LINEAGE
Cell Therapeutics

From promise to people.

Our mission is to pioneer a new branch of medicine: directed differentiation and allogeneic cell transplant to restore function

2ND ANNUAL SCI INVESTOR SYMPOSIUM JUNE 27, 2024
NYSE AMERICAN: LCTX
lineagecell.com

Forward-Looking Statements

This presentation is for informational purposes only and is not an offer to sell or a solicitation of an offer to buy any securities of Lineage Cell Therapeutics, Inc. ("Lineage"). This presentation includes certain information obtained from trade and statistical services, third-party publications, and other sources. Lineage has not independently verified such information and there can be no assurance as to its accuracy.

All statements in this presentation, other than statements of historical fact, are forward-looking statements within the meaning of federal securities laws. In some cases, you can identify forward-looking statements by terms such as "may," "will," "would," "expect," "plan," "anticipate," "strategy," "designed," "could," "can," "intend," "believe," "estimate," "target," "potential," "aim," "seek," "continue," "next steps," "upcoming," or the negative of these terms and other similar expressions. Such statements include, but are not limited to, statements relating to the broad potential for Lineage's regenerative medicine platform and Lineage's ability to advance and expand the same; differentiated data and Lineage's ability to reproduce the same or similar results in future preclinical research or clinical trials; the potential success of existing partnerships and collaborations, the potential opportunities for the establishment or expansion of strategic partnerships and collaborations and the timing thereof; the projected timing of milestones of future studies, including their initiation and completion; and the potential for Lineage's investigational allogeneic cell therapies to generate clinical outcomes beyond the reach of traditional methods and provide safe and effective treatment for multiple, diverse serious or life threatening conditions. Forward-looking statements involve risks, uncertainties and assumptions that may cause Lineage's actual results, performance, or achievements to be materially different from those expressed or implied by the forward-looking statements in this presentation, including, but not limited to, the following risks: that positive findings in early clinical and/or nonclinical studies of a product candidate may not be predictive of success in subsequent clinical and/or nonclinical studies of that candidate; that planned research, development or clinical activities may be ceased or delayed for various reasons; that Lineage may not be able to manufacture sufficient clinical quantities of its product candidates in accordance with current good manufacturing practice; that competing alternative therapies may adversely impact the commercial potential success of any product candidate, and other risks and uncertainties inherent in Lineage's business and other risks described in Lineage's filings with the Securities and Exchange Commission (SEC). Lineage's forward-looking statements are based upon its current expectations and involve assumptions that may never materialize or may prove to be incorrect. All forward-looking statements are expressly qualified in their entirety by these cautionary statements. Further information regarding these and other risks is included under the heading "Risk Factors" in Lineage's periodic reports filed with the SEC, including Lineage's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and its other reports, which are available from the SEC's website at www.sec.gov. You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date on the cover of this presentation. Lineage undertakes no obligation to update any forward-looking statement to reflect events that occur or circumstances that exist after that date, except as required by law.

Lineage Corporate Profile

Corporate Headquarters
Carlsbad, California

Research & Development
Carlsbad, California

cGMP Manufacturing
Jerusalem BioPark, Israel

Strong Financial Position

$43.6M

Cash & equivalents at 3/31/2024

Market Capitalization

~$223M*

Employees

75

(U.S. & Israel)

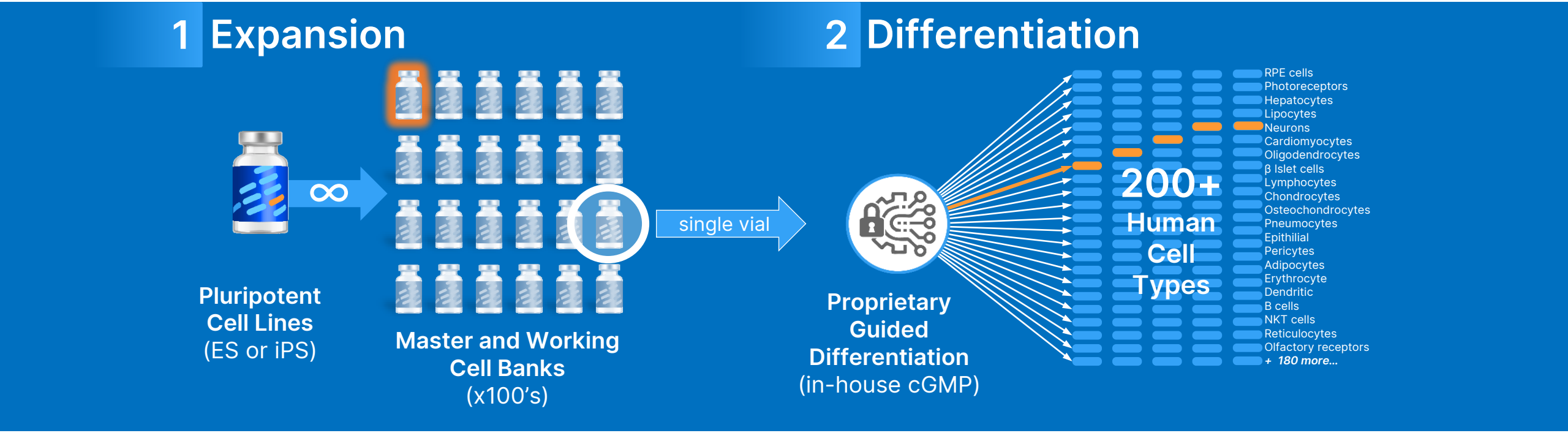
*Based on common shares outstanding and closing trading price as of 5/9/2024

