


Anti-Rhodopsin antibody [1D4] ab5417

★★★★★ [4 Abreviews](#) [94 References](#) [画像数 6](#)

製品の概要

製品名	Anti-Rhodopsin antibody [1D4]
製品の詳細	Mouse monoclonal [1D4] to Rhodopsin
由来種	Mouse
特異性	ab5417 detects Rhodopsin from human and bovine retinal samples. Data from Yin J et al., 2012 (PMID 22743318) indicates that in Zebrafish ab5417 appears to recognize Red Opsin rather than Rhodopsin.
アプリケーション	適用あり: ELISA, IHC-FoFr, IP, WB, IHC-Fr, IHC-P, ICC/IF
種交差性	交差種: Mouse, Rat, Cow, Human, Zebrafish, Amphibian 交差が予測される動物種: Rabbit 
免疫原	Tissue, cells or virus corresponding to Bovine Rhodopsin. Bleached bovine ROS [rod outer segment] disk membranes
エピトープ	The epitope for this antibody has been localized to the C-terminal nine amino acids of bovine rhodopsin known as the 1D4 epitope.
ポジティブ・コントロール	WB: HL60 whole cell lysate IHC-P: Human and mouse retinal tissue
特記事項	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
バッファー	Preservative: 0.05% Sodium azide Constituents: 99% PBS, 0.1% BSA
精製度	Protein G purified

一次抗体 備考

Vision involves the conversion of light into electrochemical signals that are processed by the retina and subsequently sent to and interpreted by the brain. The process of converting light to an electrochemical signal begins when the membrane-bound protein, rhodopsin, absorbs light within the retina. Photoexcitation of rhodopsin causes the cytoplasmic surface of the protein to become catalytically active. In the active state, rhodopsin activates transducin, a GTP binding protein. Once activated, transducin promotes the hydrolysis of cGMP by phosphodiesterase (PDE). The decrease of intracellular cGMP concentrations causes the ion channels within the outer segment of the rod or cone to close, thus causing membrane hyperpolarization and, eventually, signal transmission. Rhodopsin's activity is believed to be shut off by its phosphorylation followed by binding of the soluble protein arrestin.

ポリ/モノ

モノクローナル

クローン名

1D4

アイソタイプ

IgG1

アプリケーション

The Abpromise guarantee

Abpromise保証は、次のテスト済みアプリケーションにおけるab5417の使用に適用されます

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
ELISA		Use at an assay dependent concentration.
IHC-FoFr		Use at an assay dependent concentration. PubMed: 19587120
IP		Use at an assay dependent concentration.
WB	★★★★★ (2)	1/100 - 1/1000. Detects a band of approximately 40 kDa.
IHC-Fr	★★★★★ (1)	Use at an assay dependent concentration. PubMed: 22743318
IHC-P		1/100 - 1/1000.
ICC/IF	★★★★★ (1)	Use at an assay dependent concentration.

ターゲット情報

機能

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.

組織特異性

Rod shaped photoreceptor cells which mediates vision in dim light.

関連疾患

Retinitis pigmentosa 4

Night blindness, congenital stationary, autosomal dominant 1

配列類似性

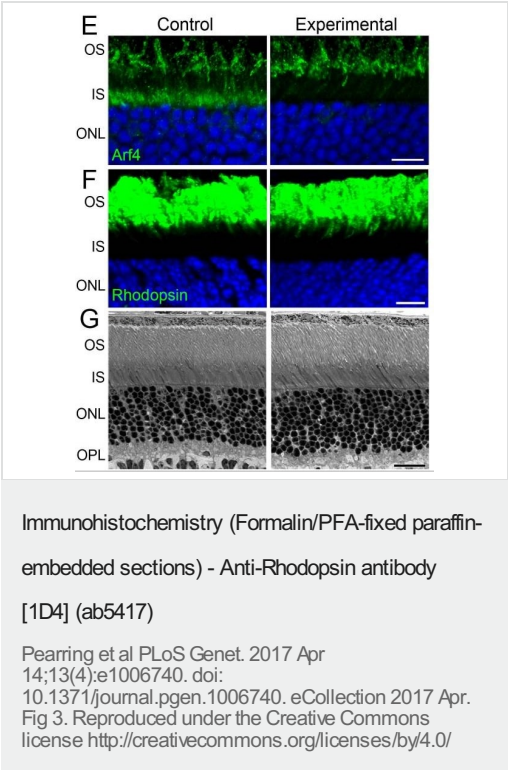
Belongs to the G-protein coupled receptor 1 family. Opsin subfamily.

