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Rhodopsin Antibody
Rhodopsin Antibody, Clone 1D4
Catalog # ASM10116

Specification

Rhodopsin Antibody - Product Information

Application	**WB, IHC, ICC, IP, E**
Primary Accession	P02699
Other Accession	NP_001014890.1
Host	**Mouse**
Isotype	**IgG1**
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	**-20ºC**

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

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml of SMC-177 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

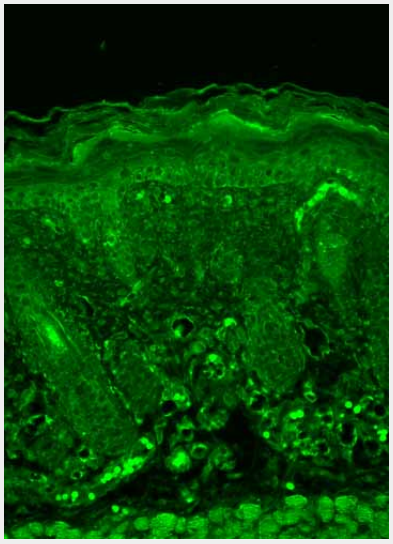
Rhodopsin Antibody - Protocols

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

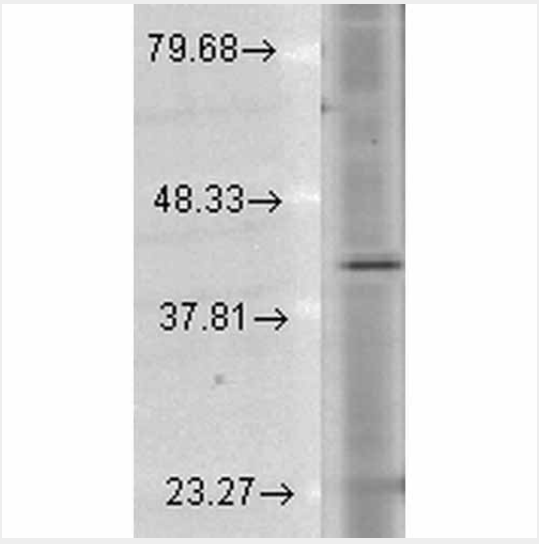
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry

- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Rhodopsin Antibody - Images



Immunohistochemistry analysis using Mouse Anti-Rhodopsin Monoclonal Antibody, Clone 1D4 (ASM10116). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Rhodopsin Monoclonal Antibody (ASM10116) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Dull epidermal staining.



Western Blot analysis of Human Cell lysates showing detection of Rhodopsin protein using Mouse Anti-Rhodopsin Monoclonal Antibody, Clone 1D4 (ASM10116). Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Rhodopsin Monoclonal Antibody (ASM10116) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

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 chormophore 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.