The Lineage Approach:

In certain settings, replacing whole cells may provide restorative benefits beyond the reach of traditional approaches

#replaceandrestore

Lineage Technology: Two-Step Allogeneic Cell Production



- Pluripotent stem cell lines (PSCs) provide an *endless supply* of undifferentiated starting material for all programs
- PSCs can become each of the 200+ cell types of the human body
- No genetic editing is required

- The target cell has been validated by evolution
- Residual pluripotent cells are undetectable
- Generates IP (~375 issued and pending patents)
- Ready to inject formulation (no dose preparation delay)
- One-time treatment – cells integrate without rejection
- Scalable process for clinical and commercial use

Neuroscience Cell Therapy Pipeline – 100% Allogeneic

FIELD	PROGRAM	PHASE 1	PHASE 2	PHASE 3	
 Ophthalmology	**OpRegen** Dry AMD with Geographic Atrophy (GA)	24 patients treated	Enrolling		Genentech A Member of the Roche Group *Funded Partnership*
 Demyelination	**OPC1** Spinal Cord Injury (SCI)		30 patients treated		CIRM CALIFORNIA'S STEM CELL AGENCY *Grant Partner*
 Neurotology	**ANP1** Auditory Neuropathy (Hearing Loss)	*Preclinical*			
 Ophthalmology	**PNC1** Vision loss; Retinitis Pigmentosa	*Research*			
 Neurology	**RND1** Undisclosed indications	*Research*			eterna *Gene Editing Partner*

LINEAGE
Cell Therapeutics

OPC1

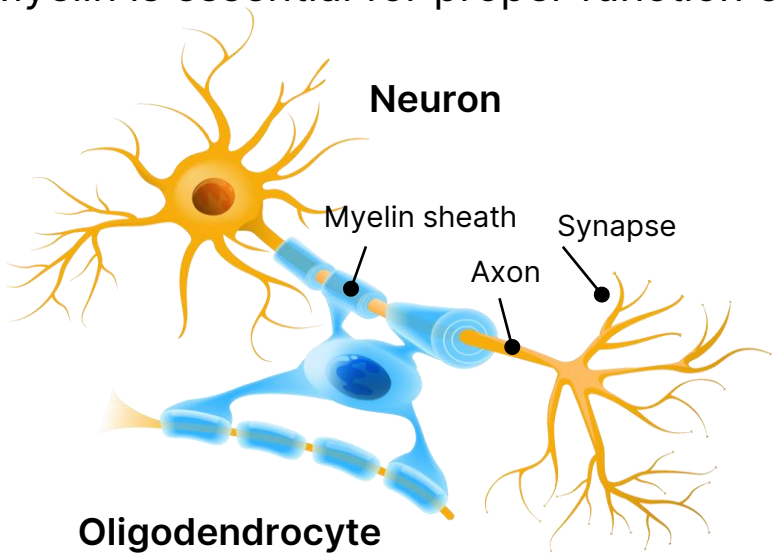
Oligodendrocyte Cell Transplants for Spinal Cord Injuries

30 clinical administrations to date

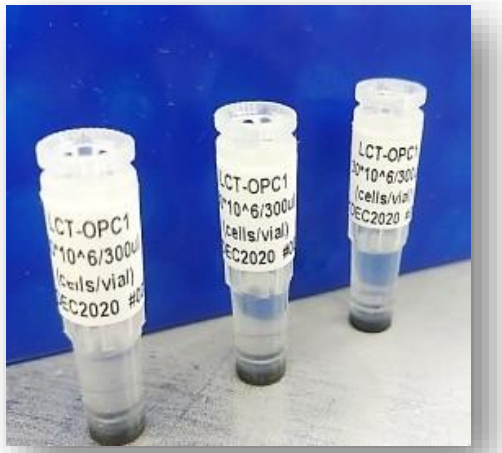
Oligodendrocyte Cells as a Treatment Option for SCI

Transplanting oligodendrocytes may provide additional motor function and improve quality of life

- Oligodendrocyte progenitor cells (OPCs) are precursors to the myelinating cells of the central nervous system
- Myelinating cells provide insulation to nerve axons in the form of a myelin sheath
- Myelin is essential for proper function of neurons

