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

Anti-SAR1B Antibody

Catalog # AP53321

Product Information

Application	WB, IHC
Primary Accession	Q9Y6B6
Reactivity	Human, Mouse, Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	22410

Additional Information

Gene ID	51128
Other Names	SARA2; SARB; GTP-binding protein SAR1b; GTP-binding protein B; GTBPB
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human SAR1B. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

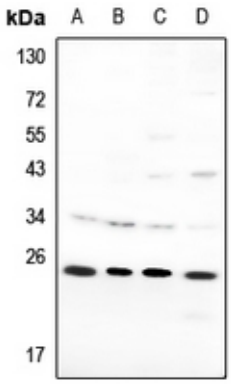
Name	SAR1B {ECO:0000303|PubMed:33186557, ECO:0000312|HGNC:HGNC:10535}
Function	Small GTPase that cycles between an active GTP-bound and an inactive GDP-bound state and mainly functions in vesicle-mediated endoplasmic reticulum (ER) to Golgi transport. The active GTP-bound form inserts into the endoplasmic 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.

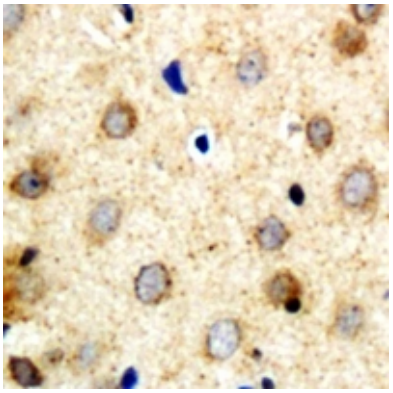
References

Song H.,et al.Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
Zhou Y.,et al.Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Burkard T.R.,et al.BMC Syst. Biol. 5:17-17(2011).
Jones B.,et al.Nat. Genet. 34:29-31(2003).

Images



Western blot analysis of SAR1B expression in mouse brain (A), rat brain (B), HepG2 (C), HCT116 (D) whole cell lysates. (Predicted band size: 22 kD; Observed band size: 22 kD)



Immunohistochemical analysis of SAR1B staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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