

Datasheet for ABIN863085
anti-Rhodopsin antibody



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Overview

Quantity:	100 µg
Target:	Rhodopsin (RHO)
Reactivity:	Cow
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This Rhodopsin antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunoprecipitation (IP), Immunocytochemistry (ICC), Immunofluorescence (IF)

Product Details

Immunogen:	Bovine Rhodopsin
Clone:	1D4
Isotype:	IgG1
Specificity:	Detects ~40 kDa. Recognizes Rhodopsin (native and recombinant forms). No known reactivity to other proteins. Binds specifically to the C-terminal epitope -T-E-T-S-Q-V-A-P-A-(COOH).
Cross-Reactivity:	Vertebrate
Purification:	Protein G Purified

Target Details

Target:	Rhodopsin (RHO)
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Target Details

Alternative Name:	Rhodopsin (RHO Products)
Target Type:	Chemical
Background:	<p>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).</p>
Gene ID:	509933
NCBI Accession:	NP_001014890
UniProt:	P02699
Pathways:	WNT Signaling , Sensory Perception of Sound , Regulation of G-Protein Coupled Receptor Protein Signaling , Phototransduction

Application Details

Application Notes:	<ul style="list-style-type: none">• WB (1:1000)• IHC (1:100)• optimal dilutions for assays should be determined by the user.
Comment:	1 µg/ml of ABIN863084 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.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated

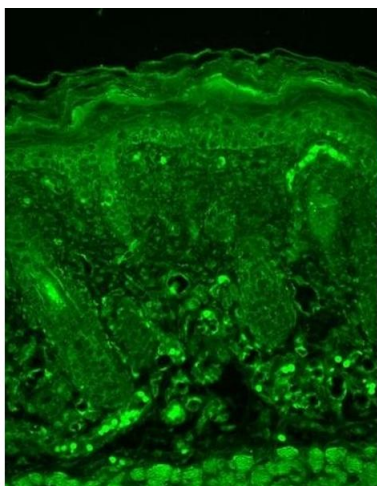
Handling

Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	-20°C

Publications

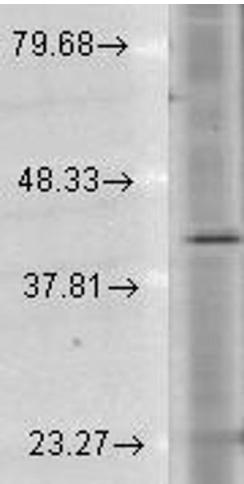
Product cited in:	<p>Makowka, Bruegmann, Dusend, Malan, Beiert, Hesse, Fleischmann, Sasse: "Optogenetic stimulation of Gs-signaling in the heart with high spatio-temporal precision." in: Nature communications, Vol. 10, Issue 1, pp. 1281, (2019) (PubMed).</p> <p>Cheng, Djajadi, Molday: "Cell-specific markers for the identification of retinal cells by immunofluorescence microscopy." in: Methods in molecular biology (Clifton, N.J.), Vol. 935, pp. 185-99, (2012) (PubMed).</p>
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Images



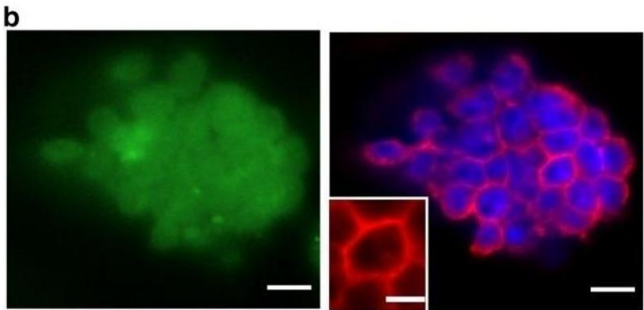
Immunohistochemistry

Image 1. Immunohistochemistry analysis using Mouse Anti-Rhodopsin Monoclonal Antibody, Clone 1D4 (ABIN863084 and ABIN863085). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Rhodopsin Monoclonal Antibody (ABIN863084 and ABIN863085) 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 Blotting

Image 2. Rho Human Cell Line Mix, Western Blotting.



Immunofluorescence (Paraffin-embedded Sections)

Image 3. Generation of JellyOp expressing mouse ESCs and light-induced cAMP production in cardiomyocytes. a Plasmid for expression of JellyOp in fusion with the 1D4 rhodopsin epitope and with an internal ribosome entry site (IRES) for co-expression of the green fluorescence protein (GFP) under control of the chicken β -actin promoter (CAG). b Immunostaining of a transgenic ESC colony expressing GFP (green) and JellyOp (red: 1D4 rhodopsin epitope staining) (nuclear staining in blue, bars: 10 μ m, insert: 5 μ m). c GFP positive (green) cardiomyocytes indicated by α -actinin (yellow) staining (nuclear staining in blue, bar: 20 μ m). d cAMP levels in JellyOp and GFP EBs after illumination (2.9mWmm⁻², 5 min, MDL: 100 μ M MDL-12,330A) or isoprenaline (Iso, 1 μ M, 5 min) application (n=5-12, Welch ANOVA: p=0.0014, Games-Howell post-test: *p<0.05, **p<0.01). e Relationship between cAMP levels and light intensity in lactate-purified (see Methods) cardiomyocytes fitted with Hill equation (n=5-12). Error bars: S.E.M. - figure provided by CiteAb. Source: PMID30894542