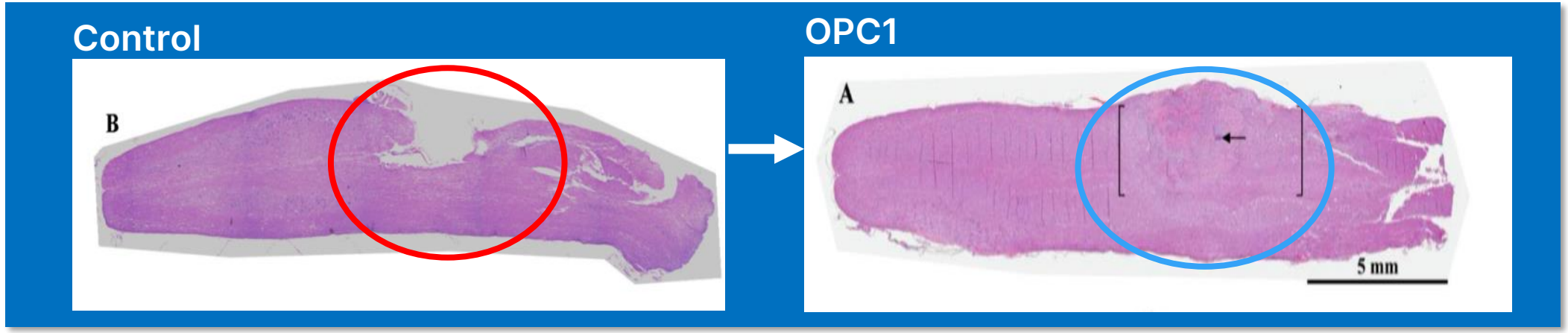


- OPC1 is generated from an NIH-registered cell line
- Cells are **allogeneic ("off the shelf")** and not taken from the patient
- **OPC1 is a one-time injection** into the spinal cord
  - Subacute dosing occurs 3-6 weeks post-injury, providing time for consent and transportation
- Immunosuppression is brief (60 days)
- Cells are cryo-preserved in a ready to use, **thaw-and-inject formulation**

