abcam

Product datasheet

Anti-ABCA4 antibody [3F4] ab77285

3 References 2 Images

Overview

Product name	Anti-ABCA4 antibody [3F4]
Description	Mouse monoclonal [3F4] to ABCA4
Host species	Mouse
Tested applications	**Suitable for:** IHC-FoFr, WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Cow, Human, Xenopus laevis
Immunogen	Full length native protein (purified) corresponding to Cow ABCA4. 220 kDa
Epitope	Epitope has been mapped to aa 2252 – 2262 bovine ABCA4 protein, see Pubmed 9092582
Positive control	Adult mouse retina tissue.
General notes	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. 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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.50 Constituents: 0.01% BSA, 50% Glycerol, 0.87% Sodium chloride, 0.238% HEPES
Purity	Protein G purified
Purification notes	ab77285 is protein G purified from culture supernatant.
Clonality	Monoclonal
Clone number	3F4
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab77285 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
IHC-FoFr		Use at an assay dependent concentration. PubMed: 20436469
WB		1/1000. Predicted molecular weight: 257 kDa.
IHC-P		1/100.

Target

Function In the visual cycle, acts as an inward-directed retinoid flipase, retinoid substrates imported by ABCA4 from the extracellular or intradiscal (rod) membrane surfaces to the cytoplasmic membrane surface are all-trans-retinaldehyde (ATR) and N-retinyl-phosphatidyl-ethanolamine (NR-PE). Once transported to the cytoplasmic surface, ATR is reduced to vitamin A by trans-retinol dehydrogenase (tRDH) and then transferred to the retinal pigment epithelium (RPE) where it is converted to 11-cis-retinal. May play a role in photoresponse, removing ATR/NR-PE from the extracellular photoreceptor surfaces during bleach recovery.

Tissue specificity Retinal-specific. Seems to be exclusively found in the rims of rod photoreceptor cells.

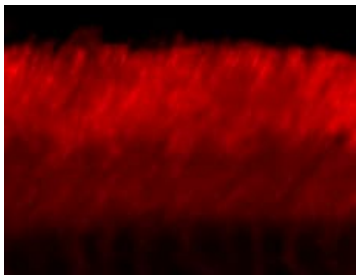
Involvement in disease Defects in ABCA4 are the cause of Stargardt disease type 1 (STGD1) [MIM:248200]. STGD is one of the most frequent causes of macular degeneration in childhood. It is characterized by macular dystrophy with juvenile-onset, rapidly progressive course, alterations of the peripheral retina, and subretinal deposition of lipofuscin-like material. STGD1 inheritance is autosomal recessive.
Defects in ABCA4 are the cause of fundus flavimaculatus (FFM) [MIM:248200]. FFM is an autosomal recessive retinal disorder very similar to Stargardt disease. In contrast to Stargardt disease, FFM is characterized by later onset and slowly progressive course.
Defects in ABCA4 may be a cause of age-related macular degeneration type 2 (ARMD2) [MIM:153800]. ARMD is a multifactorial eye disease and the most common cause of irreversible vision loss in the developed world. In most patients, the disease is manifest as ophthalmoscopically visible yellowish accumulations of protein and lipid (known as drusen) that lie beneath the retinal pigment epithelium and within an elastin-containing structure known as Bruch membrane.
Defects in ABCA4 are the cause of cone-rod dystrophy type 3 (CORD3) [MIM:604116]. CORDs are inherited retinal dystrophies belonging to the group of pigmentary retinopathies. CORDs are characterized by retinal pigment deposits visible on fundus examination, predominantly in the macular region, and initial loss of cone photoreceptors followed by rod degeneration. This leads to decreased visual acuity and sensitivity in the central visual field, followed by loss of peripheral vision. Severe loss of vision occurs earlier than in retinitis pigmentosa.
Defects in ABCA4 are the cause of retinitis pigmentosa type 19 (RP19) [MIM:601718]. RP leads to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. RP19 is characterized by choroidal atrophy. Inheritance is autosomal recessive.

Sequence similarities Belongs to the ABC transporter superfamily. ABCA family.
Contains 2 ABC transporter domains.

Cellular localization Membrane. Localized to outer segment disk edges of rods and cones, with around one million

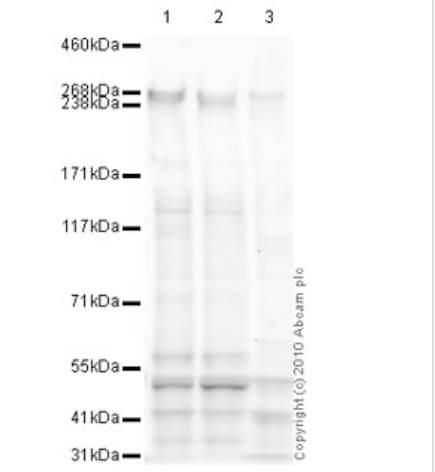
copies/photoreceptor.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABCA4 antibody [3F4] (ab77285)

ab77285, at a 1/100 dilution, staining ABCA4 in formalin fixed, paraffin embedded adult mouse retina tissue by Immunohistochemisty.



Western blot - Anti-ABCA4 antibody [3F4] (ab77285)

All lanes : Anti-ABCA4 antibody [3F4] (ab77285) at 1/500 dilution

Lane 1 : WERI (Human Retinoblastoma) Whole Cell Lysate
Lane 2 : Y79 (Human retinoblastoma cell line) Whole Cell Lysate
Lane 3 : Rat Retina Tissue Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed (**ab97040**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 257 kDa
Observed band size: 257 kDa
Additional bands at: 142 kDa, 51 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 20 minutes

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