University of Basel

Universitätsspital Basel

# Vision Medicines Overview of VM200:

## An aldehyde trap molecule in IND enabling studies for Stargardt disease

Vision MEDICINES
Science to See Tomorrow™

# VM200 is an aldehyde trap for Stargardt disease

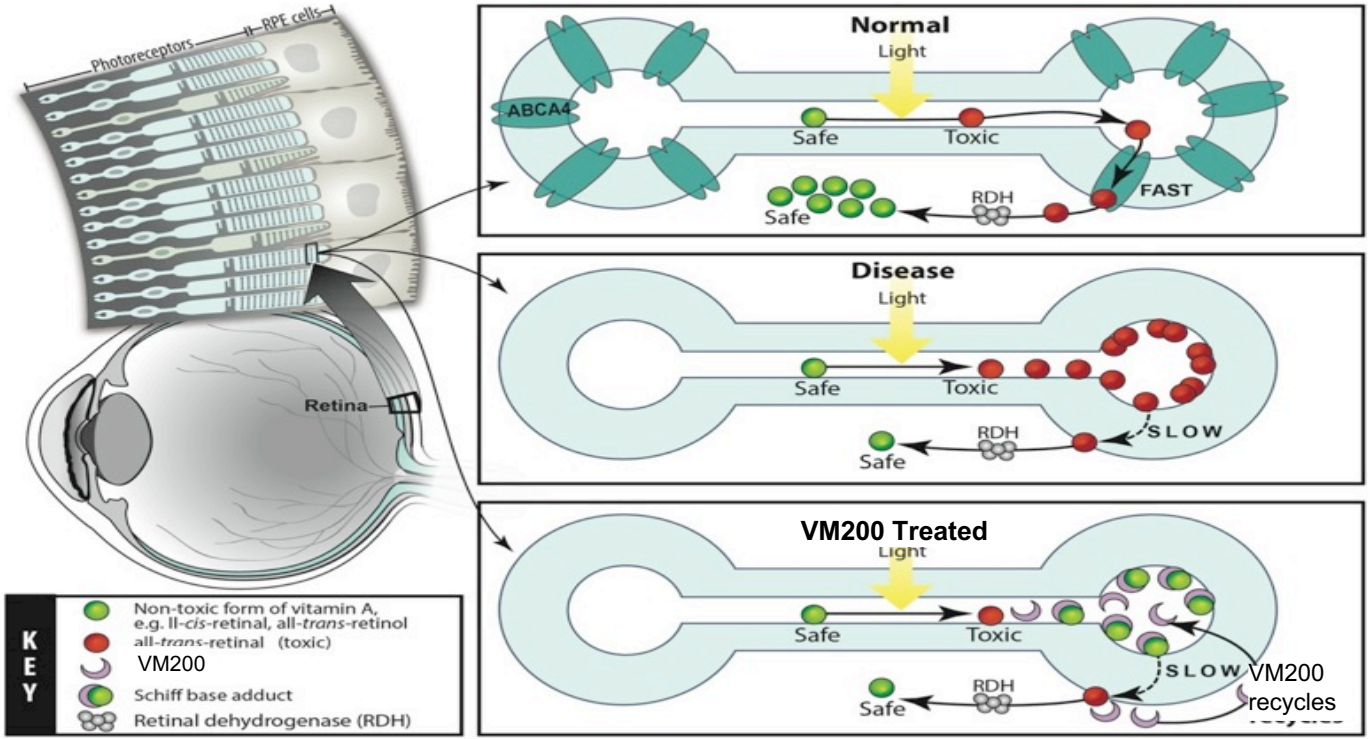
**Drug Candidate**

- In Stargardt disease, mutations in *ABCA4* lead to accumulation of all-*trans* retinal, a toxic aldehyde that leads to photoreceptor death and is also a precursor to the formation of toxic A2E
- VM200 works by trapping *all-trans* retinal and thereby preserving retinal structure and function
- Small molecule, administered orally

**Profile**

- Invented by Kris Palczewski Ph.D at Case Western Reserve University
- Supported by co-funding from the Foundation Fighting Blindness
- Currently in IND-enabling studies and expected to enter the clinic in late 2017