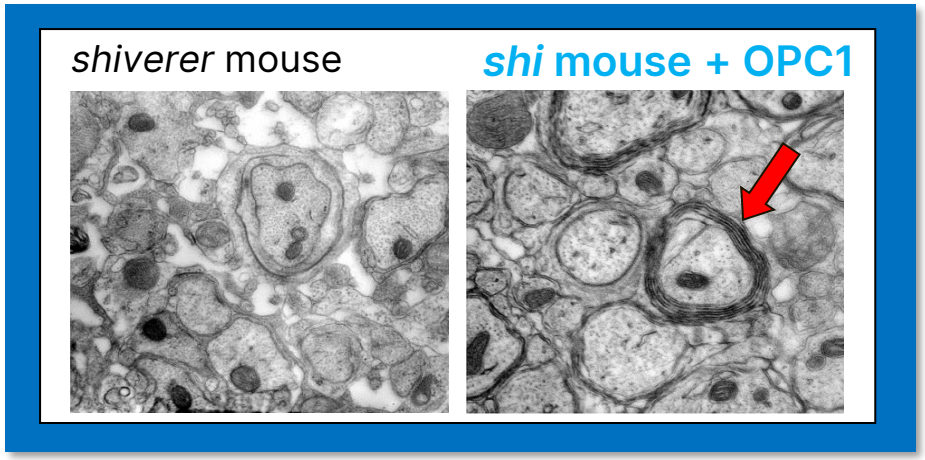


OPC1 Triple Mechanisms of Action

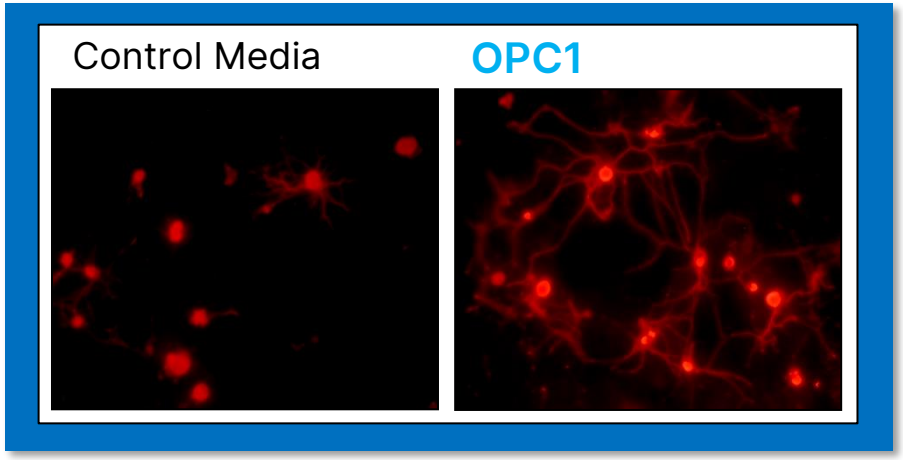
Preventing Cavitation



Myelination of Axons



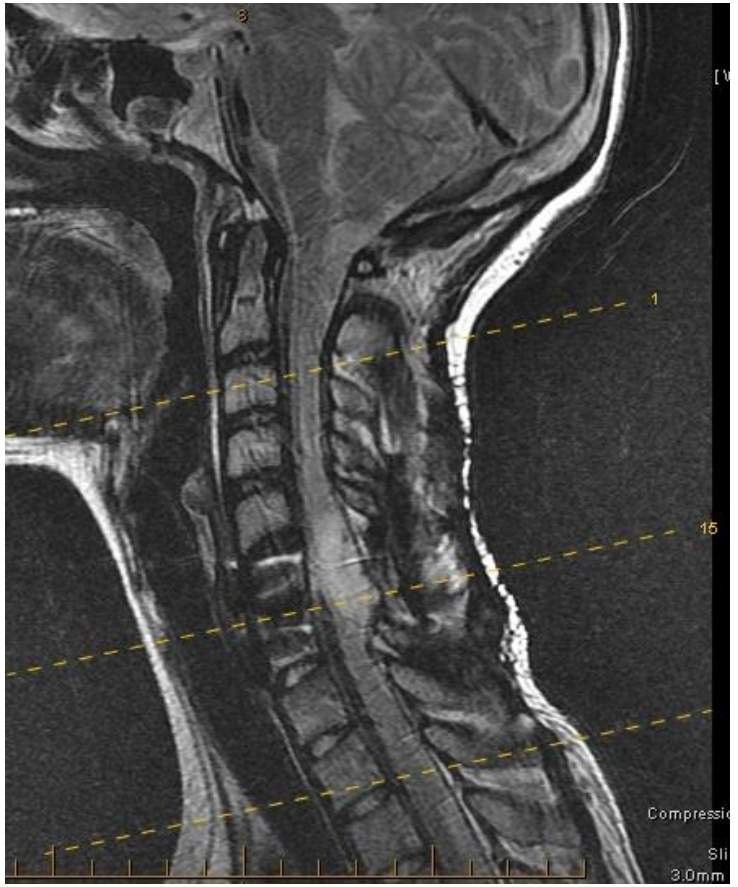
Neurotrophic Factors



OPC1 Cervical Clinical Trial - Cell Engraftment

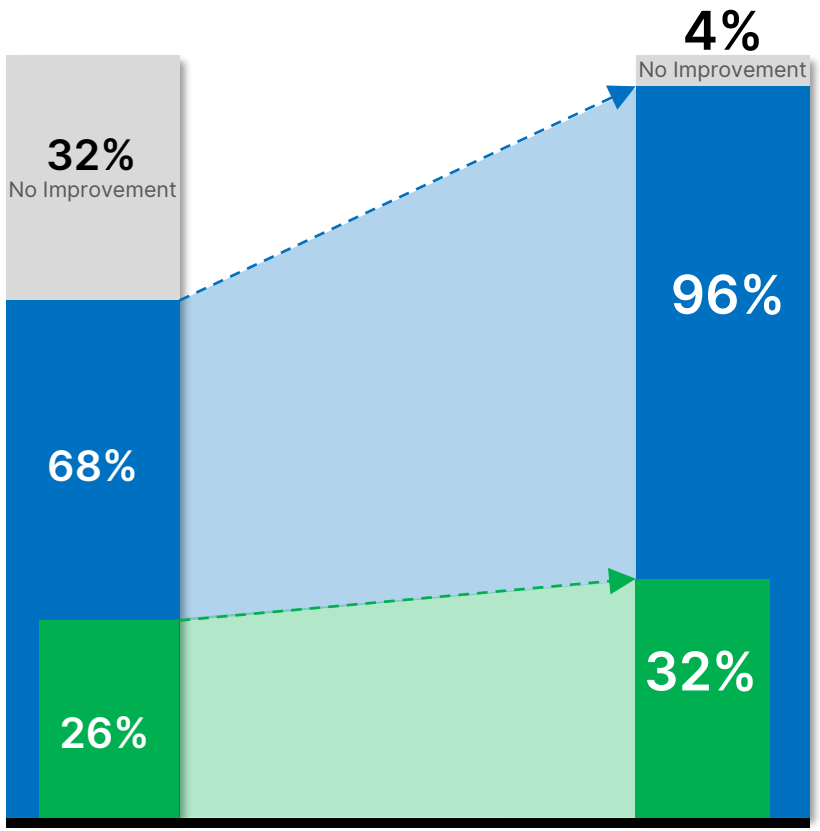
12- and 24-Month MRI Scans Indicate Durable Engraftment

- Cystic cavitation (syringomyelia) is a disorder which can damage nerve fibers and is expected to occur in ~80% of matched SCI cases
- MRIs show formation of a tissue matrix at the injury site, indicating OPC1 cells have durably engrafted to help prevent syringomyelia
- 96% (24/25) of OPC1 patients had serial MRI scans that indicated no sign of a lesion cavity at 24 months (for 22 available scans)



