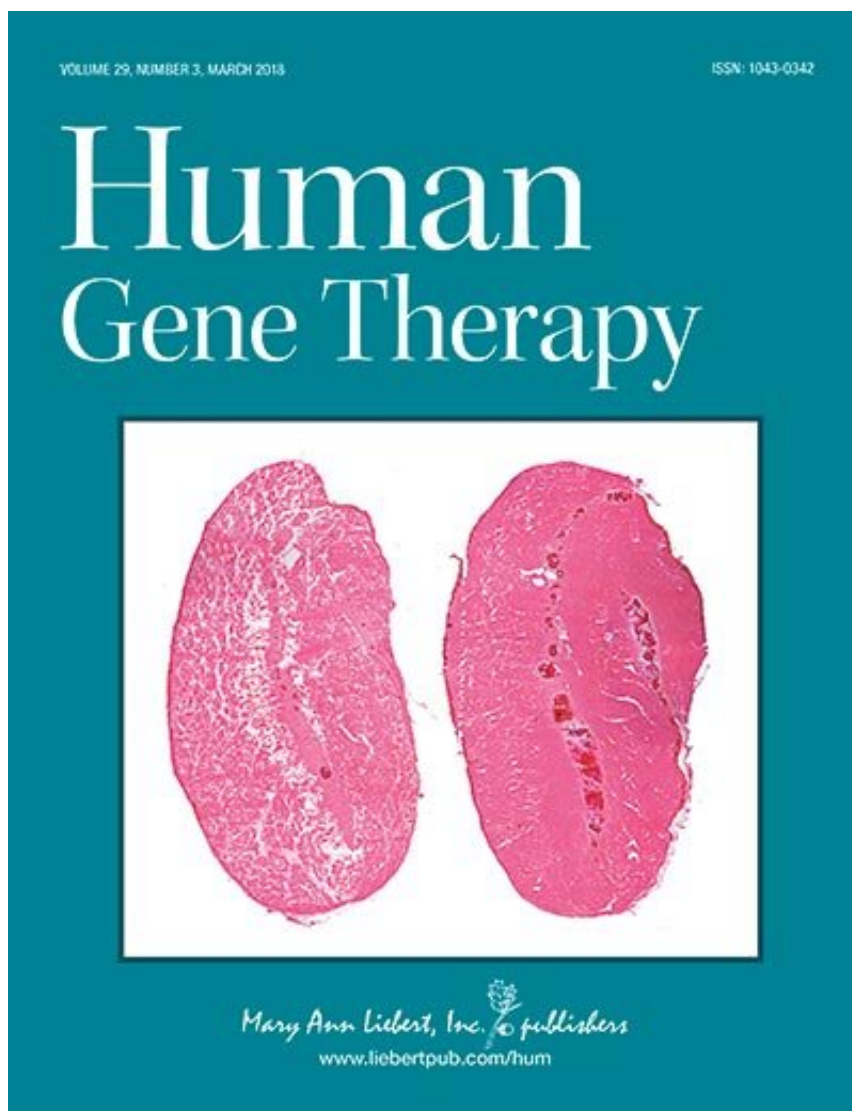


Genetically modified cornea safely and effectively prevents rejection post-transplantation

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Credit: Mary Ann Liebert, Inc., publishers

Researchers engineered a donor cornea, introducing two genes intended to prevent new blood vessel formation following transplantation, and have shown this novel approach to be safe, well tolerated, and effective at reducing the risk of tissue rejection in a high-risk rabbit model. These conclusive findings support angiogenesis as a valid target for treatment to prevent corneal graft rejection in high-risk patients, according to the study published in *Human Gene Therapy*.

Tim Stout, Baylor College of Medicine (Houston, TX), Scott Ellis, Oxford BioMedica (Oxford, U.K.) and coauthors from Baylor, Oxford Biomedica, and Oregon Health and Sciences University (Portland) describe the study design, the outcomes, and the implications of their results in the article entitled "Safety and Efficacy of OXB-202, a Genetically Engineered Tissue Therapy for the Prevention of Rejection in High Risk Corneal Transplant Patients." The researchers used a lentiviral vector to transfer the [genes](#) for the human proteins endostatin and angiostatin into the donor corneas. These secreted proteins inhibit vascularization, helping to prevent an immune reaction to the transplanted tissue and rejection of the cornea.

"The work from Drs. Stout and Ellis and their colleagues represents yet another example of how gene therapy for disorders of the eye has led the way in clinical translation," says Editor-in-Chief Terence R. Flotte, MD, Celia and Isaac Haidak Professor of Medical Education and Dean, Provost, and Executive Deputy Chancellor, University of Massachusetts Medical School, Worcester, MA. "Gene modification of corneal transplants could provide a unique approach to filling a pressing unmet medical need."

More information: Naghmeh Fouladi et al, Safety and Efficacy of OXB-202, a Genetically Engineered Tissue Therapy for the Prevention

of Rejection in High-Risk Corneal Transplant Patients, *Human Gene Therapy* (2018). [DOI: 10.1089/hum.2017.184](https://doi.org/10.1089/hum.2017.184)

Provided by Mary Ann Liebert, Inc

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