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Anti-ABCA4 Antibody

Catalog # ABO11372

Product Information

Application	WB
Primary Accession	O35600
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Retinal-specific ATP-binding cassette transporter(ABCA4) detection. Tested with WB in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	11304
Other Names	Retinal-specific ATP-binding cassette transporter, ATP-binding cassette sub-family A member 4, RIM ABC transporter, RIM protein, RmP, Abca4, Abcr
Calculated MW	260209
Application Details	Western blot, 0.1-0.5 □g/ml, Mouse, Rat
Subcellular Localization	Membrane ; Multi-pass membrane protein . Localized to outer segment disk edges of rods and cones, with around one million copies/photoreceptor. .
Tissue Specificity	Retinal-specific. Seems to be exclusively found in the rims of rod photoreceptor cells.
Source	Eukaryota
Protein Name	Retinal-specific ATP-binding cassette transporter
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of mouse ABCA4(1892-1903aa TLLIQHHFFLTR), identical to the related rat sequence.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also

	be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the ABC transporter superfamily. ABCA family.

Protein Information

Name	Abca4 {ECO:0000312|MGI:MGI:109424}
Synonyms	Abcr
Function	Flippase that catalyzes in an ATP-dependent manner the transport of retinal-phosphatidylethanolamine conjugates like the 11- cis and all-trans isomers of N-retinylidene-phosphatidylethanolamine from the lumen to the cytoplasmic leaflet of photoreceptor outer segment disk membranes, where N-cis-retinylidene- phosphatidylethanolamine (N-cis-R-PE) is then isomerized to its all- trans isomer (N-trans-R-PE) and reduced by RDH8 to produce all-trans- retinol (all-trans-rol) and therefore prevents the accumulation of excess of 11-cis-retinal and its schiff-base conjugate and the formation of toxic bisretinoid (PubMed:10412977, PubMed:10852960, PubMed:22735453). Displays ATPase activity in vitro in absence of retinal substrate (By similarity). May display GTPase activity that is strongly influenced by the lipid environment and the presence of retinoid compounds (By similarity). Binds the unprotonated form of N- retinylidene-phosphatidylethanolamine with high affinity in the absence of ATP and ATP binding and hydrolysis induce a protein conformational change that causes the dissociation of N-retinylidene-phosphatidylethanolamine (By similarity).
Cellular Location	Membrane; Multi-pass membrane protein. Endoplasmic reticulum {ECO:0000250|UniProtKB:P78363} Cell projection, cilium, photoreceptor outer segment. Note=Localized to the rim and incisures of rod outer segments disks.
Tissue Location	Retinal-specific (PubMed:9202155). Seems to be exclusively found in the rims of rod photoreceptor cells

Background

ABCA4(ATP-Binding Cassette, Subfamily A, Member 4), also known as ABCR, is a protein which in humans is encoded by the ABCA4 gene. ABCA4 is a member of the ATP-binding cassette transporter gene sub-family A(ABC1) found exclusively in multicellular eukaryotes. Using a whole genome radiation hybrid panel, Allikmets et al.(1997) mapped the ABCR gene to 1p21-p13. Allikmets et al.(1997) localized ABCR transcripts exclusively within photoreceptor cells, indicating that ABCR mediates the transport of an essential molecule(or ion) either into or out of photoreceptor cells. Molday et al.(2000) showed by immunofluorescence microscopy and Western blot analysis that ABCR is present in foveal and peripheral cone, as well as rod, photoreceptors. The results suggested that the loss in central vision experienced by patients with Stargardt macular dystrophy arises directly from ABCR-mediated foveal cone degeneration.

Images

Anti-ABCA4 antibody, ABO11372, Western blottingAll lanes: Anti ABCA4 (ABO11372) at 0.5ug/mlWB: Mouse Brain Tissue Lysate at 50ugPredicted bind size: 256KDObserved bind size: 256KD



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