abcam

Product datasheet

Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free ab232934

Recombinant RabMAb

1 References 8 Images

Overview

Product name	Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free
Description	Rabbit monoclonal [EPR21876] to Rhodopsin - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** mIHC, WB, IHC-P, IHC-Fr, IP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Human retina tissue. mIHC: Human retina tissue.
General notes	ab232934 is the carrier-free version of **ab221664**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR21876
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab232934 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

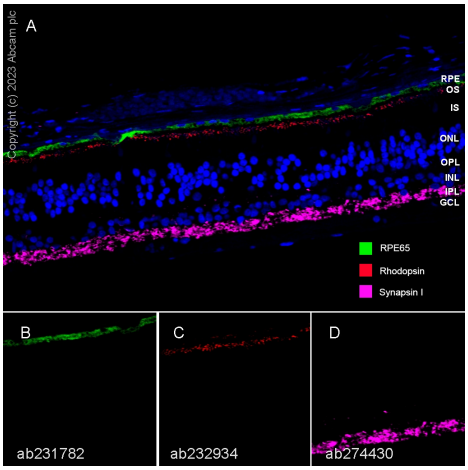
Application	Abreviews	Notes
mIHC		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Detects a band of approximately 35-150 kDa (predicted molecular weight: 38 kDa).
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IHC-Fr		Use at an assay dependent concentration. Antigen retrieval is not needed.
IP		Use at an assay dependent concentration.

Target

Function	Photoreceptor required for image-forming vision at low light intensity. Required for photoreceptor cell viability after birth. Light-induced isomerization of 11-cis to all-trans retinal triggers a conformational change leading to G-protein activation and release of all-trans retinal.
Tissue specificity	Rod shaped photoreceptor cells which mediates vision in dim light.
Involvement in disease	Retinitis pigmentosa 4 Night blindness, congenital stationary, autosomal dominant 1
Sequence similarities	Belongs to the G-protein coupled receptor 1 family. Opsin subfamily.
Post-translational modifications	Phosphorylated on some or all of the serine and threonine residues present in the C-terminal region. Contains one covalently linked retinal chromophore.
Cellular localization	Membrane. Synthesized in the inner segment (IS) of rod photoreceptor cells before vectorial

transport to the rod outer segment (OS) photosensory cilia.

Images



Multiplex immunohistochemistry - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human retina tissue labeling RPE65, Rhodopsin and Synapsin I with **ab231782** at 1/8000 dilution, ab232934 at 1/8000 dilution and **ab274430** at 1/1500 dilution followed by a ready to use Opal Polymer HRP Ms + Rb secondary antibody. Nuclear counter stain used was DAPI.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

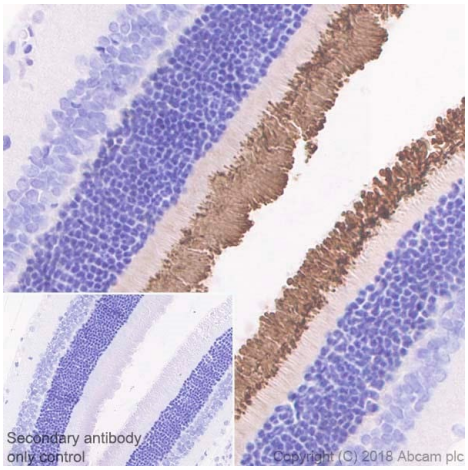
Panel A: merged staining of anti-Synapsin I (magenta; Opal™690), anti-RPE65 (green; Opal™520) and anti-Rhodopsin (red; Opal™570) on human retina.
Panel B: anti-RPE65 stained on pigmented layer.
Panel C: anti-Rhodopsin stained on rod photoreceptor cells.
Panel D: anti-Synapsin I stained on inner plexiform layer.

The section was incubated in three rounds of staining: in the order of **ab274430**, **ab231782**, and ab232934 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

The section was incubated in three rounds of staining: in the order of **ab312840**, **ab16669**, and **ab236434** for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



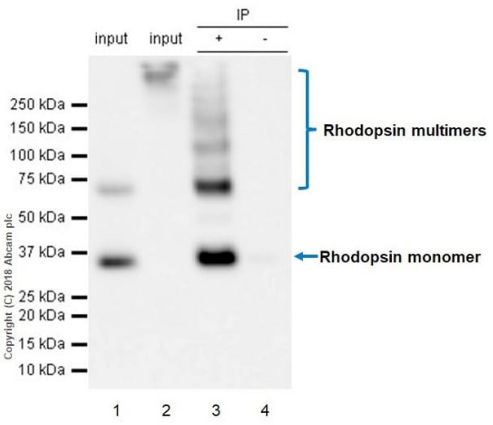
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Immunohistochemical analysis of paraffin-embedded rat retina tissue labeling Rhodopsin with **ab221664** at 1/32000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in outer segment of rat retina is observed (PMID: 23223288). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Rhodopsin was immunoprecipitated from 0.35 mg rat eye tissue lysate with **ab221664** at 1/30 dilution. Western blot was performed from the immunoprecipitate using **ab221664** at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used for detection at 1/5000 dilution.

Lane 1: Rat eye tissue lysate 10 µg (input).