Weighted sagittal MRI

Expected Recovery[1] vs OPC1: Motor Function Gains



1. Steeves JD, Lammertse DP, Kramer JL, Kleitman N, Kalsi-Ryan S, Jones L, Curt A, Blight AR, Anderson KD. Outcome Measures for Acute/Subacute Cervical Sensorimotor Complete (AIS-A) Spinal Cord Injury During a Phase 2 Clinical Trial. Top Spinal Cord Inj Rehabil. 2012 Winter;18(1):1-14. doi: 10.1310/sci1801-1. Epub 2012 Jan 31. PMID: 23239927; PMCID: PMC3519288.
2. Fessler, R. G., Ehsanian, R., Liu, C. Y., Steinberg, G. K., Jones, L., Lebkowski, J. S., Wirth, E. D., III, & McKenna, S. L. (2022). A phase 1/2a dose-escalation study of oligodendrocyte progenitor cells in individuals with subacute cervical spinal cord injury, Journal of Neurosurgery: Spine (published online ahead of print 2022). Retrieved Aug 19, 2022, from https://thejns.org/spine/view/journals/j-neurosurg-spine/aop/article-10.3171-2022.5.SPINE22167/article-10.3171-2022.5.SPINE22167.xml

Real-World Impacts from Motor Level Improvements

Motor level gains translate into meaningful improvements in self-care and large reductions in costs of care

Cervical Injury Level	Daily Home Care
C1-3	24 Hour Attendant
C4	18-24 Hour Attendant
C5	6-12 Hours of Assistance
C6	4 Hours Housework
C7-8	1 Hour Housework

32% of OPC1 Recipients had +2 Level Improvement

Activities of Daily Living across different levels of motor function after cervical complete SCI. Modified from Whiteneck et al. 1999)

OPC1 Cervical Clinical Trial - Adverse Events

The majority of adverse events were mild to moderate in severity

All Treated Subjects (N=25)	AEs	SAEs
Total	534	29
Related to OPC1	1*	0
Related to Injection Procedure	20	1
Related to Tacrolimus	11	1

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

Safety data is available for 2 to 5 years on all 25 patients

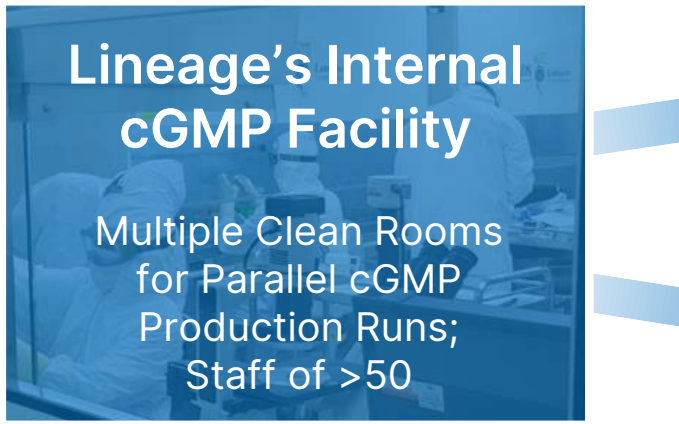
**One AE possibly related to OPC1 was a Grade 2 dysesthesia that began 47 days post-injection but had resolved by the Year 2 follow-up visit*

OPC1 Thoracic & Cervical Clinical Trials Overview

- **Thoracic phase 1 clinical trial (N=5)**
  - All **subjects followed for at least 10 years** *(Journal of Neurosurgery Spine, Vol 37, Issue 3, 2022)*
  - **No unexpected serious adverse events attributable to the OPC1 transplant**:
    - No evidence of neurological decline
    - No enlarging masses
    - No further spinal cord damage
    - No syrinx formation

- **Cervical phase 1/2a clinical trial (N=25)**
  - All **subjects evaluated for at least 2 years** *(Journal of Neurosurgery Spine, Vol 37, Issue 6, 2022)*
  - **No unexpected serious adverse events related to the OPC1 transp**lant;
  - **No enrolled patients had worsening of neurological function;**
  - **Durable motor improvements**:
    - 4 of 6 subjects gained at least 2 motor levels of improvement on at least one side at 12 months (cohort 2)
    - 5 of 6 subjects gained at least 2 motor levels of improvement on at least one side at 24 months (cohort 2)
    - 1 subject achieved 3 motor levels of improvement on one side; maintained at 3 years (cohort 2)

Requirements for a Successful Cell Therapy



Control (Safety) & Reproducibility

- Source line characterization, cell banking, versatile expansion systems
- Differentiation process development; culture conditions, optimization
- Analytical methods, in-process controls, release criteria

Purity / Identity

- Clinically compatible post-production processing
- Analytical method development for process control and product release