翻訳後修飾

Phosphorylated on some or all of the serine and threonine residues present in the C-terminal region.

Contains one covalently linked retinal chromophore.

画像



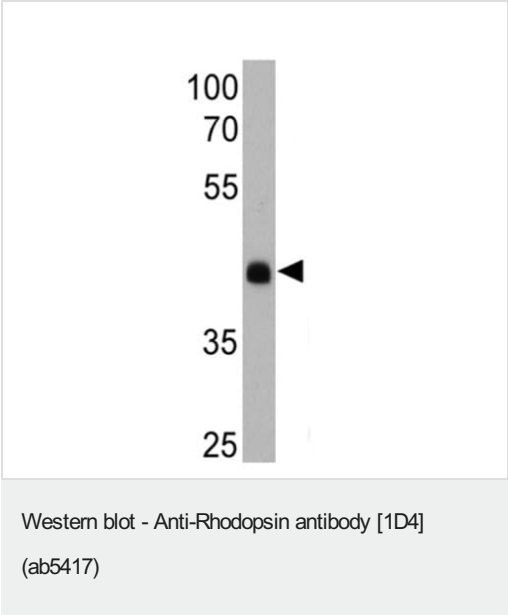
Deletion of Arf4 mice from the retina does not disrupt rhodopsin localization or photoreceptor morphology.

E. Arf4 immunostaining in *Arf4^{flox}/CagCreER* experimental and control retinal cross-sections. Image of the photoreceptor IS where the biosynthetic membranes are localized. Eyes were collected at P34. Scale bar = 10 μm.

F. Rhodopsin immunostaining in *Arf4^{flox}/CagCreER* experimental and control retinal cross-sections. Eyes were collected at P34. Scale bar = 10 μm.

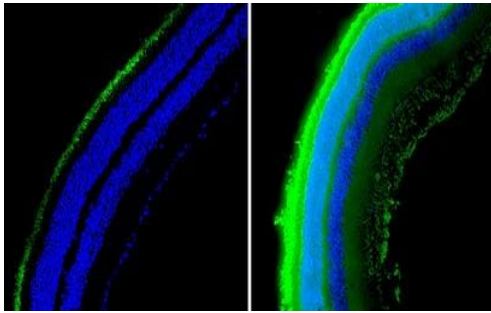
G. Comparative analysis of photoreceptor morphology in *Arf4^{flox}/CagCreER* experimental and control retinal cross-sections. Eyes were collected at P41. Scale bar = 20 μm.

OS = outer segment, IS = inner segment, ONL = outer nuclear layer, OPL = outer plexiform layer.



Anti-Rhodopsin antibody [1D4] (ab5417) at 1/500 dilution + HL60 (Human promyelocytic leukemia cell line) cell lysate at 25 μg

Observed band size: 40 kDa

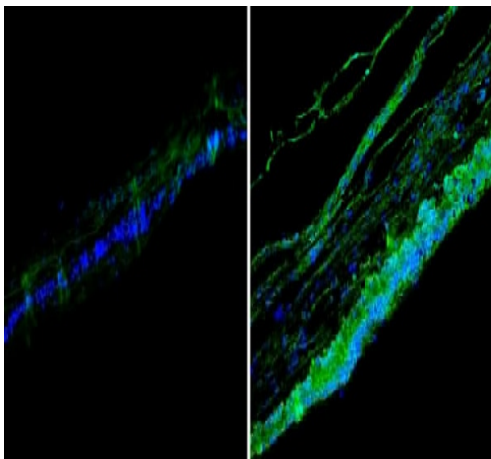


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [1D4] (ab5417)

Immunohistochemical analysis of formalin-fixed mouse retinal tissue, labeling rhodopsin with ab5417 at a 1:50 dilution in 3% BSA-PBS solution and incubated at 4°C overnight in a high humidity environment.

