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Targeting Piezo1 To Treat Inherited And Age-Related Macular Degenerations

Tech ID: 32905 / UC Case 2021-247-0

TECHNOLOGY DESCRIPTION

This invention is a novel target for the treatment of both inherited and age-related macular degeneration (MD). UCSF researchers have shown that target inhibition prevents pathological events in the retinal pigment epithelium (RPE), which is the tissue responsible for nourishment and support of light-sensing photoreceptors. Further, the RPE is the primary site of damage for both Stargardt inherited and age-related MD. Currently, there are no approved therapies for dry age-related MD (which is characterized by focal loss of the RPE) or Stargardt disease.

ADVANTAGES

- ▶ Potential treatment for age-related MD and Stargardt disease (affects ~1 in 8,000 children).
- ▶ Novel approach to preserve the RPE health and function to avoid permanent vision loss commonly associated with age-related MD or Stargardt disease.
- ▶ Generated data demonstrate that target inhibition prevents both structural and functional damage to the RPE
- ▶ Mechanism and therapeutic target to prevent RPE injury identified
- ▶ Mechanism targets multiple homeostatic pathways in the RPE.

APPLICATION

- ▶ Treatment for Stargardt age-related and inherited MD
- ▶ Prevent progression from early to intermediate age-related MD

STAGE OF DEVELOPMENT

Discovery/concept. Pathway inhibition has been shown to prevent RPE damage while safeguarding RPE integrity in a mouse model of Stargardt inherited MD and in human donors with age-related MD.

LOOKING FOR PARTNERS

To further develop the technology, including novel small molecule screens.

DATA AVAILABILITY

Available under CDA.

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OTHER INFORMATION

CATEGORIZED AS

- ▶ **Medical**
- ▶ Disease:
[Ophthalmology and Optometry](#)
- ▶ [Therapeutics](#)

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2021-247-0

PATENT STATUS

Patent Pending

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