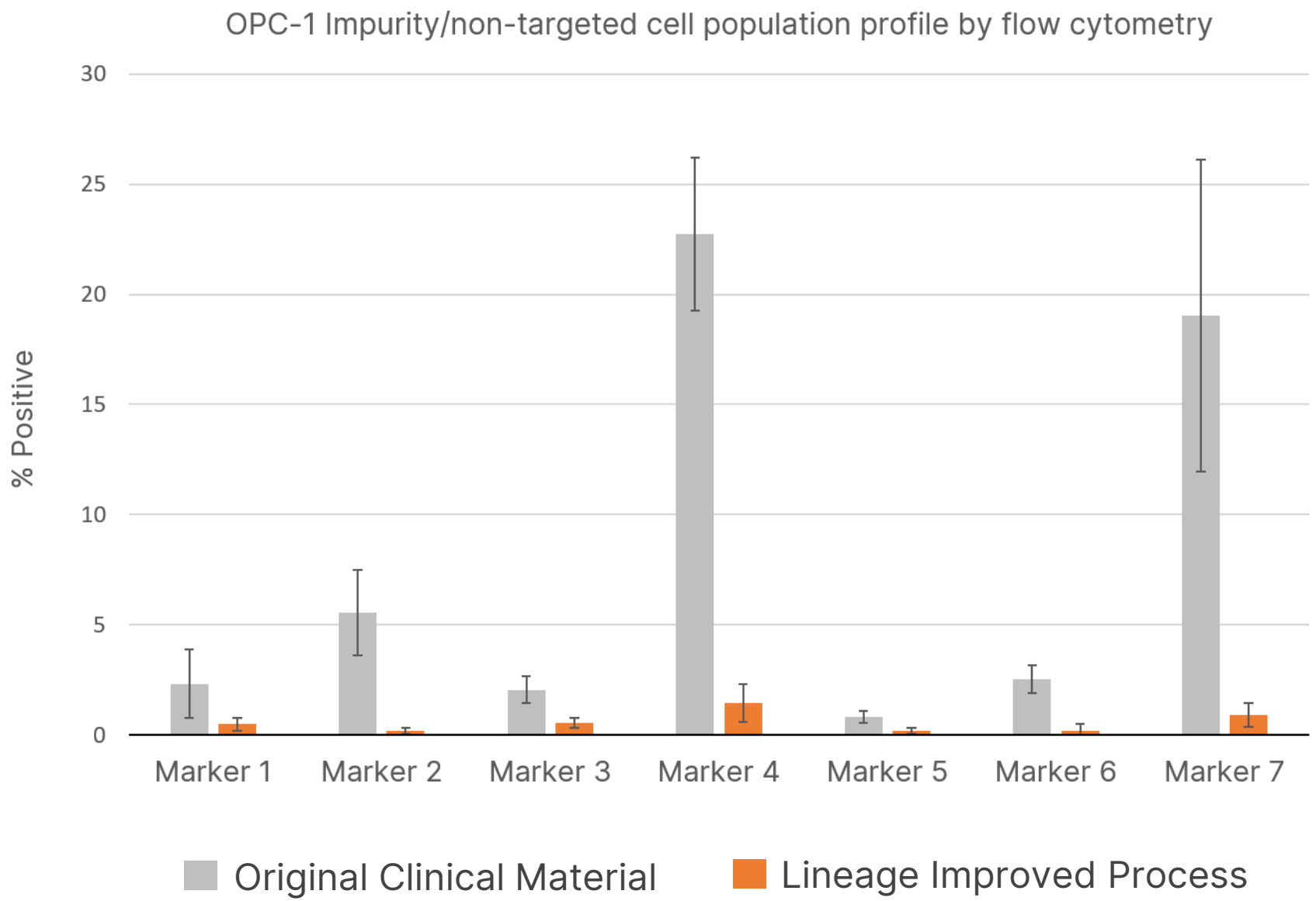
Potency

- Functionality and performance testing, reflecting MOA
- Enhancements; genetic modification (optional), various expression systems

