ABCA4 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ABCA4, Polyclonal Antibody
Full Product Name	ABCA4 Conjugated Antibody
Product Gene Name	anti-ABCA4 antibody
Product Synonym Names	FFM; RMP; ABCR; RP19; STGD; ABC10; ARMD2; CORD3; STGD1
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human
Form/Format	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Specificity	The antibody detects endogenous levels of total ABCA4 protein.
Preparation and Storage	Store at 4 degree C for 6 months.
OMIM	604116
3D Structure	ModBase 3D Structure for P78363
Immunogen	Synthetic peptide corresponding to a region derived from internal residues of human ATP-binding cassette, sub-family A (ABC1), member 4
Conjugation	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Excitation Emission	AF350: 346nm/442nm
Applications Tested/Suitable for anti-ABCA4 antibody	Most Applications
Application Notes for anti-ABCA4 antibody	Suggested Dilution: AF350 conjugated: most applications: 1:50-1:250 AF405 conjugated: most applications: 1:50-1:250 AF488 conjugated: most applications: 1:50-1:250 AF555 conjugated: most applications: 1:50-1:250 AF594 conjugated: most applications: 1:50-1:250 AF647 conjugated: most applications: 1:50-1:250 AF680 conjugated: most applications: 1:50-1:250 AF750 conjugated: most applications: 1:50-1:250 Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1:50-1:1000
Related Product Information for anti-ABCA4 antibody	The membrane-associated protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intracellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the ABC1 subfamily. Members of the ABC1 subfamily comprise the only major ABC subfamily found exclusively in multicellular eukaryotes. This protein is a retina-specific ABC transporter with N-retinylidene-PE as a substrate. It is expressed exclusively in retina photoreceptor cells, indicating the gene product mediates transport of an essental molecule across the photoreceptor cell membrane. Mutations in this gene are found in patients identified with Stargardt disease, a form of juvenile-onset macular degeneration. Mutations in this gene are also associated with retinitis pigmentosa-19, cone-rod dystrophy type 3, early-onset severe retinal dystrophy, fundus flavimaculatus, and macular degeneration age-related 2.
Other Notes	Small volumes of anti-ABCA4 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for ABCA4 purchase	MBS9447748 is an antibody targeting ABCA4. Also known as ABCA4 Conjugated Antibody. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ABCA4. It may not necessarily be applicable to this product.

NCBI GI #	45446740
NCBI GeneID	20
NCBI Accession #	NP_001597
UniProt Primary Accession #	P78363
UniProt Related Accession #	Q9BZC7
GenBank Nucleotide #	NP_001597.2
NCBI Official Full Name	ATP-binding cassette sub-family A member 2 isoform a
NCBI Official Synonym Full Names	ATP binding cassette subfamily A member 2
NCBI Official Symbol	ABCA2
NCBI Official Synonym Symbols	ABC2; IDPOGSA
UniProt Protein Name	Retinal-specific ATP-binding cassette transporter
UniProt Synonym Protein Names	ATP-binding cassette sub-family A member 4; RIM ABC transporter; RIM protein; RmP; Stargardt disease protein
Protein Family	ABC transporter A family
UniProt Gene Name	ABCA4
UniProt Synonym Gene Names	ABCR; RIM protein; RmP
UniProt Entry Name	ABCA4_HUMAN
NCBI Protein Information	ATP-binding cassette sub-family A member 2
NCBI Summary for ABCA4	The membrane-associated protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intracellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the ABC1 subfamily. Members of the ABC1 subfamily comprise the only major ABC subfamily found exclusively in multicellular eukaryotes. This protein is highly expressed in brain tissue and may play a role in macrophage lipid metabolism and neural development. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

UniProt Comments for ABCA4	ABCA4: 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. Defects in ABCA4 are the cause of Stargardt disease type 1 (STGD1). 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). 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). 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). 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). 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. Belongs to the ABC transporter superfamily. ABCA family. Protein type: Membrane protein, multi-pass; Transporter, ABC family; Membrane protein, integral; Transporter Chromosomal Location of Human Ortholog: 1p22 Cellular Component: membrane; integral to plasma membrane Molecular Function: phospholipid-translocating ATPase activity; transporter activity; ATPase activity, coupled to transmembrane movement of substances; ATP binding Biological Process: phospholipid translocation; phototransduction, visible light; phospholipid transfer to membrane; visual perception; transport; photoreceptor cell maintenance; retinoid metabolic process; transmembrane transport Disease: Macular Degeneration, Age-related, 2; Cone-rod Dystrophy 3; Retinitis Pigmentosa 19; Stargardt Disease 1
Research Articles on ABCA4	**1.** High expression of ABCA2 is associated with drug resistance in pediatric acute lymphoblastic leukemia.
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