A DyLight® 488 secondary antibody was used (green) incubated at room temperature in the dark. The tissue was counterstained with DAPI against DNA, showing nuclear compartments. Prior to staining the formalin-fixed tissue was permeabilized with 0.1% Triton X-100 in TBS for between 5 and 10 minutes, then blocked with 3% BSA-PBS for 30 minutes at room temperature.

The left image is a negative control with only the secondary antibody and the right image is in the presence of ab5417 and the secondary.

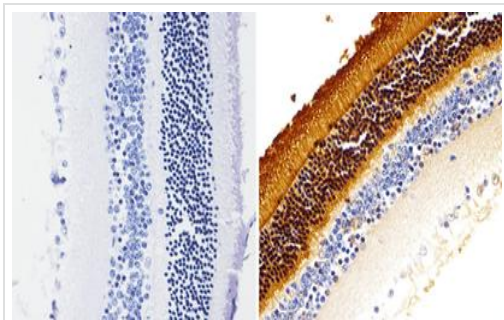


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [1D4] (ab5417)

Immunohistochemical analysis of formalin-fixed human retinal tissue, labeling rhodopsin with ab5417 at a 1:50 dilution in 3% BSA-PBS solution and incubated at 4°C overnight in a high humidity environment.

A DyLight® 488 secondary antibody was used (green) incubated at room temperature in the dark. The tissue was counterstained with DAPI against DNA, showing nuclear compartments. Prior to staining the formalin-fixed tissue was permeabilized with 0.1% Triton X-100 in TBS for between 5 and 10 minutes, then blocked with 3% BSA-PBS for 30 minutes at room temperature.

The left image is a negative control with only the secondary antibody and the right image is in the presence of ab5417 and the secondary.

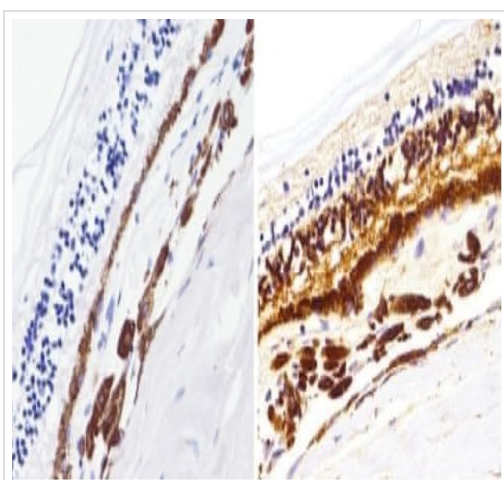


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [1D4] (ab5417)

Immunohistochemical analysis of paraffin-embedded mouse retinal tissue labeling Rhodopsin with ab5417.

Secondary used was HRP conjugated. Prior preparation was initiated by antigen retrieval using 10mM sodium citrate at pH 6.0, then the sample was microwaved for 8 to 15 minutes. Subsequent to retrieval the retinal tissue was blocked for 15 minutes at room temperature with 3% hydrogen peroxide. The sample was then incubated with ab5417 in 3% BSA-PBS at 4°C at a dilution of 1:1000, overnight. Hematoxylin was used to counterstain the tissue.

The left side of the image is shown as a negative control and is the tissue in the absence of ab5417, the right side is in the presence of the counterstain, ab5417 and the HRP conjugated secondary.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rhodopsin antibody [1D4] (ab5417)

Immunohistochemical analysis of paraffin-embedded human retinal tissue labeling Rhodopsin with ab5417.

Secondary used was HRP conjugated. Prior preparation was initiated by antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Subsequent to retrieval the retinal tissue was blocked in 3% H₂O₂-methanol for 15 min at room temperature. The sample was then incubated with ab5417 in 3% BSA-PBS at a dilution of 1:200 overnight at 4°C, overnight. Hematoxylin was used to counterstain the tissue.

The left side of the image is shown as a negative control and is the tissue in the absence of ab5417, the right side is in the presence of the counterstain, ab5417 and the HRP conjugated secondary.

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