Special Issue

Advanced Research on Retina: Recent Development of Genome Editing Strategies Aimed at Treating Inherited Retinal Diseases

Message from the Guest Editor

This Special Issue of Cells focuses on inherited retinal diseases, a genetically diverse group of blinding disorders primarily characterized by photoreceptor neurodegeneration. Over 270 causative genes have been identified, driving intense interest in gene therapy utilizing adeno-associated viruses (AAVs) to deliver wildtype copies and counteract loss-of-function mutations. However, this approach faces challenges such as unmet physiological demand from exogenously expressed complementing genes, transgene silencing within AAV vectors, and persistent stress from unrepaired mutant alleles. Recent advancements in genome editing offer promising avenues to address the root causes of genetic disorders. This Special Issue aims to present an encompassing view of genome editing efforts targeting inherited retinal diseases. It emphasizes the creation of animal models that validate proof-of-concept strategies and explores DNA damage repair pathways implicated in genome editing across distinct eye tissue compartments. By highlighting these aspects, the issue contributes to advancing our understanding and therapeutic approaches for inherited retinal diseases.

Guest Editor

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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