# VM200: Trapping toxic all-*trans* retinal until it can be neutralized



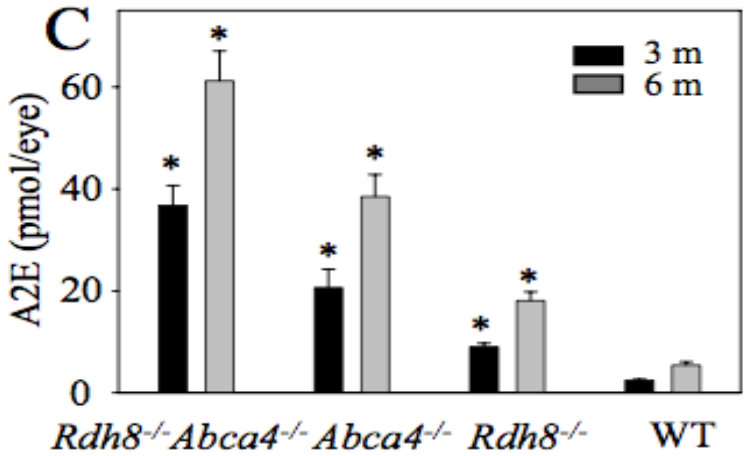

**Normal state with intact transporter**

**Disease state without transporter**

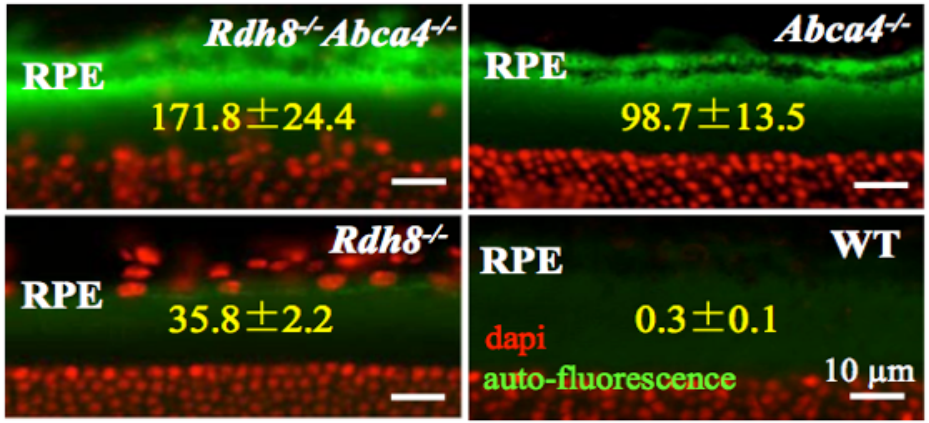
**VM200 neutralizes all-trans retinal (toxic)**

# $Abca4^{-/-}$ $Rdh8^{-/-}$ mouse model replicates human Stargardt Disease

**A2E** in mouse eyes at 3 and 6 months




Retinal autofluorescence (green, with intensity in numbers) at 6 months

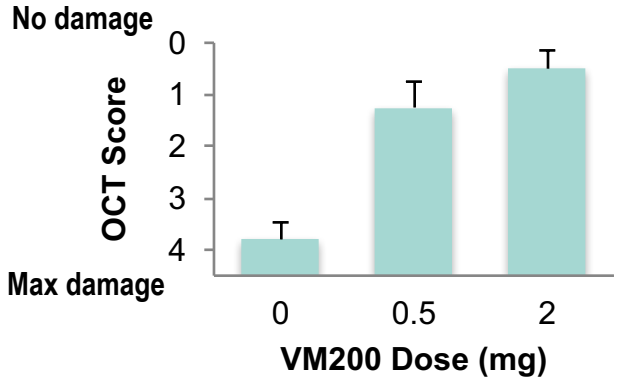



Maeda et al. J Biol Chem 2008;283:26684

# VM200 prevents retinal degeneration in the mouse model of Stargardt disease

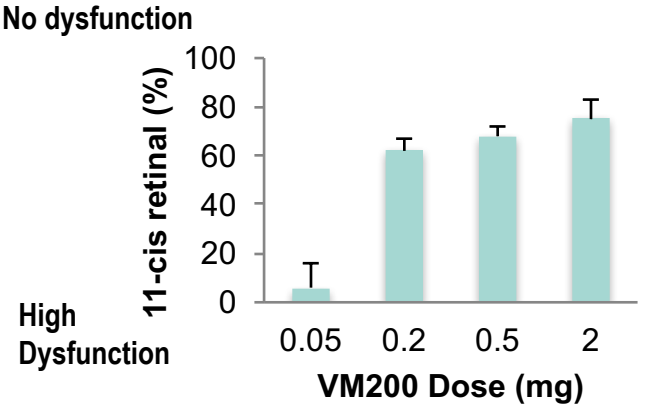
VM200 administered to *Abca4*$^{-/-}$/*Rdh8*$^{-/-}$ mice 2 hours prior to light damage preserves retinal structure and function in a dose-dependent manner

**VM200 preserves retinal *structure***




Source: OCT data from Maeda et al. (2012) Nature Chem Biology 8: 170-8.

**VM200 preserves retinal *function***




Source: Unpublished Data from Palczewski Lab, Case Western Reserve University