Retinoschisin Antibody / RS1 (FY12428)

Catalog No.	Formulation	Size
FY12428	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O15537
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This Retinoschisin antibody is available for research use only.

Description

The Retinoschisin antibody targets Retinoschisin, a secreted cell-adhesion protein encoded by the RS1 gene and essential for maintaining the structural integrity of the retina. Retinoschisin is produced primarily by photoreceptor and bipolar cells and forms a disulfide-linked octamer that mediates cell-cell adhesion and retinal layer organization. The Retinoschisin antibody provides a crucial tool for studying retinal development, synaptic architecture, and inherited retinal disorders such as X-linked juvenile retinoschisis (XLRS).

Retinoschisin localizes to the inner surface of photoreceptor and bipolar cell membranes, where it contributes to the formation of organized laminar structures necessary for signal transmission. The Retinoschisin antibody supports visualization of its localization within the outer and inner plexiform layers, providing insights into cell adhesion and extracellular matrix interactions. Through binding to membrane lipids and extracellular partners such as Na/K ATPase and L-type calcium channels, Retinoschisin stabilizes synaptic connectivity and retinal tissue architecture.

Mutations in the RS1 gene result in XLRS, a heritable vitreoretinal dystrophy characterized by splitting of the retinal layers and loss of central vision. The Retinoschisin antibody facilitates research into this condition by detecting the presence or absence of Retinoschisin in patient samples and model systems. Defective or truncated protein forms lead to impaired secretion and defective cell adhesion, causing structural disorganization of the retina and progressive visual impairment.

Beyond its structural role, Retinoschisin influences retinal signaling pathways that regulate photoreceptor synapse function. The Retinoschisin antibody allows for quantitative studies assessing protein levels under different light-adaptation states or disease conditions. In addition, Retinoschisin is being explored as a candidate for gene-replacement therapy, and antibody-based detection is vital for evaluating therapeutic expression and localization.

The Retinoschisin antibody performs effectively in western blotting, immunohistochemistry, and immunofluorescence, yielding punctate staining in retinal layers consistent with extracellular distribution. NSJ Bioreagents provides this antibody as a validated, high-specificity reagent for vision research and molecular ophthalmology. By enabling precise detection of Retinoschisin, the Retinoschisin antibody supports exploration of retinal cell adhesion, synaptic stability, and the molecular pathology of retinal dystrophies.

Application Notes

Optimal dilution of the Retinoschisin antibody should be determined by the researcher.

Immunogen

E.coli-derived human RS1 recombinant protein (Position: Y34-A224) was used as the immunogen for the Retinoschisin antibody.

Storage

After reconstitution, the Retinoschisin antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.