Lane 2: Rat eye tissue lysate (boiled) 10 µg (input).

Lane 3: **ab221664** IP in Rat eye tissue lysate.

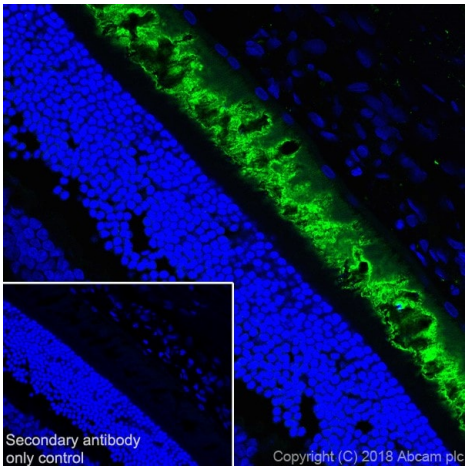
Lane 4: Rabbit monoclonal IgG (**ab172730**) instead of **ab221664** in rat eye tissue lysate.

Exposure time: 15 seconds

The multiple bands (>60 kDa) correspond to dimers and multimers of rhodopsin, consistent with the literature (PMID: 25270370; PMID: 22219383).

We do not recommend boiling samples in loading buffer as this may cause protein aggregation (lane 2).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).



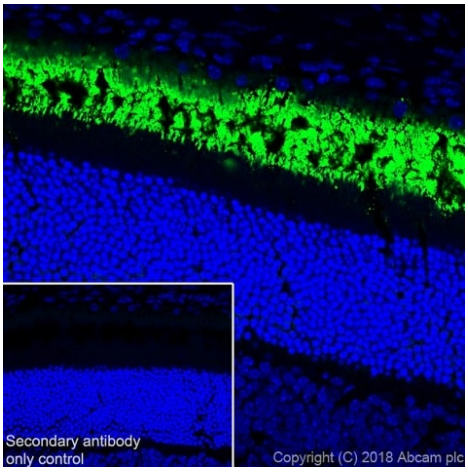
Immunohistochemistry (Frozen sections) - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen rat retina tissue labeling Rhodopsin with **ab221664** at 1/500 dilution,followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green). Positive staining in the outer segment of rat retina is observed (PMID: 21938483).

The nuclear counter stain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).



Immunohistochemistry (Frozen sections) - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen mouse retina tissue labeling Rhodopsin with **ab221664** at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green). Positive staining in the outer segment of mouse retina is observed (PMID: 21938483).

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Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution.

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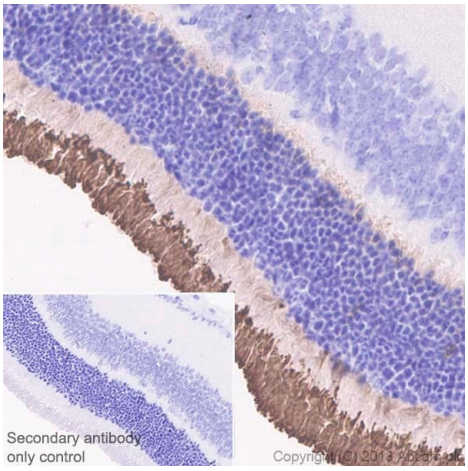


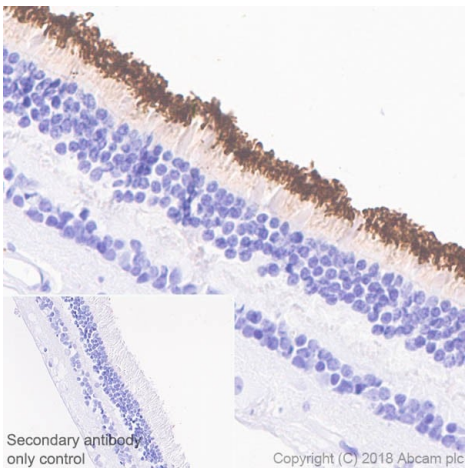
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Immunohistochemical analysis of paraffin-embedded mouse retina tissue labeling Rhodopsin with **ab221664** at 1/32000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in outer segment of mouse retina is observed (PMID: 23223288). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



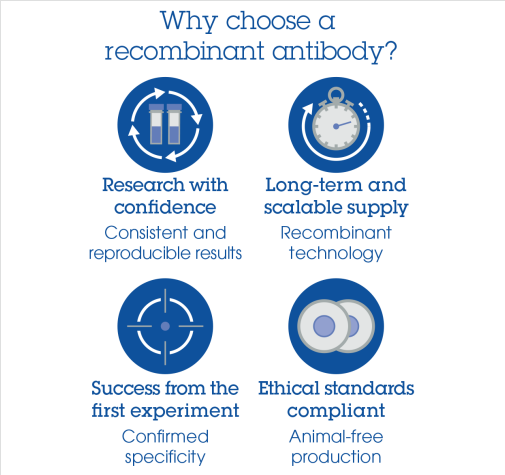
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

Immunohistochemical analysis of paraffin-embedded human retina tissue labeling Rhodopsin with **ab221664** at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in outer segment of human retina is observed (PMID: 23223288). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab221664**).

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Anti-Rhodopsin antibody [EPR21876] - BSA and Azide free (ab232934)

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