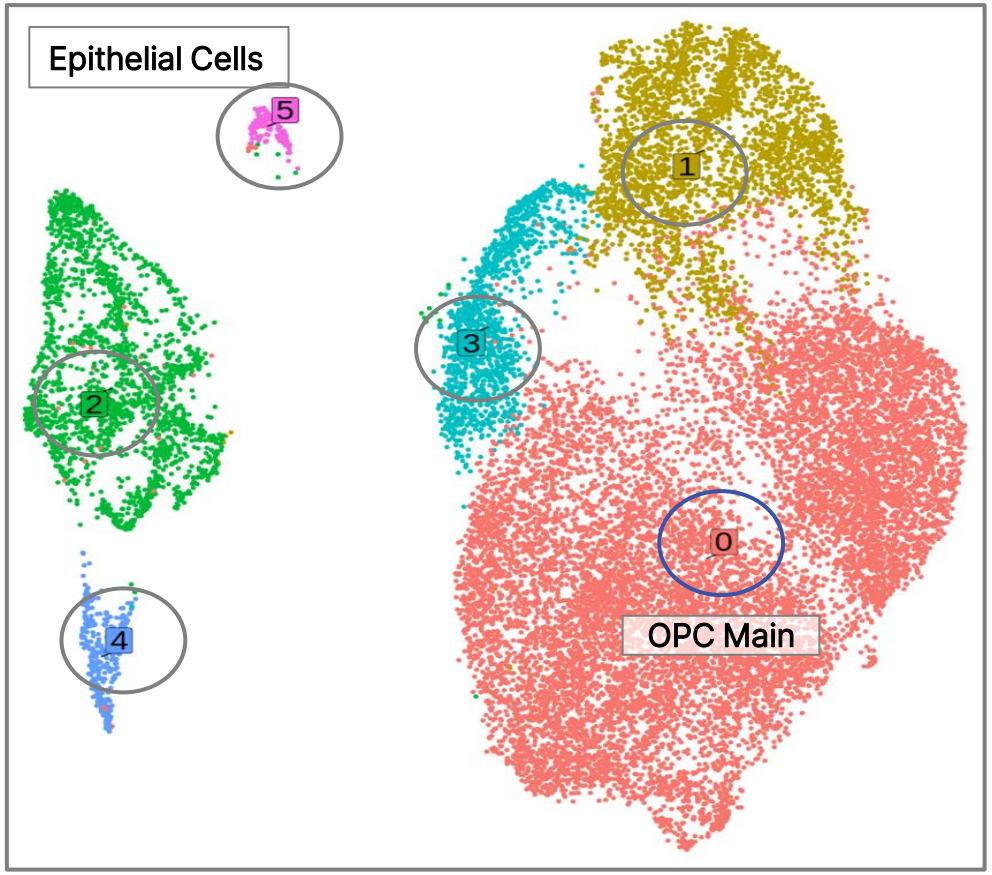
Scalability

- Scale-up modalities, substrates, harvesting protocols
- Clinical and commercial throughputs for drug process and product
- Commercially-attractive cost of goods

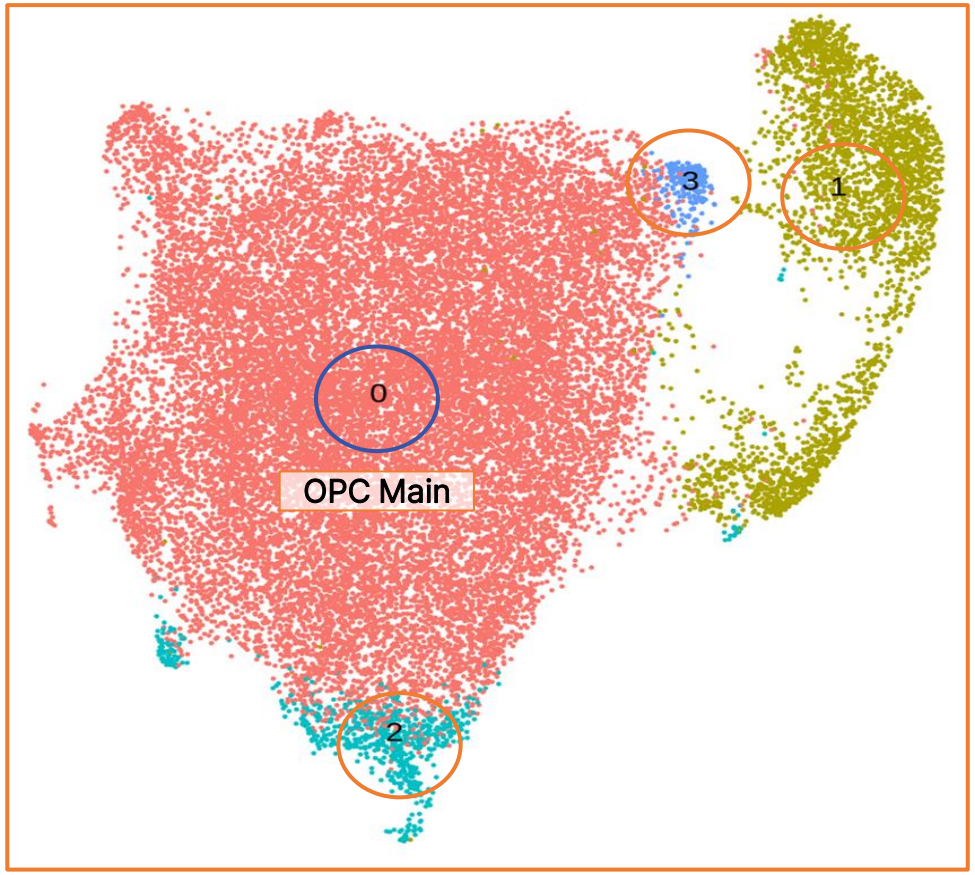
OPC1 Manufacturing Improvements: Lower Impurities



