study - Make decision on acquiring majority rights to the program
Partnerships	Identify opportunities for OpRegen, OPC1, VAC2 and Renevia®, Lineage's facial aesthetics product that was recently granted a CE Mark

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3 clinical-stage programs with billion dollar potential



World class in-house GMP manufacturing



One of the largest patent portfolios in cell therapy



Funded well into 2021* with cost-efficient business model



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