



Lineage Cell Therapeutics Announces Data From Vision Restoration Program Published in Stem Cells and Development Journal

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Paper Featured as the Publication's Cover Story

CARLSBAD, Calif.--(BUSINESS WIRE)--Sep. 3, 2019-- [Lineage Cell Therapeutics, Inc.](#) (NYSE American and TASE: LCTX), a clinical-stage biotechnology company developing novel cell therapies for unmet medical needs, announced today that its paper entitled "*Transplantation of Human Embryonic Stem Cell Derived Retinal Tissue in the Subretinal Space of the Cat Eye*," (Singh et al.), has been selected for publishing and will be featured on the cover of the September 2019 issue of Stem Cells and Development Journal, Volume 28, Number 17.

To develop biological approaches to restore vision, a team of Lineage Cell researchers including Senior Vice President and Global Head of Research and Development ("R&D"), Francois Binette, Ph.D., Principal Investigator and Director of R&D, Igor Nasonkin, Ph.D., and Senior Scientist, Ratnesh Singh, Ph.D., developed a method of transplanting stem cell-derived retinal tissue into the subretinal space of a large-eye animal, in collaboration with Prof. Simon Petersen-Jones, D.Vet Med, Ph.D., DECVO, Donald R. Myers and William E. Dunlap Endowed Chair in Canine Health and Professor in the Michigan State University College of Veterinary Medicine.

In this preclinical model, researchers demonstrated that human pluripotent stem cell-derived retinal tissue was successfully introduced and delivered into the subretinal space of a large eye model following a *pars plana* vitrectomy. Researchers optimized the immunosuppression regimen to enable the grafts to survive for several weeks. In addition, the team demonstrated tumor-free maturation of the transplanted stem cell-derived retinal tissue and establishment of graft-host axonal connectivity and graft-host synaptic connectivity. Grafts connectivity with host neural cells of the retina is an essential anatomical requirement after transplantation, which could facilitate functional vision improvement.

This work demonstrates the feasibility of successfully engrafting human pluripotent stem cell-derived retinal tissue into the subretinal space of a large-eye animal model, which closely resembles the human eye. Moreover, funduscopy and spectral-domain optical coherence tomography imaging demonstrated no adverse effects in the large eye model due to the presence of the subretinal grafts. These results in transplanting retinal tissue in degenerating animal retina are supportive of further preclinical development focused on vision restoration.

The Stem Cells and Development cover reveals graft-host connectivity, demonstrating the first step in achieving functional integration of stem cell-derived retinal tissue (patch) grafts.

About Lineage Cell Therapeutics, Inc.

Lineage Cell Therapeutics is a clinical-stage biotechnology company developing novel cell therapies for unmet medical needs. Lineage's programs are based on its proprietary cell-based therapy platform and associated development and manufacturing capabilities. With this platform Lineage develops and manufactures specialized, terminally-differentiated human cells from its pluripotent and progenitor cell starting materials. These differentiated cells are developed either to replace or support cells that are dysfunctional or absent due to degenerative disease or traumatic injury or administered as a means of helping the body mount an effective immune response to cancer. Lineage's clinical assets include (i) OpRegen®, a retinal pigment epithelium transplant therapy in Phase I/IIa development for the treatment of dry age-related macular degeneration, a leading cause of blindness in the developed world; (ii) OPC1, an oligodendrocyte progenitor cell therapy in Phase I/IIa development for the treatment of acute spinal cord injuries; and (iii) VAC2, an allogeneic cancer immunotherapy of antigen-presenting dendritic cells currently in Phase I development for the treatment of non-small cell lung cancer. For more information, please visit www.lineagecell.com or follow the Company on Twitter [@LineageCell](https://twitter.com/LineageCell).

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