OPC1 Single-Cell RNA-Seq (scRNA-seq) Data



OPC1 - Original Clinical Material

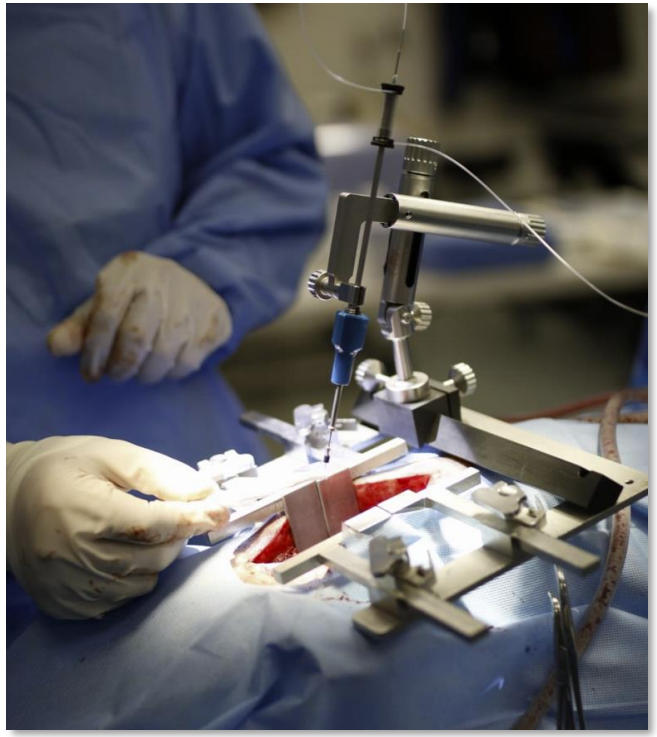


OPC1 – Lineage Improved Process

The Lineage-improved process is reproducible, 10X original scale, is comparable *in vivo* to the original material, but is devoid of non-targeted (i.e. epithelial) populations

Novel Spinal Cord Delivery System

- **Manual Parenchymal Spinal Delivery System**
  - Designed to be easier to use and safer for patients
- **Enhanced safety**
  - Attaches directly to the patient, compatible with breathing motion
  - Designed to administer OPC1 without stopping patient ventilation
- **Improved user experience:**
  - Smaller and fewer components
  - Single hand operation
  - Better stability and control
- **Compatible with Lineage's new thaw and inject formulation**
  - 5 minutes from frozen to ready for administration
  - Eliminates ~90% of dose prep compared to prior clinical material



Delivery of Oligodendrocyte Progenitor Cells for Spinal Cord Injury: Evaluation of a Novel Device

- **Open label, multi-center, device safety study in 3-5 subacute and for the first time, 3-5 chronic injury patients**
  - Complete (ASIA-A) or incomplete (ASIA-B) SCI of cervical (C4-C7) or thoracic (T1-T10) vertebrae
- **Initial clinical site opening expected as soon as feasible, pending FDA feedback**
- **Primary objective**
  - Evaluating the **safety** of a novel device to deliver OPC1 to the spinal parenchyma
- **Primary endpoint**
  - Safety, measured by adverse events (AEs) through 30 days post-injection
- **Secondary endpoints**
  - Safety and tolerability through 90 days post-injection
- **Exploratory endpoints**
  - Potential improvements in neurological impairment, function, and pain

OPC1 Program Summary

Key Takeaways

- **Unmatched experience** - one of the longest running trials in the field and first of its kind
- **Indication of efficacy** compared to best available matched control
- **Excellent overall safety profile**
  - 5 years follow up in cervical SCI
  - 10 years follow up in thoracic SCI
- **Higher purity and production scale** has been achieved
- **Learnings** can be applied to next trial
  - Inadequate decompression was associated with the two worst outcomes

Next Steps

- **DOSED study to evaluate safety of new delivery system (N= 6-10)**
  - 3-5 subacute and for the first time, 3-5 chronic injury patients
- **Preparations underway for larger, controlled clinical trial**
  - Engaging with patients, patient advocacy organizations, and other experts
  - Assessing clinically-meaningful endpoints
- **Eligible for grants from**
  - California Institute of Regenerative Medicine (CIRM)
  - Department of Defense

OPC1 Asset Overview

- OPC1 utilizes targeted cell replacement (similar to RPE for dry AMD)
- OPC1 has RMAT & Orphan Drug Designations
- OPC1 has received >$14M in grant support from CIRM
- OPC1 may have application in other demyelinating conditions

"There's no reason to not look forward in the same way now that I had before all of this happened. I'm looking forward to driving again... it's a bright future."

- Lucas Lindner, OPC1 Patient

"I couldn't drink, couldn't feed myself, couldn't text or pretty much do anything, I was basically just existing. I wasn't living my life, I was existing."

- Kris Boesen, OPC1 Patient

"My recovery from the point of the trial until now has been immense. A lot more than I would have expected. So, if I had the chance to go back and do it again, I 100% would."

- Jake Javier, OPC1 Patient

"My AIS score improved from an AIS-A over to an AIS-B, because I've got a lot of feeling under my injury level that I didn't have right when I broke my neck. And I would attribute those directly to spinal cord injury cells."

- Chris Block, OPC1 Patient

Our Inspiration.

View their stories at
lineagecell.com/media