

EYE-003

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	EYE-003 is an orally active RPE65 inhibitor with an IC ₅₀ value of 102 nM. It regulates the visual cycle in mice by decreasing the synthesis of 11-cis-Retinal (11cRAL) and increasing all-trans-retinyl esters (atREs). EYE-003 also inhibits dark-adapted electroretinogram (ERG) b-wave amplitudes and provides protection against retinal degeneration in Abca4 ^{-/-} Rdh8 ^{-/-} mice by dose-dependently reducing retinal autofluorescent spots and preserving outer nuclear layer (ONL) thickness. EYE-003 is applicable for researching retinal disorders related to the visual cycle, such as Stargardt disease type 1 (STGD1).
In vitro	EYE-003 (0.1-10 μM) inhibits the activity of RPE65 in bovine retinal pigment epithelium (RPE) microsomes, with an IC ₅₀ of 102 nM.
In vivo	EYE-003, administered at 10 mg/kg via intraperitoneal injection 30 minutes before photobleaching and followed by 2 hours of dark adaptation, reduces the synthesis of 11-cis-retinal (11cRAL) and increases all-trans-retinyl esters (atREs) in BALB/cj mice. EYE-003, given under the same conditions and measured between 0.5 to 4 hours post-administration, restores 11cRAL and atREs levels to control group levels 4 hours after administration. When administered orally, EYE-003 significantly inhibits dark-adapted electroretinogram (ERG) a-wave and b-wave amplitudes in BALB/cj mice. A single dose of EYE-003, whether by intraperitoneal injection or oral gavage 30 minutes before light exposure, reduces retinal autofluorescent spots and uniform lipofuscin autofluorescence in Abca4 ^{-/-} Rdh8 ^{-/-} mice and preserves the thickness of the outer nuclear layer (ONL).

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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