1. Record Nr. UNINA9910865282103321

Autore	Prakash Gyan
Titolo	Advances in Vision Research, Volume IV : From Basic to Translational Research — Developing Diagnostics and Therapeutics for Genetic Eye Diseases / / edited by Gyan Prakash, Takeshi Iwata
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819944361 9789819944354
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (393 pages)
Collana	Essentials in Ophthalmology, , 2196-890X
Altri autori (Persone)	IwataTakeshi
Disciplina	617.7
Soggetti	Ophthalmology Medical genetics Stem cells Medical Genetics Stem Cell Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I Gene therapy for ocular genetic diseases -- Chapter 1 Gene therapy for neovascular age-related macular degeneration -- Chapter 2 Gene therapy trial on X-linked retinitis pigmentosa caused by mutations in RPGR -- Chapter 3 Optogenetic approaches to restore vision -- Chapter 4 Retinal AAV8-RS1 Gene Therapy for X-Linked Retinoschisis -- Chapter 5 Subretinal versus Intravitreal Delivery of AAV8 in Nonhuman Primates -- Chapter 6 Gene therapy for Leber Congenital Amaurosis caused by mutation in RPE65 -- Chapter 7 Release of rAAV Vectors from APMA-Functionalized Contact Lenses for Corneal Gene Therapy -- Chapter 8 Gene Therapy to Prevent Retinal Ganglion Cell Loss in Glaucoma and Leber's Hereditary Optic Neuropathy -- Part II Gene editing as therapy for ocular disease -- Chapter 9 Gene Therapy for Glaucoma by Ciliary Body Aquaporin 1 Disruption Using CRISPR-Cas9 -- Chapter 10 Somatic Gene Editing of GUCY2D by AAV-CRISPR/Cas9 in Mouse and Macaque -- Chapter 11 In Vivo CRISPR/Cas9-Mediated Genome Editing Mitigates Photoreceptor Degeneration in Mouse Model of X-Linked Retinitis Pigmentosa --

Chapter 12 Gene Expression and Editing in Mammalian Retinal Ganglion Cells -- Chapter 13 AAV-mediated mutation replacement genome editing in photoreceptors restores vision in mice -- Chapter 14 Gene Editing Preserves Visual Functions in a Mouse Model of Retinal Degeneration -- Chapter 15 Genome Editing as Treatment for Autosomal Dominant Retinitis Pigmentosa -- Chapter 16 CRISPR/Cas base editors to target the AMD high-risk variant -- Part III Cell therapy for ocular genetic diseases -- Chapter 17 Transplantation of Human Embryonic Stem Cell-Derived Retinal Pigment Epithelial Cells in Macular Degeneration -- Chapter 18 Transplantation Retinal Sheet Differentiated from Patient iPS Cells with Inherited Retinitis Pigmentosa -- Chapter 19 Clinical study of an ES cell-derived retinal pigment epithelium patch in age-related macular degeneration -- Chapter 20 Long-term safety of human retinal progenitor cell transplantation in retinitis pigmentosa patients -- Chapter 21 Preclinical safety studies of human embryonic stem cell-derived retinal pigment epithelial cells for the treatment of age-related macular degeneration -- Chapter 22 Corneal endothelial cell derivation methods from ES and iPS cells -- Chapter 23 Gene editing approach to restore vision loss in Leber Congenital Amaurosis type 10 -- Chapter 24 Inhibition of Optineurin – TANK Binding Kinase 1 interaction to suppress inherited normal tension glaucoma -- Chapter 25 A 3D Printed Self-Sustainable Cell-Encapsulation Drug Delivery Device for Periocular Transplant-Based Treatment of Retinal Degenerative Diseases -- Chapter 26 Complement inhibition as therapy for retinal diseases -- Chapter 27 Neuroprotective Therapy for Retinal Ganglion Cell Degeneration -- Chapter 28 Artificial intelligence in retina -- Chapter 29 Prediction of AI for Treatment Potential for Macular Cone Vision in Leber Congenital Amaurosis -- Chapter 30 Artificial Intelligence for Evaluation of Macular Degeneration and Suspected Glaucoma -- Chapter 31 Artificial Intelligence Classification of Central Visual Field Patterns in Glaucoma -- Chapter 32 Artificial intelligence and deep learning in ophthalmology.

Sommario/riassunto

This fourth volume in the series Advances in Vision Research describes importance advancements in basics to translational research, including new therapeutics for genetic eye diseases. Recent US FDA approval of the first gene therapy for an inherited retinal disease, due to a mutation in the RPE65 gene, has led to an upsurge in translational eye research. The coverage in this volume includes corneal diseases, myopia, cataract, glaucoma, inherited retinal diseases, inherited optic neuropathy, and other genetic eye diseases. New developments such as the application of artificial intelligence in translational eye research are also discussed. All chapters are written by leading researchers working on eye genetics from the fields of Human Genetics, Ophthalmology, Molecular Biology, Biochemistry, Sensory Sciences, and Clinical Research. Advances in Vision Research, Volume IV will be a major resource for all researchers, clinicians, clinical researchers, and allied eye health professionals with an interest in eye diseases around the globe. The first two volumes in the series described the state of the art in genetic eye research in Asia and the Pacific while the third focused on progress in Europe and the United States.