

Rhodopsin Antibody
Rhodopsin Antibody, Clone 4D2
Catalog # ASM10113**Specification**

Rhodopsin Antibody - Product Information

Application	IHC
Primary Accession	P02699
Other Accession	NP_001014890.1
Host	Mouse
Isotype	IgG1
Reactivity	Amphibian, Avian, Fish
Clonality	Monoclonal

Description

Mouse Anti-Bovine Rhodopsin Monoclonal IgG1

Target/Specificity

Detects ~40kDa. Binds specifically to the N-terminus of Rhodopsin. Does not detect Rhodopsin in invertebrates.

Other Names

OPN2 Antibody, opsd Antibody, opsin 2 Antibody, opsin 2 rod pigment Antibody, opsin2 Antibody, RHO Antibody, RP4 Antibody, MGC138309 Antibody, Retinitis Pigmentosa 4 Antibody

Immunogen

Bovine Rhodopsin

Purification

Protein G Purified

Storage **-20°C**

Storage Buffer

PBS pH7.4, 50% glycerol, 0.09% sodium azide

Shipping Temperature **Blue Ice or 4°C**

Certificate of Analysis

1 µg/ml of SMC-176 was sufficient for detection of rhodopsin in 10 µg of rat eye lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Cellular Localization

Membrane

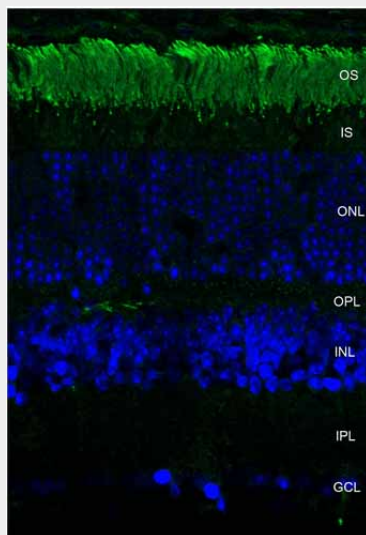
Rhodopsin Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Rhodopsin Antibody - Images



Immunohistochemistry analysis using Mouse Anti-Rhodopsin Monoclonal Antibody, Clone 4D2 (ASM10113). Tissue: retina. Species: Mouse. Primary Antibody: Mouse Anti-Rhodopsin Monoclonal Antibody (ASM10113) at 1:1000. Secondary Antibody: FITC Goat Anti-Mouse (green). Counterstain: DAPI (blue) nuclear stain. Localization: Staining of photoreceptor outer segment (OS).

Rhodopsin Antibody - Background

Rhodopsin consists of the protein moiety opsin and a reversibly covalently bound cofactor, retinal. Opsin, a bundle of seven membrane embedded alpha-helices, binds retinal, a photo reactive chromophore, in a central pocket (2, 3). In addition to being the pigment of the retina that is responsible for both the formation of the photoreceptor cells, its function is to specifically convey information stored in the specific geometry of the chromophore to the surface of the molecule upon light absorption (2). In the active state, rhodopsin activates transduction, a GTP binding protein. Once activated, transduction promotes the hydrolysis of cGMP by phosphodiesterase. Rhodopsin's activity is believed to be shut off by its phosphorylation followed by binding of the soluble protein arrestin (4).

Mutations in the rhodopsin gene lead to retinitis pigmentosa, which can be inherited as an autosomal dominant, an autosomal recessive or an X-linked recessive disorder (5).

Rhodopsin Antibody - References

1. Molday R.S., Hicks D., and Molday L. (1987) Invest Ophthalmol Vis Sci. 28: 50-61.
2. Ridge K.D., Lee S.S.J., and Abdulaev N.G. (1996) J of Biol Chem. 271: 7860-7867.
3. Matsuyama T., Yamashita T., Imai H. and Shichida Y. (2009) J Biol Chem. Manuscript M109.063875.
4. Feurstein S.E., et al. (2009) Biochemistry. 48(45): 10733-10742.
5. Iannaccone A., et al. (2006) Vision Res. 46(27): 4556-4567.