10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SAR1B Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10397c

Product Information

Application	IHC-P, WB, FC, E
Primary Accession	Q9Y6B6
Other Accession	Q5HZY2, Q5PYH3, Q9CQC9, Q9QVY3, Q3T0T7, NP_057187.1, NP_001028675.1
Reactivity	Human
Predicted	Bovine, Hamster, Mouse, Pig, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB28097
Calculated MW	22410
Antigen Region	89-116

Additional Information

Gene ID	51128
Other Names	GTP-binding protein SAR1b, GTP-binding protein B, GTBPB, SAR1B, SARA2, SARB
Target/Specificity	This SAR1B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 89-116 amino acids from the Central region of human SAR1B.
Dilution	IHC-P~~1:100~500 WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SAR1B Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SAR1B {ECO:0000303|PubMed:33186557, ECO:0000312|HGNC:HGNC:10535}

Function	Small GTPase that cycles between an active GTP-bound and an inactive GDP-bound state and mainly functions in vesicle-mediated endoplasmic reticulum (ER) to Golgi transport. The active GTP-bound form inserts into the endoplasmic reticulum membrane where it recruits the remainder of the coat protein complex II/COPII (PubMed:23433038, PubMed:32358066, PubMed:33186557, PubMed:36369712). The coat protein complex II assembling and polymerizing on endoplasmic reticulum membrane is responsible for both the sorting of cargos and the deformation and budding of membranes into vesicles destined to the Golgi (PubMed:23433038, PubMed:32358066, PubMed:33186557). In contrast to SAR1A, SAR1B specifically interacts with the cargo receptor SURF4 to mediate the transport of lipid-carrying lipoproteins including APOB and APOA1 from the endoplasmic reticulum to the Golgi and thereby, indirectly regulates lipid homeostasis (PubMed:32358066, PubMed:33186557). In addition to its role in vesicle trafficking, can also function as a leucine sensor regulating TORC1 signaling and more indirectly cellular metabolism, growth and survival. In absence of leucine, interacts with the GATOR2 complex via MIOS and inhibits TORC1 signaling. The binding of leucine abrogates the interaction with GATOR2 and the inhibition of the TORC1 signaling. This function is completely independent of the GTPase activity of SAR1B (PubMed:34290409).
Cellular Location	Endoplasmic reticulum membrane; Peripheral membrane protein {ECO:0000250|UniProtKB:Q9QVY3}. Golgi apparatus, Golgi stack membrane {ECO:0000250|UniProtKB:Q9QVY3}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q9QVY3}. Cytoplasm, cytosol. Lysosome membrane. Note=Active at endoplasmic reticulum exit sites (ERES) where it inserts into the membrane and recruits the remainder of the coat protein complex II/COPII (PubMed:23433038). Upon leucine deprivation, associates with lysosomal membranes to repress TORC1 signaling (PubMed:34290409).
Tissue Location	Expressed in many tissues including small intestine, liver, muscle and brain.

Background

The protein encoded by this gene is a small GTPase that acts as a homodimer. The encoded protein is activated by the guanine nucleotide exchange factor PREB and is involved in protein transport from the endoplasmic reticulum to the Golgi. This protein is part of the COPII coat complex. Defects in this gene are a cause of chylomicron retention disease (CMRD), also known as Anderson disease (ANDD). Two transcript variants encoding the same protein have been found for this gene.

References

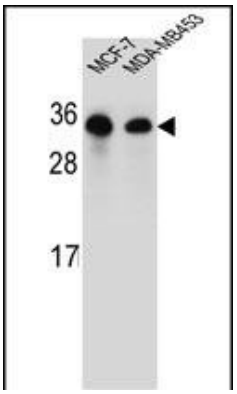
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Images

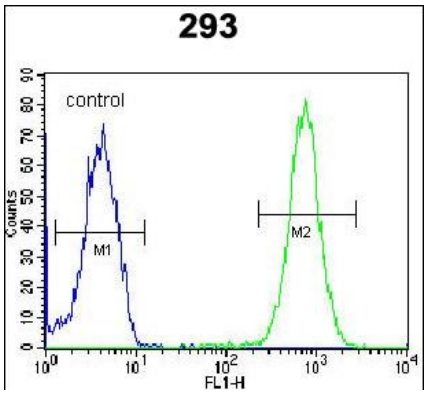
SAR1B antibody (Center) (Cat. #AP10397c) immunohistochemistry analysis in formalin fixed and paraffin embedded human skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the SAR1B antibody (Center) for immunohistochemistry.



Clinical relevance has not been evaluated.



SAR1B Antibody (Center) (Cat. #AP10397c) western blot analysis in MCF-7,MDA-MB453 cell line lysates (35ug/lane).This demonstrates the SAR1B antibody detected the SAR1B protein (arrow).



SAR1B Antibody (Center) (Cat. #AP10397c) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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